NOVA SCOTIA
Environment

Comment Index

Sporting Mountain Quarry Expansion Project

Publication Date: August 25, 2020

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1	Maritime Aboriginal Peoples Council	July 14, 2020
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Impact Assessment Agency of Canada | Agence d'évaluation d'impact du Canada

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1801 Hollis Street
Halifax NS B3J 3N4

Bureau 200
1801 rue Hollis
Halifax, NE B3J 3N4

Date: July 22, 2020

To: Candace Quinn, Environmental Assessment Officer, Nova Scotia Environment

From: Trevor Ford, Environmental Assessment Officer, Impact Assessment Agency of Canada

Subject: Sporting Mountain Quarry Expansion

The federal environmental assessment process is set out in the *Impact Assessment Act* (IAA). The *Physical Activities Regulations* (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 (*Information and Management of Time Limits Regulations*).

The relevant entry in the Regulations for this type of project is:

> 19. The expansion of an existing mine, mill, quarry or sand or gravel pit in one of the following circumstances…
> (f)) in the case of an existing stone quarry or sand or gravel pit if the expansion would result in an increase in the area of mining operations of 50% or more and the total production capacity would be 3 500 000 t/year or more after the expansion.

Based on the information submitted to the Province of Nova Scotia on the proposed Sporting Mountain Quarry Expansion, 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 its 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 to the Agency or if it has any questions or concerns related to the above matters.

Thank you,

Trevor Ford
Environmental Assessment Officer, Atlantic Regional Office
Impact Assessment Agency of Canada / Government of Canada
Trevor.Ford@canada.ca / Tel: 902-476-7635

Agente d'évaluation environnementale, région de l’Atlantique
Agence d’évaluation d’impact du Canada / Gouvernement du Canada
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1030 Upper Prince Street
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NOVA SCOTIA

Environment

Date: July 24, 2020

To: Candace Quinn, Environmental Assessment Officer
Nova Scotia Environment

From: Inspection Compliance and Enforcement, Sydney & Port Hawkesbury Regional Offices: Jacquelyn Burneau, Inspector Specialist; Ian Campbell, Regional Hydrogeologist; Malcolm MacNeil, Regional Engineer

Subject: Nova Sporting Mountain Quarry Expansion Project

Please find comments below related to our review of the Environmental Assessment Registration Document for the above:

Item	Document Reference	Comment
1	EA Reg, Section 3.2, Scope of Undertaking	The EAA should state that a surface water/drainage management and monitoring plan should exist for the site and be part of the IA application.
2	EA Reg, Section 6.5, Surface Water Resources and Wetlands	The EAA should state that a wetland management plan should be submitted with the IA application and should be developed by a qualified person.
3	EA Reg, Section 6.14, Archaeological and Cultural Resources	A Condition of the EA and/or IA should require clear stop work conditions if archaeological resources are found.
4	EA, Section 4.4, Operation and maintenance	The EAA should state that a Condition of the IA application requires submission of a site-specific Sedimentation and Erosion Control Plan
5	IA, General	Industrial Approval (IA) issued in August 2016. Expires August 2026.
6	IA, Section 3 a) ii), General	Notes the requirement for the Approval Holder to comply with the Pit and Quarry Guidelines (PQG).
7	IA, Section 7b)	States “the Approval Holder shall conduct a hydrogeological assessment of impacts from the quarry operations at the request of

		NSE." No such assessment has been requested by NSE to date.
8	IA, Section 8a)	IA requires a 30-meter separation distance to watercourses or wetlands.
9	Pit and Quarry Guidelines, Section XI	States "prior to any excavation below the water table, a hydrogeological study will be required and approval must be obtained from the Minister or Administrator". There was no such study in their file and no such approval was granted by the Minister (NSE).
10	EA Reg, Section 6.6.2	State "the quarry floor will be maintained at a minimum of 1.0 meters above the groundwater table".
11	EA Reg, Table 7-1	Under the Groundwater Resources section, the proponent states "quarry excavations will not enter the deep groundwater table without NSE approval". What is meant by the "deep groundwater table"?
12	EA Reg & IA	There is no requirement to post signage at the entrance to the quarry. Should be included as Condition of EA and/or IA.
13	Observation	By mapping (NS DataExplorer, 2018 imagery) the excavation has an area approximately 16,000m2 (@120x130m).
14	Observation	The surface elevations of 3 nearby lakes/ponds (distance to quarry - 1.7, 1.0 and 0.6 km), estimated by utilizing Google Maps Pro, show surface elevations of 152 to 161 m. Assuming that the quarry ground surface elevation is 155 (the EA doc indicated 147 to 157 m) and that the quarry floor is 125m elevation (indicated in EA doc), and also assuming that the groundwater elevation in the quarry area being represented by the lowest lake level elevation of 152 m, therefore the quarry is very likely to have advanced into the groundwater table (by as much as 20+ m).
15	EA Reg, Page 41	The document states that no interactions are anticipated with groundwater resources from construction and operation of the Project. It says that the quarry floor will be maintained at a minimum 1.0 m above the groundwater table and that lowering of the groundwater table and decreasing well yield is not expected (either temporary or permanent). It

		says that any surface water resulting from precipitation or snowmelt events will be controlled by means of quarry floor grading, berms, and ditching and will contribute to groundwater recharge at this elevation. Based on a site visit and the above noted observations, it appears that the quarry has advanced into the groundwater table. Since the EA document indicated that groundwater has yet to/or will not be interacted with, it has not considered what the effects are or have been on the groundwater table. Further, it is not clear how the operation will control water within the excavation. There is too much water to control by grading, berms, and ditching.
16	EA Reg, Scope & Section 4.3	States that site run-off will be collected and directed to existing on-site settling pond(s). Additional settling ponds will be constructed in advance of quarry development if required, to ensure adequate sedimentation control during site works and quarry development. Run-off from the site will be directed to a settling pond to allow time for any suspended solids to settle prior to discharge to the surrounding environment. Based on site visit, there is no opportunity for site to drain to the existing settling pond. Water present in quarry must be pumped from the quarry floor to the settling pond.
17	EA Reg, Section 6.5.1	States that drainage from the existing quarry infrastructure is captured within a settling pond located west of the quarry floor. As indicated above, based on site visit, there is no opportunity for site to drain to the existing settling pond. Water present in quarry must be pumped from the quarry floor to the settling pond.
18	EA Reg, Section 6.5.2	States that due to the location of identified watercourses and surface water bodies in relation to the proposed expansion footprint, significant changes to the surface water quality is not anticipated as a result of

		components of the proposed Project. Surface water in the vicinity of the Project will be monitored according to terms and conditions identified in any IA issued and the Pit and Quarry Guidelines. It is anticipated that the current baseline sampling locations (SW-1, SW-2, SP-1) will be used for long term monitoring and additional monitoring stations will be added as applicable. The EAA should state that a surface water monitoring plan be provided with IA application
19	EA Reg, 6.6.2	States that monitoring wells may be installed and monitored at the frequency required by conditions of any environmental approval or IA, as necessary. The EAA should state that a G/W monitoring plan be provided with the IA application
20	EA Reg, Figure 3, Quarry Site Plan	It appears that the set back to boundaries is 15 metres in some cases. This is not in accordance with current IA separation distance requirements. Separation distances should be clarified in the EAA.
21	Appendix B, Public Consultation	The cover sheet for the Public Consultation Document states the following: *This document is in draft form. A final version of this document may differ from this draft. As such, <u>the contents of this draft document shall not be relied upon.</u> GHD disclaims any responsibility or liability arising from decisions made based on this draft document.*

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MEMORANDUM

DATE: **July 31, 2020**

TO: **Candance Quinn**

FROM: **Neil Morehouse Manager Protected Areas and Ecosystems**

SUBJECT: **Sporting Mountain Quarry Expansion Environmental Assessment**

The Protected Areas and Ecosystems Branch have reviewed the Environmental Assessment application for the Sporting Mountain Quarry Expansion

Protected Areas and Ecosystem Comments:

As there are no protected areas in the vicinity of this project, no impacts to protected areas are anticipated.

NOVA SCOTIA
Communities, Culture and Heritage

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

Date: July 31, 2020

To: Candance Quinn, Nova Scotia Environment

From: Acting Coordinator Special Places, Culture and Heritage Development

Subject: Sporting Mountain Quarry Expansion

Staff of the Department of Communities, Culture and Heritage has reviewed the Sporting Mountain Quarry Expansion EA documents and have provided the following comments:

Archaeology

Staff reviewed the sections of the EA document pertaining to archaeology and have no archaeological concerns. The archaeology section 6.14 reflects the results of the ARIA by CRM Group Ltd. under permit A2019NS026.

Archaeological Resource Impact Assessment only clears the 10-hectare project area not the full PID. Only the proposed 10-hectare expansion area was subjected to both desktop research and field reconnaissance, not the rest of the larger study area noted by the PID.

Botany

Staff reviewed the sections of the EA document pertaining to botany and have no major concerns. The proponent has included reasonable mitigation measures for the impacts on SOCI and SAR lichens and birds and did not detect any priority plants.

The proponent's coverage of potential impacts on priority lichens was a bit contradictory, as they suggested consulting with NS lands and forestry about mitigation, but also said "quarry expansion is not proposed to affect the lichens priority species identified". It is likely that at least three of the observed lichen occurrences (those within 10 m of the proposed footprint) will be negatively impacted; this is due to a combination of enhanced exposure to desiccation stress, increased dust production, and increased grazing by terrestrial gastropods (which are more prevalent in disturbed habitats than swamps). The proponent will need to follow through in consulting with Lands and Forestry to address possible scientific use of these lichens as a mitigation measure. A simple annual or biannual inspection to collect useful data on the resistance of these species to indirect disturbance useful.

Palaeontology

Staff have reviewed the sections of the EA document pertaining to palaeontology and geology. As noted, the bedrock granite rocks are not sources of fossils, so there are no concerns of disturbing significant fossil resources in this project.

Zoology

No CCH staff were available to review the sections relating to zoology.

1672 Granville Street
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Halifax, Nova Scotia
B3J 2N2

Environmental Services

NS Environment August 4, 2020

Attn: Candace Quinn, Environmental Assessment Officer
Nova Scotia Environment
Suite 2085 1903 Barrington Street
Halifax, NS

RE: NSTIR Comments on the Sporting Mountain Quarry Expansion Project Environmental Assessment (EA)

TIR staff have reviewed the Environmental Assessment for the Sporting Mountain Quarry Expansion Project and prepared the following:

The proponent is planning to expand an existing quarry at Sporting Mountain in Richmond County.

The proponent has indicated that a Transportation Assessment was not completed as part of this registration document as the truck volumes will not increase from the existing volumes as a result from the expansion because the production from the expansion will replace the existing truck volumes. The proponent has provided Traffic Census volume figures on the relevant sections of Highway 104 and Trunk 4, along with current truck volumes. This information, along with the projected increase in size of the quarry itself, appears to support this assessment that there would not be a significant traffic impact.

The proponent has indicated a reference to spring weight restrictions reducing activity as required and have directed contractors to ensure that they adhere to any posted speed limits.

There are no changes to the existing access from Morrison Road and the haul access from Sporting Mountain Road, Trunk 4 and Highway 104 will not be changing.

The proponent has indicated that any transportation of dangerous and hazardous goods will be done in accordance with the appropriate regulations.

Nova Scotia Transportation and Infrastructure Renewal has no comments or concerns to offer on this EA document.

Thank you for the opportunity to review and comment on this document.

Sincerely,

Environmental Services
Nova Scotia Transportation and Infrastructure Renewal

NOVA SCOTIA
Department of Municipal Affairs and Housing

Maritime Centre, Floor 8 North
1505 Barrington Street
PO Box 216
Halifax, NS B3J 2M4

Date: August 4, 2020

To: Department of Environment

From: Department of Municipal Affairs & Housing

Subject: **Sporting Mountain Quarry Expansion**

As requested, the Department of Municipal Affairs and Housing has reviewed the Registration Document for the Environmental Assessment of the Sporting Mountain Quarry Expansion.

Consultation with municipalities is one of the Department's areas of mandate. We would like to ensure that the proponent undertakes adequate consultation with the Municipality of the County of Richmond to confirm conditions for compliance with municipal planning policies and by-law provisions.

Thank you for the opportunity to review the Registration Documents for the above-noted project. Should you require additional information, please contact the Department.

c: Daniel Bryce, Senior Planner, DMAH

Fisheries and Oceans Canada
Pêches et Océans Canada

Ecosystem Management
1 Challenger Drive
P.O. Box 1006
Station P500
Dartmouth, N.S. B2Y 4A2

Date: August 4, 2020

To: Candace Quinn, Environmental Assessment Officer, Nova Scotia Environment

From: Kelley Fraser, Regulatory Review Biologist, Fish and Fish Habitat Protection Program, Fisheries and Oceans Canada

Subject: Sporting Mountain Expansion Project

Dear Candace Quinn:

Fisheries and Oceans Canada (DFO), Fish and Fish Habitat Protection Program (FFHPP) received the Nova Scotia Environmental Assessment Registration Document submitted for the Sporting Mountain Quarry Expansion Project in Richmond County. The proposed project is to expand an existing quarry from the current under 4 hectares (ha) size to be 10 ha, to continue to extract and supply aggregate for road and local construction projects. The proposed project will take place over 30 + years, depending on market demand. Quarry operations are anticipated to remain the same.

The Project is located in a rural area of Cape Breton Island, Nova Scotia. The property is situated in Seaview, north of Morrison Road (PID 75044156) and currently consists of the access road, settling ponds, existing quarry, previously logged areas and forested lands. As mapped in the field by the proponent's consultants in July of 2019, the property features 11 wetlands and two unnamed watercourses (WC1 and WC2). WC1 and WC2 that originate from a wetland (Wetland 2) are found on the project property.

DFO-FFHPP is responsible for administrating the fisheries protection provisions of the *Fisheries Act* (FA) and the *Species at Risk Act* (SARA) for aquatic species at risk. The fisheries protection provisions of the FA includes section 35 which prohibits the harmful alteration, disruption, or destruction (HADD) of fish habitat and section 34.4 which prohibits the death of fish by means other than fishing. SARA prohibits the killing, harming, harassment, possession, capturing or taking of a species listed as extirpated, endangered or threatened; the damage or destruction of a residence or the destruction of any part of the critical habitat of such a listed species, unless authorized by the minister.

Below you will find the comments from DFO - FFHPP regarding the above mentioned project:

- The proponent has sited the expansion area to reduce the potential impacts on nearby wetlands and watercourses. The proponent has indicated that a 30 m or larger setback zone will remain between quarry activities and the nearby wetland and watercourses (page 8 and Figure 3).

- Field work was completed in July 2019. The EA (page 33) says that “No fish surveys i.e. electrofishing, trapping) were conducted due to the intermittency of water within the aquatic (features of interest and low water levels observed during low flow conditions; however, 2-3 individual fish were observed approximately 275 m downstream, outside of the Study Area, stranded in residual pools.” As well, the EA (page 33) says that “No wetlands were identified to provide fish habitat within the Study Area (i.e. no surface water connectivity and/or open water present within the wetlands).”

- A surface water monitoring plan should be developed prior to construction.

- A water balance assessment to determine potential increases or decreases to flows to nearby wetlands and watercourses was not submitted as part of the EA and should be provided.

- Any indirect impacts associated with the quarry expansion that may result in either the reduction or increase in surface water flow to nearby wetlands or watercourses could result in the requirement for a FA authorization from DFO.

- A wetland monitoring plan should also developed prior to construction. A *Fisheries Act* Authorization may also be required for the wetlands that are considered fish habitat.

- The current project design has limited erosion and sedimentation control plans. A more detailed engineered site-specific design should be submitted, by a qualified professional engineer licensed to practice in Nova Scotia. A more detailed review should be completed at the site to ensure current erosion and sedimentation control measures are sufficient to prevent HADD.

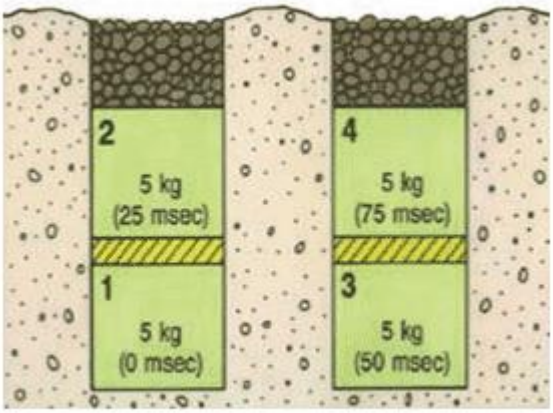
BLASTING

- Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.

- If explosives are required as part of a project (e.g., removal of structures such as piers, pilings, footings; removal of obstructions such as beaver dams; or preparation of a river or lake bottom for installation of a structure such as a dam or water intake), the potential for impacts to fish and fish habitat should be minimized by implementing the following measures:
    - Time in-water work requiring the use of explosives to prevent disruption of vulnerable fish life stages, including eggs and larvae, by adhering to appropriate fisheries timing windows.

- Isolate the work site to exclude fish from within the blast area by using, for example, bubble/air curtains (i.e., a column of bubbled water extending from the substrate to the water surface as generated by forcing large volumes of air through a perforated pipe/hose), cofferdams or aquadams.
- Remove any fish trapped within the isolated area and release unharmed beyond the blast area prior to initiating blasting
- Minimize blast charge weights used and subdivide each charge into a series of smaller charges in blast holes (i.e., decking) with a minimum 25 millisecond (1/1000 seconds) delay between charge detonations (see Figure 1).
- Back-fill blast holes (stemmed) with sand or gravel to grade or to streambed/water interface to confine the blast.
- Place blasting mats over top of holes to minimize scattering of blast debris around the area.
- Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
- Remove all blasting debris and other associated equipment/products from the blast area.

Figure 1: sample blasting arrangement



Per Fig. 1: 20 kg total weight of charge; 25 msecs delay between charges and blast holes; and decking of charges within holes.

Lands and Forestry

M E M O R A N D U M

TO: Candace Quinn, NS Department of Environment

FROM: Department of Lands and Forestry

DATE: July 31, 2020

RE: Sporting Mountain Quarry Expansion Project, EA Comments

The Department of Lands and Forestry (herein the Department) provides the following comments on the above project:

Crown Lands:

The Department has determined that there appears to be no activity occurring on Crown lands for this project. The proponent will not require any authorities/permissions from the Land Services Branch, Department of Lands and Forestry.

Wildlife, Wildlife Habitat and Surveys:

The Department has reviewed the information provided and based on that information has identified concerns with respect to field surveys, inadequate reporting of results, and erroneous conclusions or inferences. The Department also has concerns regarding the potential impacts to the Canada lynx which is an endangered species and must be protected and the potential impacts of this project on the boundaries of the lynx buffer zone. If the EA is approved, the Department recommends that the conditions state that work can only commence if the Department of Lands and Forestry (Wildlife Division and Regional Services) is satisfied with the field survey information that has been requested;

The Department offers the following recommendations for conditions of project approval

1. The proponent will provide the Department's Wildlife Division, with GIS shapefiles showing the location of:
    - all flora and fauna surveys
    - all S1, S2, S3 species recorded in surveys
    - all species listed under NS Endangered Species Act and SARA recorded in the project area.

2. ***Canada Lynx*** -
    - The Department is concerned that lynx surveys were not conducted during the appropriate time or adequately within the project footprint. As the methods

indicated, track surveys are to be conducted approximately 72 hours after a snowfall event with snow depths of approximately 2-12 cm. The first track survey was conducted on March 7, 72 hours after 27.6 cm of snowfall, greater than outlined in the methods and the second survey was conducted on May 5th when no snow remained on the ground and outside of suitable snow tracking season. **The Department recommends that the proponent provide a detailed methodology and justification for the non-adherence to the identified survey methods including justification for completing a winter track survey in May. The protocol for surveys should be provided to the Department for review so it can determine if additional surveys will be required prior to work commencing at the site.**

- **Canada Lynx are listed as endangered** under the NS *Endangered Species Act*, as such a Special Management Practice has identified lynx buffer areas to manage for the at-risk population by setting aside suitable prey habitat. The biophysical summary report and EA Registration Document, attempted to outline that the Department's lynx buffer area which overlaps with the project footprint provides poor-quality habitat for prey species, however, within *Appendix E Section 7.2.3* – the wetland complex (WL2) associated with this lynx buffer was assessed as having a high benefit to the Terrestrial Habitat Group as a wetland complex that has the ability to support healthy habitat for birds, mammals and native plants. Additionally, avian surveys confirmed, these same buffers had observations of several priority species, including 2 Canada Warbler. Lastly, *Section 6.10* of the registration document, outlined that the wildlife habitat of the study area provides suitable habitat for species, such as the snowshoe hare (a principal prey item of Canada Lynx) to thrive. **The Department recommends that the proponent be required to provide a rationale, as to why there is differing conclusions regarding the presence of prey habitat in the lynx buffer area.**

- Furthermore, though these lynx buffers, found within the South Mountain area of Richmond County, (which includes the Sporting Mountain Quarry), may not be identified as the traditional bog associated with lynx prey, this buffered area was amended to the lynx SMP and has been established by local Department staff. This is due to known occurrence of lynx supported in the area. This area was also originally part of the significant wildlife habitat layer for lynx. Additionally, all lynx occurrences, both confirmed and potential, observed during the field surveys, are located within these delineated lynx buffers which infers that the buffer does provide suitable prey habitat for the endangered lynx population. The EA document does not make the case that the lynx are not found in the area. *Section 8.2.2.2* of the biophysical report identifies that no lynx sings were documented within the proposed quarry development area or within the existing active quarry. However, *Figure 3 of the Biophysical Summary Report,* appears to show that lynx surveys were not conducted within the proposed project footprint during appropriate conditions. Therefore, surveys cannot be used to prove that lynx are not found within the development area. **It is recommended that the**

proponent provide clarification as to why winter track surveys were not conducted within the overlap of the lynx buffer area and the proposed development area. The protocol for surveys should be provided to the Department for review so that it can determine if additional surveys will be required prior to work commencing at the site.

- The Biophysical Summary Report also indicates that a portion of the area within the lynx buffer that overlaps with the proposed project footprint is in an early stage of regeneration due to a clearcut which approximately occurred in 2015-2016 and therefore is not suitable for lynx prey. Though, prey habitat is most suitable at 15-35 year mid-regeneration age, as outlined within the Department's Lynx SMP, the SMP further states that 20 % of the landscape should be comprised of early successional, recently harvested stands to provide future lynx habitat, of which this area would be suitable.

- *EA Registration Document – Section 6.10 Wildlife* – Document indicates that the wildlife habitat observed as neither unique nor rare in the local or regional landscape. Since Canada lynx was confirmed in the area during field surveys, the location has been buffered by the Department for lynx. This is based on local knowledge and the fact that the area within Richmond County is part of the southern most extent of the Lynx Range in Cape Breton which is disjunct from other lynx areas in the province. It can also be concluded that wildlife habitat has already been identified as rare by the Department due to the establishment of buffer areas for lynx**. It is recommended that the proponent provide clarification as to why this isolated portion of the lynx range is not considered rare given that it located in a buffered area.**

- **The Department recommends that the quarry expansion boundaries not extend past the previous clear cut boundaries in order to maintain the integrity, hydrology and function of the delineated Wetland 2 for species at-risk, such as the Canada Lynx, Canada Warbler and Blue Felt Lichen; and to maintain the integrity of the unimpacted portion of the Department's identified Lynx buffer.**

3. ***Avifauna***
   - *Section 5.1.2 Field Survey* in Biophysical Summary Report – Report does not denote if weather conditions were suitable for conducting bird surveys. **The protocol for surveys should be provided to the Department for review so that it can determined if additional surveys will be required prior to work commencing at the site.**

   - *Figure 4* in Biophysical Summary Report – Common Nighthawk Surveys were reported to follow guidance from the Saskatchewan species detection protocol for Common Nighthawk. **This protocol outlines that survey locations should be placed 800 m apart. It is recommended that the proponent provide the rationale to explain why the nighthawk listening stations are greater than**

1km apart and diverge from the used protocol so that it can be determined if additional surveys will be required prior to work commencing at the site. It is also recommended that the proponent clarify why a survey location was not conducted within the previously harvested area

- *Section 8.2.2.4* of the Biophysical Summary Report indicated that all priority bird species observations occurred outside the proposed quarry development area, however, referring to *Figure 4* of the same report, shows that no point counts were located or conducted within the proposed quarry development area. **The Department recommends that the proponent provide the Department with the rationale to explain why surveys were not completed within the proposed quarry development area so that it can determine if additional surveys will be required prior to work commencing at the site.**

4. ***Lichens***

- EA registration document and biophysical summary report indicated that priority lichen species would not be directly impacted by the proposed project. However, one of the priority species, blue-felt lichen, is a table 2 at-risk lichen species with an associated protective buffer as recommended by the At-Risk Lichen Special Management Practice. The recommended 100 m protective buffer for blue-felt lichen currently overlaps with the proposed project footprint. **The Department recommends that appropriate mitigation for priority species lichen is established in consultation with the Department prior to work commencing at the site.**

5. **Wetlands**

- Though the EA registration document and Biophysical Report outlined that no identified Wetlands of Special Significance (WSS) are known to be delineated within 5 km of the Study Area, the information on wetlands and its associated species at risk identified during field surveys, should be further considered when determining the importance of these wetlands. *The Nova Scotia Wetland Conservation Policy* developed by Nova Scotia Environment, does not stipulate that only wetlands delineated within the WSS provincial layer are to be considered WSS but rather indicates that the **Government will consider the following to be a WSS: wetlands known to support species at risk as designated under the federal Species at Risk Act or the Nova Scotia Endangered Species Act.** The policy further stipulates that the Government will develop a process for classifying additional wetlands as WSS should it support a significant species or supports high wildlife biodiversity. Due to this information provided within the NS Wetland Conservation Policy and the evidence presented in the EA Registration document for Wetlands 2 (Canada Warbler, Blue Felt Lichen* [*not mentioned in *Table 7-2 Wetland Characteristics* but identified within the wetland boundaries in Figure 4]) and 11 (Blue Felt Lichen and Canada Lynx^{+} [$^{+}$ not mentioned in *Table 7-2 Wetland Characteristics* but identified within the wetland boundaries in Figure 4]) that both wetlands provide high benefit for their

ability to support healthy habitat for birds, mammals and native plants, had occurrences of SAR and other priority species and are part of the Department's known lynx buffer**, the Department recommends that these wetlands be considered and identified as WSS, and appropriate mitigation and protective buffers be established in consultation with the Department and NSE to avoid impact to these wetlands, to maintain important wetland functions, not disrupt hydrology or flow and maintain healthy biodiversity.**

6. ***Wildlife Management Plan***

The proposed mitigation measures in relation to flora and fauna and Species-at-Risk (SAR) lack clarity. A Wildlife Management Plan must be developed as outlined below to clearly frame mitigation measures for biodiversity, wildlife and species-at-risk

Preparation of a Wildlife Management Plan (WMP) is required to clearly outline the mitigation measures to protect flora and fauna listed as sensitive or at risk. **The WMP must be developed in consultation with Wildlife Division, Department of Lands and Forestry and be approved by the Department and NSE before any work commences at the site**. The WMP should include:

a) Effective management responses and procedures for what to do when a species at risk or a species of conservation interest (SOCI) is found within the approved operational area.
b) Establish a clear communications procedure for reporting observations of SAR and SOCI species and unexpected observations on site to project managers and to Wildlife Division, Department of Lands and Forestry.
c) Clearly outline the mitigation measures and the timing window for clearing to protect all species of migratory, SOCI (S1, S2 and S3), and SAR birds, their nests and eggs for species recorded on site or with potential habitat on site. Generally clearing should be avoided from 15 April – 31 August for passerines. However, mitigation to avoid the raptor and owl breeding and nesting seasons, which occur earlier, should also be addressed. It is the responsibility of the proponent to ensure compliance with federal and provincial legislation and regulations regarding resident, migratory, and at-risk bird species and their habitats (e.g. *Species at Risk Act, Canadian Migratory Bird Convention Act, Fisheries Act, NS Endangered Species Act, NS Wildlife Act*, and their regulations).
d) The WMP should include mitigation measures and management actions should an individual snapping or wood turtle or their nests be found on site. Although these species have a limited potential to occur on site, both are attracted to quarries for nesting and thus quarry operations pose key threats for these species during the nesting season.

e) Provide a clear procedure to avoid creating nesting habitat for Bank Swallows and Common Nighthawks and an approach for inspecting, and protecting nests, should they be encountered during operations.

f) A clear approach for providing training and identification information in the form of photos and descriptions of SAR species and sensitive habitat features (e.g. raptor nests) to personnel working on site and the procedures to follow should SOCI or SAR species be encountered on site. (For example, Common Nighthawk nests are difficult to find due to their ability to blend into the substrate. The WMP must provide detail on how the proponent will ensure that site personnel are adequately trained on identification and behaviours to look for in order to ensure incidental take of nests are avoided. Procedures to follow should a nest be found would include actions such as halting work, establishing a buffer setback, and notification and consultation of Department of Lands and Forestry staff.)

g) A plan for providing human-wildlife conflict training to avoid bear and coyote interactions and measures to be taken should an encounter occur. The plan should include measures to mitigate attracting other nuisance wildlife to the site.

h) A plan to ensure wildlife cannot become trapped within the quarry pit and measures for monitor and mitigation should entrapment occur.

i) Approaches to monitor and control the incursion of invasive species of plants within the operational areas approved for this project. The proponent should undertake periodic inventory of the approved area every three years to identify any new non-native plants within the Project Footprint (i.e. not reported in the baseline vegetation survey). If any new non-native species are found, the proponent must report these to the Department and consult on any corrective actions required.

j) Vegetation in sensitive habitats (i.e. wetlands) should be monitored on an annual basis. If there is a change in the plant community structure that is attributable to the extraction, including any increases in invasive plant species, the proponent will undertake corrective actions in consultation with the Department and NSE.

k) Plans for mitigating light pollution that could impact migratory birds, including long-distance migratory shorebirds, songbirds, Common Nighthawks, bats or waterfowl on the adjacent coastline. This may include a reduction in lighting during key spring and fall migration periods.

l) The EA Registration document does not indicate the proposed duration of the quarry expansion. The WMP should provide detail on the proposed duration of quarry operation and how the proponent will address changes to species-at-risk listings over time. Additional biodiversity and species-at-risk surveys may be required periodically to ensure no impacts to SAR or biodiversity under revised and updated legislation.

m) Plans for restoring former operational areas through recontouring and revegetating with native species.

n) The WMP should include the monitoring plan for Canada lynx dens in the study area and adjacent land. Plan will be developed in consultation with the Department of Lands and Forestry.

NOVA SCOTIA
Fisheries and Aquaculture

60 Research Drive
Suite A
Bible Hill, Nova Scotia
B6L 2R2

Date: August 5, 2020

To: Candace Quinn, Nova Scotia Environment

From: Executive Director, Policy and Corporate Services
Nova Scotia Department of Fisheries and Aquaculture

Subject: Sporting Mountain Quarry Expansion Project - Environmental Assessment

Thank you for the opportunity to review the Sporting Mountain Quarry Expansion Project documents.

The Nova Scotia Department of Fisheries and Aquaculture has the following comments related to the proposal:

- Within 25 kms of the proposed site there are 29 shellfish aquaculture leases, 3 finfish leases and one land-based finfish operation. Mitigations by Nova Construction Co. Ltd should ensure that there is no impact on these operations.

- This expansion would most likely not impact the active commercial fisheries that take place for Lobster, Snow crab, Mackerel and Scallop in the area.

NOVA SCOTIA

Agriculture

60 Research Drive
Suite A
Bible Hill, Nova Scotia
B6L 2R2

Date: August 5, 2020

To: Candace Quinn, Nova Scotia Environment

From: Executive Director, Policy and Corporate Services,
Nova Scotia Department of Agriculture

Subject: Sporting Mountain Quarry Expansion Project– Environmental Assessment

Thank you for the opportunity to review the Sporting Mountain Quarry Expansion Project documents.

The Nova Scotia Department of Agriculture has no immediate concerns at this time respecting the proposal.

From: Rideout, Bill E
To: Quinn, Candace M
Subject: RE: Sporting Mountain Quarry Expansion Project - EA Registration
Date: August 5, 2020 12:16:00 PM

Hi Candace,
I completed my review of the Sporting Mountain Quarry expansion EA in consultation with the Regional MOH. The focus of the review was on potential impacts quarry activities may have on human health, with a concentration on air quality, groundwater/water wells, noise and lighting.

After completing this review I have concluded that potential hazards associated with the undertaking can be sufficiently mitigated and managed to minimize human exposure, and impacts to human health are deemed to be negligible.

Regards,

Bill Rideout
Environmental Health
NS Environment

From: Quinn, Candace M <Candace.Quinn@novascotia.ca>
Sent: July 29, 2020 8:50 AM
To: Winn, Rebecca <Rebecca.Winn@novascotia.ca>; Weatherbee, Peggy <Peggy.Weatherbee@novascotia.ca>; Roney, Connie <Connie.Roney@novascotia.ca>; Cross, Anna <Anna.Cross@novascotia.ca>; MacMillan, Heather J <Heather.MacMillan@novascotia.ca>; Mitchell, David A <David.Mitchell@novascotia.ca>; Petrie, Bob D <Bob.Petrie@novascotia.ca>; Power, Terrance <Terrance.Power@novascotia.ca>; Steele, Cynthia <Cynthia.Steele@novascotia.ca>; Blackburn, Lori M <Lori.Blackburn@novascotia.ca>; Boudreau, Louise O <Louise.Boudreau@novascotia.ca>; MacPherson, George E <George.MacPherson@novascotia.ca>; Hearn, Scott <Scott.Hearn@novascotia.ca>; Smith, Gordon T <Gordon.Smith@novascotia.ca>; Zanth, Kathy M <Kathy.Zanth@novascotia.ca>; Fielding, Gillian <Gillian.Fielding@novascotia.ca>; Goldberg, Susan <Susan.Goldberg@novascotia.ca>; Pike, Laurie L <Laurie.Pike@novascotia.ca>; NSE-SAS-Division <NSE-SAS-Division@novascotia.ca>; Keats, Paul J <Paul.Keats@novascotia.ca>; Farrell, Mark P (Sydney) <Mark.P.Farrell@novascotia.ca>; MacNeil, Malcolm D <Malcolm.MacNeil@novascotia.ca>; Burneau, Jacquelyn F <Jacquelyn.Burneau@novascotia.ca>; Campbell, Ian M <Ian.Campbell@novascotia.ca>; projects@ceaa-acee.gc.ca; iaac.projects-projets.aeic@canada.ca; Rumbolt, Sara (HC/SC) <sara.rumbolt@canada.ca>; fcr_tracker@ec.gc.ca; ReferralsMaritimes@dfo-mpo.gc.ca; Walsh, Elizabeth <Elizabeth.Walsh@novascotia.ca>; Mosher, Elaine <Elaine.Mosher@novascotia.ca>
Cc: Environment Assessment Web Account <EA@novascotia.ca>
Subject: RE: Sporting Mountain Quarry Expansion Project - EA Registration

Good morning everyone,
This is a reminder that if you have not already submitted comments to the EA Branch, comments on the Registration Document for the Sporting Mountain Quarry Expansion Project must be provided by **August 5, 2020**, to be considered in this environmental assessment. Comments are requested to be provided via e-mail if possible and if you have no comments, please indicate this in writing. Again,

attached is a memo template for providing your comments for use if you wish.
Many thanks,
Candace Quinn

From: Quinn, Candace M
Sent: June 26, 2020 9:30 AM
To: Winn, Rebecca <Rebecca.Winn@novascotia.ca>; Weatherbee, Peggy <Peggy.Weatherbee@novascotia.ca>; Roney, Connie <Connie.Roney@novascotia.ca>; Cross, Anna <Anna.Cross@novascotia.ca>; MacMillan, Heather J <Heather.MacMillan@novascotia.ca>; Mitchell, David A <David.Mitchell@novascotia.ca>; Petrie, Bob D <Bob.Petrie@novascotia.ca>; Power, Terrance <Terrance.Power@novascotia.ca>; Steele, Cynthia <Cynthia.Steele@novascotia.ca>; Blackburn, Lori M <Lori.Blackburn@novascotia.ca>; Boudreau, Louise O <Louise.Boudreau@novascotia.ca>; MacPherson, George E <George.MacPherson@novascotia.ca>; Hearn, Scott <Scott.Hearn@novascotia.ca>; Smith, Gordon T <Gordon.Smith@novascotia.ca>; Zanth, Kathy M <Kathy.Zanth@novascotia.ca>; Fielding, Gillian <Gillian.Fielding@novascotia.ca>; Goldberg, Susan <Susan.Goldberg@novascotia.ca>; Pike, Laurie L <Laurie.Pike@novascotia.ca>; NSE-SAS-Division <NSE-SAS-Division@novascotia.ca>; Keats, Paul J <Paul.Keats@novascotia.ca>; Farrell, Mark P (Sydney) <Mark.P.Farrell@novascotia.ca>; MacNeil, Malcolm D <Malcolm.MacNeil@novascotia.ca>; Burneau, Jacquelyn F <Jacquelyn.Burneau@novascotia.ca>; Campbell, Ian M <Ian.Campbell@novascotia.ca>; projects@ceaa-acee.gc.ca; iaac.projects-projets.aeic@canada.ca; Rumbolt, Sara (HC/SC) <sara.rumbolt@canada.ca>; fcr_tracker@ec.gc.ca; ReferralsMaritimes@dfo-mpo.gc.ca
Cc: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Sporting Mountain Quarry Expansion Project - EA Registration

Hello everyone,

This is to advise that on July 6, 2020, Nova Construction Co. Ltd. is registering the Sporting Mountain Quarry Expansion Project for environmental assessment, in accordance with Part IV of the *Environment Act*.

The purpose of the proposed undertaking is to extend the existing 4.0 hectare quarry footprint to 10.0 hectares to continue operations at the quarry in order to meet local and regional aggregate demand. The Project is located on PID 75044156, owned by Nova Construction Co. Ltd., on Morrison Road in Richmond County, Nova Scotia. Operations of the expanded quarry footprint are anticipated to commence in 2020, pending regulatory approvals. The planned production rate is up to 30,000 tonnes per year, unchanged from current production. The extractable reserves in the Project footprint are estimated to last at least 30+ years depending on market demand.

Documents (a total of 7 files) can be downloaded **from the Nova Scotia Government FTP site which will be sent to you in the next email. If you're a NS government's employee, use your personal login and password to sign on. Other reviewers should use email as username and the provided temporary password (if this is the first-time assessing NS FTP website) to sign on; if you have accessed NS FTP in the past, use your previous password (an option to reset your password should also be available).**

If you have any problems at all accessing the documents on the FTP site please do not hesitate to contact me.

Note that GIS data regarding project location and environmental feature shapefile data can also be downloaded from the FTP site (this will be sent in a second email). The GIS data must not be distributed outside of the government and should be used only for this review.

Please note that comments on the Registration Document must be provided by **August 5, 2020**, to be considered in this environmental assessment. Comments are requested to be provided via e-mail if possible and if you have no comments, please indicate this in writing.

On or before August 25, 2020, the Minister of Environment will decide if the project can be granted conditional environmental assessment approval. All submissions received will be posted on the department's website for public viewing.
Our standard information for reviewers is attached, as well as a memo template for providing your comments to the EA branch for use if you wish. If you have any questions, please do not hesitate to contact me.

Many thanks,

Candace Quinn

Environmental Assessment Officer
Environmental Assessment Branch
Nova Scotia Environment
1903 Barrington Street, Suite 2085
PO Box 442
Halifax, NS B3J 2P8
Tel: 499-2578

NOVA SCOTIA

Energy and Mines

Date: August 5, 2020

To: Candace M. Quinn, Nova Scotia Environment

From: Scott Hearn, Manager, Mineral Development and Policy, Energy and Mines

Subject: Sporting Mountain Quarry Expansion Project – EA Registration

Energy and Mines has reviewed the file for Sporting Mountain Quarry Project Expansion EA registration.

We have no comments to make on this review.

NOVA SCOTIA

Environment

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: Aug 11, 2020

To: Candace Quinn, Nova Scotia Environment - EA Branch

From: Wetland & Water Resources Specialist, Water Resources Management Unit

Subject: Sporting Mountain Quarry Expansion Project: Environmental Assessment Registration - Wetlands

Scope of Review:
The following review of the Sporting Mountain Quarry Expansion Project Environmental Assessment Registration Document (EARD) (Nova Construction Company Limited, July 2020) is specific to the mandate of the NSE Wetlands Program within the Sustainability and Applied Sciences (SAS) Division. The review considers whether the environmental concerns associated with wetlands and the proposed mitigation measures to be applied have been adequately addressed within the Environmental Assessment. The recommendations provided below are meant to supplement the actions outlined in the EA submission documents.

Reviewed Documents:

- GHD. 2020. *Environmental Assessment Registration Document - Sporting Mountain Quarry Expansion: Seaview, Richmond County, Nova Scotia*. Nova Construction Company Limited.

General Comments:

- *Summary of Wetland Findings:* Wetland field assessment was conducted to an acceptable standard, and included surveys for Species at Risk (SAR) and Species of Conservation Concern (SoCC). Field studies identified 11 wetlands within the study area, comprising ~9.49 ha of total area, including:
  - Nine swamps;
  - One wetland complex; and
  - One marsh
- *Wetlands of Special Significance:* No Wetlands of Special Significance (WSS) were identified within 5 km of the Project site, based on desktop data review. During in-field studies, however, both Wetland 11 (Mixed-wood treed swamp, 2.5 ha) and Wetland 2 (Wetland Complex, 4.6 ha) were found to contain Blue Felt Lichen (*Pectenia plumbea*) and are thus are both considered to be 'Wetland of Special Significance' pursuant to the NS *Wetland Conservation Policy.* In this instance, WSS is assigned due to the presence of a non-mobile Species at Risk

(SAR). Wetlands 2 and 11 should be avoided by all direct and indirect Project activities.
    - Blue Felt Lichen was not documented as present in Wetland 2 within Table 6-9 in the EARD; however, it was noted as present within Figure 9 of Appendix E2.
    - A mobile SAR (i.e, Canada Warbler) was also identified in Wetland 2, and reinforce the WSS designation of this Wetland afforded by the presence of the non-mobile Blue Felt Lichen. The presence of a mobile SAR on its own does not necessarily confer the designation of WSS, without further information being provided on the habitat usage of the species.
    - Suitable Canada Warbler habitat was also identified in Wetland 8 and Wetland 10, though neither of these wetlands would necessarily be conferred a WSS designation without further information being provided on the actual presence and habitat usage of the species.
- *Wetland Removal:*
    - It is indicated in the EARD that the entirety of Wetland 7 (709 m^2 or 0.0709 ha) could be removed by the Project works.
    - It is indicated in the EARD that a portion of Wetland 2 (0.5 ha of 4.6 ha total area) of wetland habitat could be removed by the Project works. Wetland 2 is considered a WSS due to the presence of Blue Felt Lichen. It should be noted that permit approvals will not be granted for altering a WSS, as this Project does not meet the definition of 'Necessary Public Function' per the *Nova Scotia Wetland Conservation Policy*.
    - Wetland 5 (Mixed-wood treed swamp, 105 m^2) is also shown as falling within the Quarry expansion area (Figure 3), but is not indicated for removal in the EARD. It should be clarified whether this wetland will be removed from the landscape.
- *Groundwater in Wetland 2:* Based on the substantial difference between the stated elevation of the quarry floor (125 m asl) versus the surface elevations of Wetland 2 within 30 m the quarry expansion area (ranging from ~150-160 m asl based on 2018 LiDAR elevations) there is concern that there may be significant intrusion into the groundwater table of Wetland 2. Lateral intrusion into the water table may result in indirect drying effects within Wetland 2, and accordingly, a loss of ecological integrity within that wetland. Wetland 2 presumably acts as headwaters, and provides a base-flow for Watercourses 1 and 2; so, any impacts in Wetland 2 may have corresponding effects on these watercourses. These potential effects have not been assessed in the EARD. In consideration of Wetland 2 being a WSS, indirect Project impacts that result in negative trends in wetland hydrology would not be permissible.

Mitigation and Monitoring:

- The EARD states:

    "Site preparation and operations could cause direct and indirect impacts to wetlands. Potential hydrological and water quality related direct impacts have the potential to occur in the proposed quarry footprint from the removal of wetlands through quarry development or from suspended sediment in runoff. In addition, due to the nature of activities associated with operations (i.e. presence of vehicles and construction equipment) all wetlands identified within the Project Site have the potential to be

indirectly impact as a result of accidents and malfunctions."

- In consideration of the above statement:
  - *Avoidance:* Wetland 2 should be completely avoided by Project works, due to its WSS designation.
  - *Mitigation:* Mention is made of wetland compensation for proposed wetland losses due to the Project, and generalized water management; however, the EARD does not provide sufficient details on proposed on-site mitigation measures and design elements that are specific to the protection of Wetland 2.
  - *Monitoring:* The EARD does not provide sufficient details on the proposed monitoring approaches that could be used in order to determine the magnitude of impacts on Wetland 2 of the proposed Project works.

Conclusions & Recommendations:

Beyond the estimates of wetland area removal, there is insufficient information provided in the EARD to predict whether adverse environmental effects on wetland function will occur, particularly for portions of Wetland 2 where the groundwater table may be intruded upon by the quarry operation. A series of recommendations are provided below.

Planning/Design Issues:

- Wetland 2 should be completely avoided by Project works, due to it's WSS designation.
- It is recommended that a baseline of wetland hydrology be collected in Wetland 2 in advance of Project work. This work should be conducted consistently and in tandem with any groundwater monitoring that may be recommended for the site.
- It is recommended that the proponent prepare and submit a *Wetland Management and Monitoring Plan* for NSE's review and acceptance. This plan should be developed in consultation with the NSE Wetland Specialist. This document should include:
  - Details and designs on proposed on-site mitigation measures specific to the protection of remaining wetlands or portions of wetlands, including measures for sediment and erosion control, maintenance of groundwater hydrology, vegetation management, stormwater management, and water quality management.
  - A detailed ecological and hydrological monitoring plan for Wetland 2. Wetland monitoring efforts should include integration of surface water and groundwater monitoring data wherever appropriate.
  - An Adaptive Management framework related to wetlands.

Operational Issues/Other Permitting Processes:

- The proposed alteration to Wetland 2 will not be permitted, due to its WSS designation.
- Alteration/removal of Wetland 5 and Wetland 7 associated with Project works will be subject to the NSE Wetland Alteration Approvals process.
- The NSE-approved *Wetland Management and Monitoring Plan* would be a key piece of supporting information for this application package.

NOVA SCOTIA
Environment

Barrington Tower
1894 Barrington Street
Suite 1800
PO Box 442
Halifax, Nova Scotia
Canada B3J 2P8

Date: August 5, 2020

To: Candace Quinn
Environmental Assessment Officer

Cc: Manager, Water Resources Management Unit

From: Senior Hydrogeologist, Sustainability and Applied Science Division

Subject: Sporting Mountain Quarry Expansion Project

Environmental Assessment (EA) reviews from the NSE Sustainability and Applied Science Division Senior Hydrogeologist focus primarily on groundwater resources. This includes the potential for the proposed undertaking/project to adversely affect groundwater resources, including general groundwater quality, quantity, municipal groundwater supplies, local water supply wells and groundwater contributions to stream baseflow, groundwater recharge and wetlands. The review is conducted of materials provided by the proponent during the EA registration process, as well as with Departmental resources. Any recommendations made are based on the review of all currently available data.

Reviewed Documents

The following document was the basis for this EA review:

> *GHD. 2020. Sporting Mountain Quarry Expansion. Seaview Richmond County. Environmental Assessment Registration. Nova Construction Co. Ltd. 11194492 Report No. 1*

Background

Nova Construction Co. Ltd. has registered the Sporting Mountain Quarry Expansion Project as an undertaking for Environmental Assessment.

The purpose of the proposed undertaking is to extend the existing 4.0 hectare Sporting Mountain quarry footprint to 10.0 hectares to continue operations at the quarry in order to meet local and regional aggregate demand. The Project is located on PID 75044156, owned by Nova Construction Co. Ltd., on Morrison Road in Richmond County, Nova Scotia. Operations of the expanded quarry footprint are anticipated to commence in 2020, pending regulatory approvals. The planned production rate is up to 30,000 tonnes per year, unchanged from current production. The extractable reserves in the Project footprint are

estimated to last at least 30+ years depending on market demand.

As reported in the Registration Document - "*The average production rate* [of aggregate derived from granodiorite bedrock] *is estimated to be in the range of 20,000 to 30,000 tonnes per year (t/y) depending on local project demands. The proposed operating schedule for the lifetime of the project is 12 hrs/day, five-six days/week for 35 weeks/year, as required to meet the demand for aggregate and associated rock products in the area. The quarry will typically be active during construction season, and shut down for the winter*." (p. 3).

"*Site activities will include the drilling, blasting, crushing, stockpiling, and transporting of aggregate for sale or for use in projects that are contracted to Nova Construction. The aggregate will be transported by trucks to markets in the southeastern Cape Breton area, and more specifically Richmond County. The operation will consist of a lay down area for the portable crushing equipment and screens, various aggregate stockpiles, and portable weigh scales, as well as the physical features of the site such as the quarry floor and active working faces, and site settling pond(s)*" (p. 8). It is also mentioned that aggregate crushing, screening and washing may occur in the quarry yard, and if so, a closed-circuit wash water system is anticipated (pp. 37-38).

Comments

The Sporting Mountain Quarry registration document states that the quarry will maintain current production levels. The Quarry Expansion occurs in an area immediately to the north of the current quarry and is projected to last for a period of up to 30 years, or 2050.

It is reported that the "expansion area elevation ranges from 147 to 157 masl. The current quarry floor has been established at about 125 masl throughout and will continue at this elevation in the expansion area." (p. 3). Despite the significant depths (20 m +) below the existing ground surface the proponents state that "*No interactions are anticipated with groundwater resources from construction and operation of the Project. The quarry floor will be maintained at a minimum 1.0 m above the groundwater table*." (p. 41).

- The location of the undertaking is not within a municipal drinking water Source Water Protection zone, drinking water Watershed or Wellfield Protection Area (WHPA) or a regulated Protected Water Area. The nearest Protected Water Area is the Port Hawkesbury Protected Water Area (Landrie Lake) which is about 23 km west of the site. In addition, a Municipal Drinking Water system of groundwater wells is located 9 km to the east of the site in Sampsonville (St. Peter's supply). Both of these are in different watersheds than the site. The secondary watershed the site is located in flows primarily to the south.

- The nearest Public Registered Drinking Water Supply is about 7 km south of the project site at the Tara Lyn Community Centre, River Tillard, NS.

- The Nova Scotia Environment Well Logs Database (WLB) (as accessed through the Natural Resources Nova Scotia Groundwater Atlas interactive map) locates 2 (two) water wells (1 dug well and 1 drilled well) within about a 2 km radius of the project area. However, the dug well does not appear to be associated with a building/dwelling

based on satellite imagery and may not be accurately located. There does appear to be about 5 buildings/residences located within 2 km of the site, also based on satellite imagery. Some of these potentially may have unrecorded water wells and field truthing to determine properties with water wells is essential.

It has been noted previously that the Well Logs Database Records and any mapping based on these records need to be considered in terms of locational errors/accuracy of the original data. In addition, the Well Logs Database does not contain a complete listing of every water supply well in the province and some areas may contain water supply wells not reported. Field truthing and field surveys for actual water supply well locations would be needed for verification.

- The proponent identified a potential of 3 water wells within 2 km of the site. They further evaluated another 6 wells for properties in similar bedrock geology (Appendix G, page 1). It is noted that based on the data shown the average depth to the static water level (water table) was 4.6 metres below surface in the area water wells.

- The proponent states that "*There are no residential wells within 1.2 km of the Project Site*" (p. 41). As a result, no baseline water survey for residential water supply wells has been proposed.

- There are concerns from this review that the existing quarry operation has already been excavated well below the water table. As mentioned on page 3 of the registration document – "*The elevation range of the property is 147 to 177 metres above sea level (masl) and the expansion area elevation ranges from 147 to 157 masl. The current quarry floor has been established at about 125 masl throughout and will continue at this elevation in the expansion area*."

  The elevation of the lakes in the vicinity of the quarry are also around 150-160 m elevation. Page 38, Groundwater Resources section of the registration document states – "*The water table, the upper portion of the saturated zone, intersects the surface at streams, springs, and lakes*." It is reasonable to assume also then that the water table intersects the existing quarry pond and that excavations below this level have already occurred and are currently planned to occur during future operations.

- The proponent states that "*No interactions are anticipated with groundwater resources from construction and operation of the Project. The quarry floor will be maintained at a minimum 1.0 m above the groundwater table.*" (p. 41). However, with no current groundwater monitoring in place this is a difficult condition to evaluate. They proponent does however also make the statement that: "*Monitoring wells may be installed and monitored at the frequency required by conditions of any environmental approval or IA, as necessary.*" (p. 42). Such monitoring is essential to determine and maintain operations relative to the water table.

  Groundwater monitoring provides necessary information to predict and avoid excavation below the shallow water table, as well as to avoid other adverse effects to groundwater and surface water resources potentially caused by quarry operations. Such a monitoring program would need to be designed and installed by a professional

hydrogeologist (P.Geo or P.Eng) licensed to practice in Nova Scotia.

- Section 6.5 (Surface Water Resources and Wetlands) and Section 7 (Effects of the Project on the Environment) discuss wetlands and some of planned actions that could disturb them. However, potential changes to wetlands due changes in the water table conditions (lowering) are not specifically addressed.

  It is possible that the quarry has caused, and may continue to cause with development, some lowering of the localized water table outside of the quarry excavation footprint. Whether this has occurred or not is unknown, as no water table monitoring has taken place.

  As wetlands typically intersect the water table, lowering of the water table potentially could have significant effect on wetland function. In addition, it is likely that the water table in the area also intersects and potentially provides baseflow recharge to some of the streams in the area. The registration document does not specifically provide for a plan to evaluate such potential groundwater-surface water interactions.

- The potential for Acid Rock Drainage (ARD) from the quarry was evaluated by the proponent with 2 bedrock samples. They found that "*Results of tests to determine acid producing potential indicate that the bedrock has less than 1.52 kg/t acid producing potential, well below the provincial threshold of 0.4% (12.51 kg H2S04/tonne) and is therefore not considered acid generating".*

- It is not clear from the registration document how the current quarry excavation operations manage water in the quarry pond. It is apparent from satellite imagery that the quarry pond appears to be full of water, at levels well above the quarry floor. Any pumping or withdrawal of water from the quarry pond potentially would require a Water Withdrawal Approval from the Department.

- The proponent has examined the potential for the project to enhance seawater intrusion of coastal wells within about 5 km of the site. They conclude that, assuming the site is not withdrawing water for its operation, "*it is unlikely that seawater intrusion in wells at the coast would be a result of quarrying activities"* (pp. 40-41).

Recommendations

The following recommendations are suggested based on the proposed Sporting Mountain Quarry Expansion groundwater effects environmental assessment review. The main concern is the lack of information and potential adverse effects of the current and planned quarry operations with respect to excavation within the water table, and effects on wetlands and groundwater-surface interactions.

Planning/Design Issues of Significant Importance

Based on this hydrogeological review of all the information provided, the current quarrying activity appears to be likely already well below the expected level of the water table. This

condition potentially has already resulted in local environmental effects. This activity does not appear to have been permitted/approved by the Department.

However, the proponent indicates that water table lowering due to the quarrying excavation has not and will not occur. As this is a significant difference in opinion, it is recommended that a proper groundwater study be conducted to provide scientific data to support assumptions being made about the water table, wetlands, groundwater flow and groundwater-surface water interactions.

A groundwater monitoring network installation and evaluation study is recommended as necessary to determine the location of the ambient water table and the potential water table depression effects of the quarry. While local drinking water supplies may not be currently impacted, there is an unknown potential for impacts to occur affecting wetland functions and surface water baseflow recharge. This has implications for both wetland ecosystems and stream fish habitat.

1) It is recommended that the proponent prepare a **Groundwater Monitoring Study and Plan** for the site and submit this to Department for approval. For this plan, an industry-standard permanent monitoring well network should be established for the site as designed, installed and assessed by a professional hydrogeologist (P.Geo or P.Eng) licensed to practice in Nova Scotia. This should be established on the site prior to further quarry development, if approved, to assess the water table location, vertical and horizontal hydraulic gradients, hydraulic conductivities for shallow and deep groundwater flow regimes, groundwater flow directions, baseline (and background) water quality and to monitor for downgradient water quality and quantity effects, including the effects of groundwater recharge and groundwater-surface water interactions on nearby watercourses and wetlands.

   Groundwater monitoring at the site needs to be designed with the following considerations in mind:

   - The groundwater monitoring network should include the installation of 1 up-gradient and 3 down-gradient well locations (industry standard). Each well location should include 1 multi-level well screened across the water table (i.e. shallow zone within 10 m of surface) and 1 multi-level well screened near/below the quarry base floor elevations (below the water table) to evaluate deeper groundwater piezometric flow conditions and vertical flow gradients.

     In addition, water table monitoring using shallow zone piezometers should be established in wetland locations surrounding the quarry, as a component of a Wetland Management and Monitoring Plan, which is developed in consultation with the NSE Wetland Specialist.

     - As part of the **Groundwater Monitoring Study and Plan** the data obtained from the groundwater monitoring network should be evaluated and a Report of groundwater conditions provided to the Department for review prior to approval. Standard hydrogeological reporting should include description of: water levels, water quality, hydraulic conductivity test results, map locations and monitoring well/piezometer construction logs.

- In addition, the report should include figures showing: water table elevations, shallow zone horizontal hydraulic gradients and shallow groundwater flow directions; bedrock groundwater piezometric elevations, bedrock zone horizontal hydraulic gradients and bedrock groundwater flow direction; and a table showing vertical hydraulic gradient values for each multi-level well location.

Operational Issues/Other Permitting Processes

1) Following the groundwater monitoring study and data evaluation, should excavation within 1 metre of the measured maximum annual water table level, or below, be desired the proponent will need to request an Approval from the Department to do so. Additional information on the potential effects and a mitigation assessment may be necessary for such a request.

2) Any storage or removal of water from the quarry excavation that is regulated by the *Activities Designation Regulations* (ADR) will require a Water Withdrawal Approval from the Department.

3) It is recommended that standard precautionary statements be provided in any approval terms and conditions that state, to the effect, that “the Proponent should replace or repair any drinking water supply found to be adversely affected by the quarry operation to the satisfaction of the drinking water supply owner”.

Description of Residence for Bank Swallow (*Riparia riparia*) in Canada

Preface

Section 33 of the *Species at Risk Act* (SARA) prohibits damaging or destroying the residence of a listed threatened, endangered, or extirpated species. SARA defines residence as: "*a dwelling-place, such as a den, nest or other similar area or place, that is occupied or habitually occupied by one or more individuals during all or part of their life cycles, including breeding, rearing, staging, wintering, feeding or hibernating*" [s.2(1)]. With respect to a listed wildlife species that is an aquatic species or a species of bird protected under the *Migratory Birds Convention Act, 1994*, the prohibition applies wherever the residences are found. For any other listed wildlife species, the prohibition applies automatically when the residence of the species is on federal lands and will only apply on non-federal lands if an order is made pursuant to sections 34 or 35 of SARA. Under section 97 of SARA every person who contravenes section 33 of the Act commits an offence.

A residence would be considered to be damaged or destroyed if an alteration to the residence and/or its topography, structure, geology, soil conditions, vegetation, chemical composition of air/water, surface or groundwater hydrology, micro-climate, or sound environment either temporarily or permanently impairs the function(s) of the residence of one or more individuals.

The following residence description was created for the purposes of increasing public awareness, and enhancing conservation outcomes by promoting compliance with the above prohibitions.

Under SARA, Bank Swallows have one type of residence: the occupied burrow.

Under SARA, the destruction of this migratory bird species' residence is prohibited automatically on all lands. Under certain conditions, SARA provides that permits may be issued for activities that affect a listed wildlife species, its critical habitat or residences of its individuals. SARA also provides exceptions for certain activities that relate to public safety, health or national security. The Government of Canada will work with landowners and land managers to explore options when situations concerning public health and safety arise.

Damage and Destruction of the Residence

Any activity that damages or destroys the functions of the occupied burrow would constitute damage or destruction of the residence. These activities include, but are not limited to, damaging or destroying the burrow; blocking access to the burrow; changing the slope of the vertical face used for nesting; adding, moving or removing material from the vertical face causing the burrow to collapse or to be filled; or any other activity that would destroy the function of the burrow.

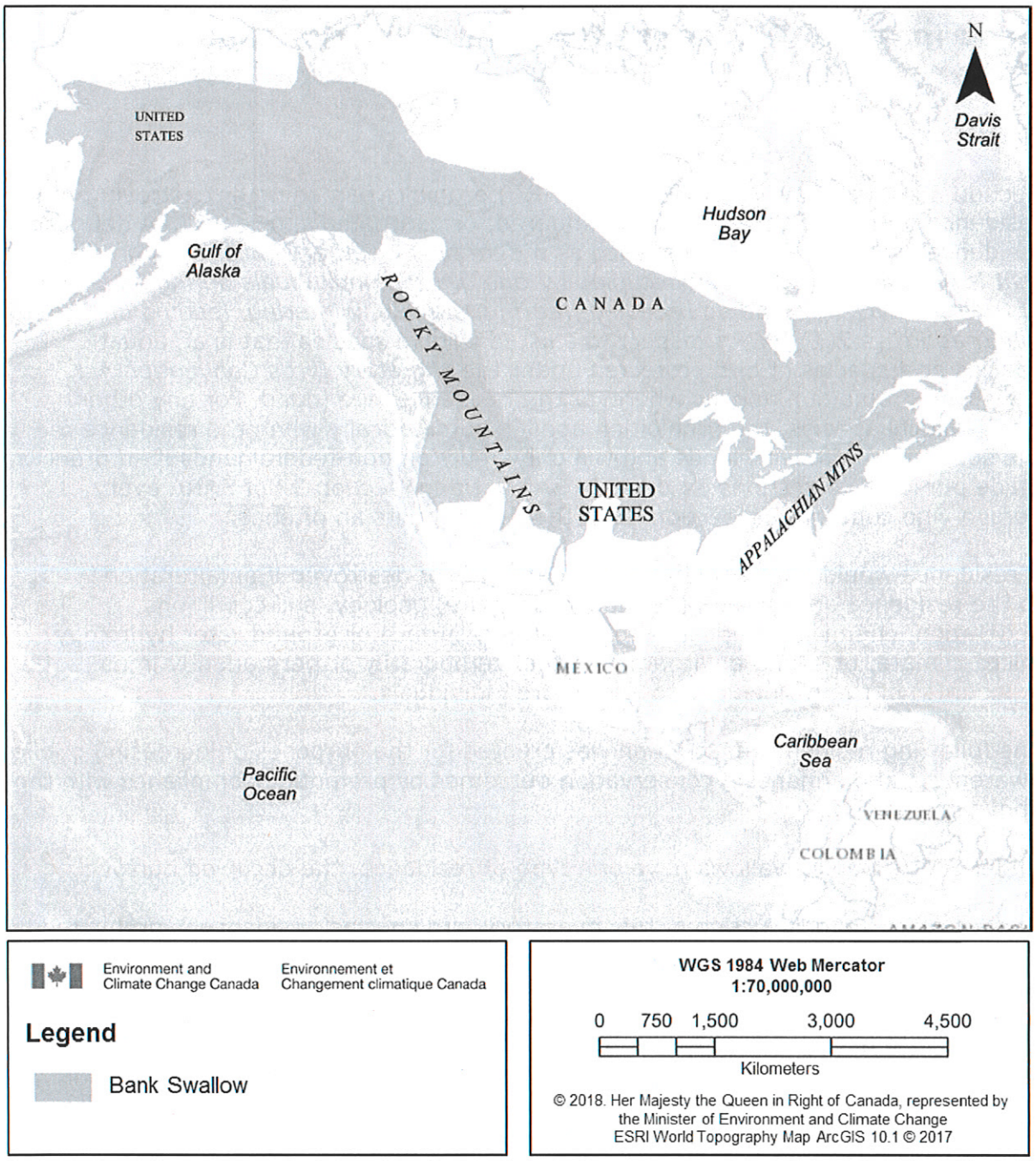


Figure 1. Known breeding distribution of the Bank Swallow (*Riparia riparia*) in North America. Note that nesting may occur outside of the currently known distribution; residences are protected wherever they occur.
Data Source: BirdLife International (2016)

1) The Burrow

Physical Appearance and Context

Any occupied[1] Bank Swallow burrow is considered a residence. The nesting burrow containing the nest is excavated by the birds parallel to ground surface and perpendicular to the bank face (Garrison 1999). The Bank Swallow builds a rudimentary nest made of grasses, feathers, twigs, rootlets, plant stalks, or leaves in a nest chamber at the end of the burrow (Campbell et al. 1997). Horizontal depth of the nest burrow averages 90 cm (range 42–180 cm) in British Columbia (Campbell et al. 1997) and 63.6 cm (range 15–145 cm) in Saskatchewan (Hjertaas 1984). In Ontario, lakeshore burrow depth averaged 71 cm (range 40 to >110 cm; n=70) and pit burrow depth averaged 65 cm (range 25 to >110 cm; n=88; Burke 2017).

In natural settings, Bank Swallows excavate burrows in near-vertical banks composed of exposed and unconsolidated silt or sand deposits (Falconer et al. 2016). Heights of banks at nesting colonies average 1.8 m (range 0.5–6.6 m) in Saskatchewan (Hjertaas 1984; Hjertaas et al. 1988). In Ontario, Bank Swallow colonies in lakeshore banks were found on vertical faces averaging 5.6 m in height (range 1.2–10.8 m; Burke 2017). On southern Ontario rivers (n=41 colonies), colony face length and height averaged 64.2 m (range 2.0–289.5) and 6.3 m (range 0.7–40.9), respectively (M. Cadman and M. Browning, pers. comm.). In Ontario pits, colony face length and height averaged 39.1 m (range 2.5–333.9) and 3.44 m (range 0.5–28.4), respectively (M. Cadman and M. Browning, pers. comm.). Nesting colonies in natural settings are generally located along rivers, streams, lakes, and ocean coasts (Garrison 1999). The location alongside waterbodies generally contributes to the natural erosion of the vertical profile, keeping the bank suitable for nesting (Garrison 1999; Falconer et al. 2016).

Burrows are aggregated into colonies of extremely variable sizes, ranging from a few nesting pairs to several thousand (Garrison 1999; COSEWIC 2013). In British Columbia, Campbell et al. (1997) reported a range of 3 to 3,035 burrows (n=491 colonies). Average size of colonies in Saskatchewan is 5 nests (range 1–48, n=79 colonies; Hjertaas 1984). Colonies along rivers in southern Ontario (n=50 colonies) averaged 100 burrows (range 1–1,256), but the median was 38 burrows (M. Cadman and M. Browning, pers. comm.). Surveys of lakeshore colonies at Lake Erie, Ontario suggest mean and median colony sizes of about 130 and 50 nests, respectively (Falconer et al. 2016). In southern Ontario, average colony size appears smaller in aggregate pit sites (112 ± 17 burrows) than at lakeshore sites (560 ± 138 burrows; Burke 2017).

The Bank Swallow often nests in human-made habitats. Burrows can be found in vertical faces in aggregate pits, along road-cuts, and in piles of sand, gravel, or sawdust (Garrison 1999; COSEWIC 2013; Falconer et al. 2016). Bank Swallows may also build nests in holes in human-made structures or occupy artificial faces

[1] Occupied is defined as the presence of one or more adult, young or viable egg.

built as surrogate habitat (Laberge and Houde 2015). Human-related excavation of material can refresh the vertical face and make banks suitable for nesting (Falconer et al. 2016).

Unoccupied burrows are typically present at active nesting colonies (Garrison 1999; Burke 2017). These burrows can remain from previous nesting seasons, result from failed excavation attempts by breeding Bank Swallow pairs, or have been abandoned by males that have not attracted a female (Garrison 1999). Mean burrow occupancy, the percentage of burrows in a colony that contain an active nest, ranges from 43 to 74% and varies annually, seasonally and by habitat characteristics (Garrison 1999; COSEWIC 2013). A recent study in Ontario (n=3205 burrows; Burke 2017) found that burrow occupancy is similar between lakeshore sites (63%) and aggregate pit sites (60%).

The presence of a nesting colony should be confirmed from the bottom of the vertical face, or otherwise in front of the face, as the occurrence and size of the colony can be easily overlooked from the top of the bank above the colony. The presence of a residence can be identified by one or more Bank Swallows entering or leaving a burrow, or the presence of young at the burrow entrance. The occupancy of a burrow can be confirmed from a single observation described above.

Function

The burrow provides thermoregulation of the eggs and nestlings, and protection against predators and harsh weather (Garrison 1999; Burke 2017). From the start of burrow excavation through the beginning of egg-laying, the burrow is used for roosting by both members of the breeding pair (Garrison 1999). The nest itself forms a rudimentary platform on which the Bank Swallow can lay and incubate its eggs and raise its chicks. In Canada, clutch size averages five eggs (range 2–7 eggs; Falconer et al. 2016); eggs are mostly incubated by females (COSEWIC 2013). Both parents feed young in the nest. Young depart the nest usually at about 18–22 days of age (Garrison 1999), but the burrows are still used for roosting for up to one week after fledging (COSEWIC 2013).

Bank Swallows are highly colonial breeders (COSEWIC 2013). Colonial nesting provides protection from predators (Burke 2017) and colonies provide an indication to the species of habitat quality (Garrison 1999; COSEWIC 2013). Large numbers of adult swallows at nesting colonies can more effectively detect, mob and deter potential predators. During post-fledging dispersal, juveniles visit multiple colonies, presumably assessing the suitability of breeding sites for future years (COSEWIC 2013).

Period and Frequency of Occupancy

In Canada, the possible period occupancy of the residence is about four months, typically from May to late August. Bank Swallows investigate many potential nesting locations, ranging over several kilometers, upon arrival on breeding grounds (Garrison 1999). Peak periods of egg-laying include the first half of June in Ontario (Peck and James 1987); in British Columbia, 55% of nests with eggs were

recorded during 14–28 June (Campbell et al. 1997). Second broods may occur in Canada, but limited evidence exists (Falconer et al. 2016).

Bank Swallows exhibit fidelity rates of 55–92% to previous nesting locations (Falconer et al. 2016). The location of colony sites might change because of the ephemeral nature of nesting habitat, while various factors can make previous nesting locations unsuitable for nesting between years. Larger colonies are more likely to be found at the same location (Freer 1977; Garrison 1999) and are more frequently reused than smaller ones. At natural sites along rivers, colonies tend to be found in the same location from year to year, although may be unoccupied some years. Adults that have successfully bred in previous years often return to the same general breeding area (Falconer et al. 2016). However, adults experiencing major nest mortality events, including predation or bank collapse, do not appear to recolonize the same nesting location, although new birds may recolonize these sites in successive years (Freer 1979; Falconer et al. 2016).

Bank Swallows typically dig new burrows each year, as erosion or human activities can cause the vertical face to collapse and expose fresh material (Garrison 1999). The burrow-excavation phase usually occurs over a period of 4–5 days, but can take longer depending on the soil type and composition (Garrison 1999). If old burrows remain, some may be reused, enlarged and deepened with excavation activities that are part of pair-bond formation. Old nests are often removed from reused burrows and new nests constructed (Garrison 1999).

Under SARA, the occupied burrow is considered a residence from the date when adults are first seen entering or leaving the burrow to the date when a bird is last seen at the burrow.

Additional Information

For more information on the Bank Swallow, go to:
https://wildlife-species.canada.ca/species-risk-registry/species/speciesDetails_e.cfm?sid=1233

For more information on SARA, go to:
https://www.canada.ca/en/environment-climate-change/services/species-risk-act-accord-funding.html

Recommended Citation

Please cite this document as:

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Acknowledgement

T. Burke (M.Sc.) and M. Cadman (Canadian Wildlife Service, Ontario) provided valuable data and comments on Bank Swallow colony monitoring in Ontario. Data from joint work between the Ontario Ministry of Natural Resources and Forestry (M. Browning) and the Canadian Wildlife Service were used in this document.

OSSGA
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FACT SHEET
BANK SWALLOWS (*Riparia riparia*)

Photo: John Reaume

BANK SWALLOWS in Pits & Quarries
Guidance for Aggregate Producers

With habitats around the world, the bank swallow population in Canada is in decline, with an estimated drop of over 95 per cent since 1970 in Ontario alone. While the exact reason for this decline is unknown, loss of nesting sites and young broods as a result of habitat destruction/disturbance has been cited as a possible reason.

BACKGROUND:

The bank swallow (*Riparia riparia*), can nest in colonies from 3 to about 2,000 burrows and average about 70 burrows. Sand and gravel pits often provide suitable habitats for bank swallow colonies and have become important nesting sites for this species.

The bank swallow eats flying insects and spends the winter in South America. It returns to Canada between late April and May to breed. Burrow numbers generally continue to increase until mid-to-late June and colonies often remain active until mid-August.

BANK SWALLOWS IN PITS & QUARRIES

- Bank swallows are attracted to pits and quarries. They build nests in stockpiled product or banks and they prefer sand or silty sand.
- Breeding season is early May to mid-August in southern Ontario and late-May to mid-August north of Sudbury.
- Excavation or construction during the spring and summer can negatively affect bank swallows or their nesting sites (Environment Canada, 2011).
- These birds will take advantage of stockpiled product and small banks up to large extraction faces offering suitable habitat within a pit, which has the potential to reduce operational access to these areas during the breeding season.


Photo: Mark Browning
The nest is built at the end of a burrow dug mostly by male bank swallows into a vertical bank of sand or silt, or similar material.

YOUR LEGAL RESPONSIBILITY

Bank swallows and their nests are protected under the federal M*igratory Birds Convention Act, 1994*. It is an offence for anyone to kill, hunt, capture, injure, harass, take or disturb a migratory bird nest or eggs. Offenders are liable to a fine or imprisonment. A review is currently underway to determine whether the bank swallow should be declared a species at risk in Ontario.

WHAT YOU CAN DO

- Pre-plan in March to late April (or mid-May north of Sudbury) by altering working faces and stockpiles to prevent harassment or harm to bank swallows. Manage these areas throughout the breeding season to make these potential nesting sites unattractive. See next page for details.

- Provide alternate nesting sites in an inactive portion of your pit or quarry. See next page for details.

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FACT SHEET — BANK SWALLOWS (*Riparia riparia*)

HOW TO CREATE & PROTECT HABITAT

✓**DO** set aside pre-existing suitable habitat or create new habitat in inactive area(s) of a pit or quarry before the breeding season begins by creating vertical faces of 70 degrees or more in piles or banks. These areas should be off-limits to excavation for the duration of the breeding season from May - August. Heavy machinery near colonies is likely to disturb the swallows and reduce nesting productivity.

✓**DO** cordon off these areas and inform all pit employees of the location of the colony and to avoid disturbing the colony until further notice when bird colonies are established, or suitable faces are created. This will help conserve active colonies. (Using sand piles, or pylons with or without police tape, are easy and effective ways to cordon off nesting sites.)

HOW TO DISCOURAGE BANK SWALLOWS FROM NESTING

✓**DO** discourage bank swallows from nesting in areas that will be excavated over the breeding season by contouring faces to have a less vertical slope (either by sloping off or piling material on the face to create a slope that is less than 70°). Vertical faces located high up on a slope may have to be altered from above if possible, or extraction in these areas should be scheduled for after mid-August when the birds have left.

✓**DO** install bird deterrent devices before breeding season starts, such as plastic owls (Great Horned Owls), to discourage bank swallows from establishing a colony in suitable banks.

×**DON'T** use deterrent devices (e.g. plastic owl) once a colony has been established since this could interfere with the bank swallow's ongoing nesting activities.

OTHER GENERAL CONSIDERATIONS

✓**DO** secure access to your stockpiled material throughout the season by ensuring no vertical faces remain in the stockpile. (Slopes less than 70 degrees will prevent birds from nesting.)

✓**DO** extract material ahead of the breeding season and create suitable habitat in the process by creating vertical faces greater than 70 degrees.

✓**DO** devote a few minutes to removing vertical faces at the end of the work day so that bank swallows don't begin to build in these faces overnight or over a weekend.

×**DON'T** operate heavy machinery or excavate material within 50 metres of a colony. However, moving heavy equipment past a colony once is unlikely to cause any problems.

Photo: Charles M. Francis


Photo: Robert McCaw

RESOURCES:

Environment Canada. 2011. *Bank Swallow (Riparia riparia) Know Your Legal Obligations (*CW66-297/1-2011E-PDF). Retrieved from http://publications.gc.ca/collections/collection_2011/ec/CW66-297-1-2011-eng.pdf

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DATE: April 26, 2013

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From:	Wade, Suzanne (EC)
To:	Quinn, Candace M
Cc:	Wade, Suzanne (EC); Skeir, Tina
Subject:	Resending ECCC"s August 5th, 2020 Comments re Sporting Mountain Quarry Expansion project (EAS# 20-NS-006A)
Date:	August 19, 2020 3:09:56 PM

Hello Candace,

Environment and Climate Change Canada (ECCC) has reviewed the *Environmental Assessment Registration Document – Sporting Mountain Quarry Expansion – Richmond County, Nova Scotia*, and offer the following comments:

WILDLIFE COMMENTS

For federal environmental assessments, ss.79(2) of the *Species at Risk Act* (SARA) requires that persons responsible for an environmental assessment must identify adverse effects on all listed species, which include species of Special Concern and the critical habitat of Extirpated, Endangered and Threatened species; and if the project is carried out, must ensure that measures are taken to avoid or lessen those effects and to monitor them. These measures must

- be consistent with best available information including any Recovery Strategy, Action Plan or Management Plan in a final or proposed version; and

- respect the terms and conditions of the SARA regarding protection of individuals, residences, and critical habitat of Extirpated, Endangered, or Threatened species.

For species which are not yet listed under SARA, but are listed under provincial legislation only or that have been assessed and designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), it is best practice to consider these species in EA as though they were listed under SARA.

While there is no federal environmental assessment for this project, we advocate a similar approach for the provincial environmental assessment.

For each terrestrial species at risk (SAR), the proponent should clearly identify both direct and indirect adverse effects related to the project on individuals/occurrences and their habitat, including critical habitat (if applicable), as well as cumulative effects and effects resulting from accidental events and response. If there are occurrences of SAR in the LAA for which the proponent does not anticipate adverse effects, the reasons for this assessment should be clearly presented.

The proponent should also present technically feasible mitigation measures, including proposed buffers (where applicable) to avoid/lessen all direct and indirect effects on SAR and their habitat.

In instances where habitat for species at risk is not avoided, the proponent should clarify why avoidance is not possible, as well as a discussion of conservation allowances if appropriate.

In instances where the proponent is proposing a new or unproven mitigation measure (e.g. transplantation of lichen SAR and SOCI), details regarding the technical feasibility of the mitigation measure should be provided.

The proponent should present plans to monitor effects and effectiveness of mitigation measures on SAR and their habitat. In instances where success of proposed mitigation has a measure of uncertainty, the proponent should also provide a discussion of proposed adaptive management measures that could be implemented in a timely manner in the event that adverse effects are detected.

- *Lichen SAR*

Blue Felt Lichen and Frosted Glass-whiskers, lichen species listed as Special Concern on Schedule 1 of SARA have been identified in the study area, and the project would result in direct effects to both species. However mitigation measures for these species are not clearly identified. The proponent simply proposes to consult with provincial biologists. Such consultation should have occurred prior to submission of the EA, with clear mitigation and monitoring plans available at the time of EA review. As it stands, we do not agree that it is possible to adequately evaluate the effects of the project on lichen SAR based on the information provided.

- *Landbird SAR*

Canada Warbler (SARA-listed Threatened) was detected within the Study Area, associated with wetland habitat.

In instances where habitat for this species at risk is not avoided or would be affected, the proponent should why avoidance is not possible, as well as provide a discussion of conservation allowances if appropriate. As a measure to compensate for the lost habitat function for passerine SAR in instances where such wetland habitat cannot be avoided, we recommend the use of conservation allowances as the preferred form of the compensation step in the mitigation hierarchy of avoidance, minimization, and compensation. Furthermore, post-construction monitoring is generally recommended to verify predictions. Further details should be provided.

Also, Environment and Climate Change Canada's Canadian Wildlife Service generally recommends buffers for landbird SAR as follows during the breeding season:

- Low disturbance activities – 50 m
- Medium disturbance activities – 150 m
- High disturbance activities – 300 m

The proponent should also submit for review a landbird SAR monitoring plan to verify the effectiveness of mitigation measures.

We have the following additional comments in the event that the project is ultimately approved:

- The proponent proposes pre-construction nest surveys in the event that clearing cannot be completed outside the general nesting season for migratory birds in the region.

  Nests in complex habitat are difficult to locate. Adult birds avoid approaching their nests in a manner that would attract predators to their eggs or young. Except when the nests searched are known to be easy to locate without disturbing them, active nest searches are generally not recommended since they have a low probability of locating all nests, and are likely to cause disturbance to nesting birds. In many circumstances, incidental take is likely to still occur during industrial or other activities even when active nest searches are conducted prior to these activities. Therefore, Environment and Climate Change Canada's Canadian Wildlife Service does not recommend nest searches in vegetation or vegetation clearing during the bird nesting season in order to avoid impacts to nests.

  However, breeding bird surveys may be used to identify the presence of potentially nesting birds in an area. If birds detected during a breeding bird survey are potentially nesting in the area, then an appropriate buffer should be maintained.

  Furthermore, some species of migratory birds, including the threatened Common Nighthawk, may be attracted to cleared areas for nesting. Should there be a delay between clearing and operational activities, ground nesters may be attracted to previously cleared areas for nesting. In such a case, nest surveys may be carried out successfully by skilled and experienced observers using appropriate methodology. Should any nests or unfledged chicks be discovered, it is expected that these would be protected by an appropriate-sized buffer.

- Certain species of migratory birds (e.g. Bank Swallows) may nest in large piles of soil left unattended/unvegetated during the most critical period of breeding season. To discourage this, the proponent should consider measures to cover or to deter birds from these large piles of unattended soil during the breeding season. If migratory birds take up occupancy of these piles, any industrial activities (including hydroseeding) will cause disturbance to these migratory birds and inadvertently cause the destruction of the nests and eggs. Alternate measures will then need to be taken to reduce potential erosion, and to ensure that nests are protected until chicks have fledged and left the area. For a species such as Bank Swallow, the period when the nests would be considered active would not only include the time when birds are incubating eggs or taking care of flightless chicks, but also a period of time after chicks have learned to fly, because Bank Swallows return to their colony to roost.

  See also for example the attached guidance concerning beneficial management practices should be considered for implementation when designing mitigation measures for Bank Swallows, as well as guidance provided at

https://www.canada.ca/en/environment-climate-change/services/migratory-bird-conservation/publications/bank-swallow-riparia-sandpits-quarries.html.

- Bird collisions at lit and floodlit structures are a known problem. In coastal area, nocturnal migrants and night-flying seabirds (e.g. storm-petrels) are the birds most at risk of attraction to lights and lit structures. Attraction to lights may result in collision with lit structures or their support structures, or with other birds. Disoriented birds are prone to circling a light source and may deplete their energy reserves and either die of exhaustion or drop to the ground where they are at risk of depredation.

  It is recommended that proponents avoid or restrict the time of operation of exterior decorative lights such as spotlights and floodlights whose function is to highlight features of buildings, or to illuminate an entire building. Especially on humid, foggy or rainy nights, their glow can draw birds from far away. It would be best for the birds if these lights were turned off, at least during the migratory season, when the risk to birds is greatest and also during periods when Leach's storm-petrels would be dispersing from their colonies.

  Lighting for the safety of the employees should be shielded to shine down and only to where it is needed, without compromising safety.

  Street and parking lot lighting should also be shielded so that little escapes into the sky and it is directed where required. LED lighting fixtures are generally less prone to light trespass and should be considered.

- If there is ultimately a need to decommission a building or structure used for nesting by gulls, swallows, or other species of migratory birds, Environment Canada's Canadian Wildlife Service (CWS) should be consulted in a timely manner in advance of any proposed decommissioning activities for species-specific considerations including potential permitting requirements.

- Since even small spills of oil can have very serious effects on migratory birds, every effort should be taken to ensure that no oil spills occur. The proponents should ensure that all precautions are taken by the contractors and/or staff to prevent fuel leaks from equipment, and that a contingency plan in case of oil spills is prepared.
- Fueling and servicing of equipment should not take place within 30 meters of environmentally sensitive areas (including wetlands).

- A variety of species of plants native to the general project area should be used in revegetation efforts. Should seed mixes for herbaceous native species for the area not be available, it should be ensured that plants used in revegetation efforts are not known to be invasive.

  Measures to diminish the risk of introducing invasive species be developed and implemented during all project phases. These measures could include:

- cleaning and inspecting construction equipment prior to transport from elsewhere to ensure that no matter is attached to the machinery (e.g., use of pressure water hose to clean vehicles prior to transport); and

- regularly inspecting equipment prior to, during and immediately following construction in areas found to support Purple Loosestrife to ensure that vegetative matter is not transported from one construction area to another.

Applicable Legislation

The *Migratory Birds Convention Act* (MBCA) protects most bird species in Canada however, some families of birds are excluded. A list of species under MBCA protection can be found at https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/list.html .

Under Section 6 of the *Migratory Birds Regulations* (MBR), no person shall disturb, destroy or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the current MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities. Furthermore, Section 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds:

> "5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
>
> (2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area — that is harmful to migratory birds."

It is the responsibility of the proponent to ensure that activities comply with the MBCA and regulations. In fulfilling its responsibility for MBCA compliance, the proponent should take the following points into consideration:

- Information regarding regional nesting periods can be found at https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html.. Some species protected under the MBCA may nest outside these timeframes

- Most migratory bird species construct nests in trees (sometimes in tree cavities) and shrubs, but several species nest at ground level (e.g., Common Nighthawk, Killdeer, sandpipers), in hay fields, pastures or in burrows. Some bird species may nest on cliffs or in stockpiles of overburden material from mines or the banks of quarries. Some migratory birds (including certain waterfowl species) may nest in head ponds created by beaver dams. Some migratory birds (e.g., Barn Swallow, Cliff Swallow, Eastern Phoebe) may build their nests on structures such as bridges, ledges or gutters.

- One method frequently used to minimize the risk of destroying bird nests consists of avoiding certain activities, such as clearing, during the regional nesting period for migratory birds.

- The risk of impacting active nests or birds caring for pre-fledged chicks, discovered during project activities outside the regional nesting period, can be minimized by measures such as the establishment of vegetated buffer zones around nests, and minimization of activities in the immediate area until nesting is complete and chicks have naturally migrated from the area. It is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA.

  Further information can be found at https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html

The proponent should also be reminded that the prohibitions under the *Species at Risk Act* (SARA) are now in force. The complete text of SARA, including prohibitions, is available at www.sararegistry.gc.ca .

WATER QUALITY

General Comment

"Environment and Climate Change Canada administers section 36 of the *Fisheries Act*, the key pollution prevention provision, prohibiting the deposit of deleterious substances into waters frequented by fish, unless authorized by regulations under the *Fisheries Act* or other federal legislation. Whereas the activity of operating a quarry does not fall under any such regulation, it is captured under the general prohibition, 36(3) of the Act. Further information about the pollution prevention provision under the *Fisheries Act* can be found at: https://www.canada.ca/en/environment-climate-change/services/managing-pollution/effluent-regulations-fisheries-act/frequently-asked-questions.html".

Specific Comments

Section 6.1 Geology, Soil, and Sediment

> ***Page 19, Table 6-1 Impact Significance Criteria*** *- uses "ecozone" and "ecoregion" to define geographic extent of the impact and determine the impact significance.*
>
> *It is understood that ecozone and ecoregion are defined by "Neily, P., Basquill, S., Quigley, E., and Keys, K. 2017. Ecological Land Classification for Nova Scotia. Department of Natural Resources Renewable Resources Branch. Report for 2017-13."*. It would be useful if these areas, specifically the amount of land/area that would be impacted within these zones, were identified or illustrated in a Figure.

Section 6.5 Surface Water Resources and Wetlands

> ***Page 31*** - "*Baseline surface water samples were collected on September 15 2019 and March 23 2020 at three locations on Figure 7. The samples were analysed for*

general chemistry and metals, and represent the general surface water chemistry around the Site. The water quality data is included as Appendix E."

Water quality data seems to be in Appendix F.

Page 34 - "*Surface water samples were collected on September 15, 2019 at three locations (SP-1, SW-1, SW-2) and on March 23 2020 at two locations (SW1 and SW2) – SP-1 was frozen during the second monitoring event …[ ]… represent the general baseline surface water chemistry around the Site*."

Is there a rationale for the selection of the sampling locations? The locations are different than those of the watercourses sampled for the watercourse delineation and fish habitat characterization study? Is there a reason for that? It appears that SW1 is downstream of where discharge may enter the surrounding environment, at SP-1, which appears to be a settling pond within the expansion zone (Figure 7)? And SW2 is upstream?

The report indicates that "*the Project is located entirely within the River Tillard secondary watershed (1FH-2) and positioned within the western headwaters of the 1FH-2-B tertiary watershed, which discharge southeast to the Atlantic Ocean at St. Peter's Bay via River Tillard.* The report further states that "*Drainage from the existing quarry infrastructure is captured within a settling pond located west of the quarry floor. A perched culvert at the end of the series direct overflow from the settling ponds southwest, towards a forest wetland. This is the predominant direction of overland flow within the southern half of the Study Area, while drainage within the northern half of the Study Area follows natural topographic lows towards the southeast*."

It would be beneficial if the surface water flow directions could be indicated on Figure 7, or another figure, and any watercourses (e.g. River Tillard) where discharges (either from the settling ponds or other drainage ditches) may enter be specifically identified. Is the "Study Area" defined in the report? Is it the same as the "subject property"?

Page 35 - "*All samples show pH conditions within appropriate guidelines (6.5 – 9.0), with the exception of SW-1 during the March sampling event which had a recorded pH of 6.43 and SW-2 during the September and March sampling events which had pH of 6.35 and 6.25 respectively, and falls below the CCME FWAL guideline*."

Three out of five water samples were not within pH guidelines, therefore using "*all samples"* to start this statement may be misleading.

Section 6.5 Existing Environment - Watercourses

Page 32 - *There is no direct channel from the on-site settling pond to WC1. Water that is released to the environment is by overland flow.*

Some commentary on whether the water discharged from the settling pond location will eventually end up in WC1, which seems to have been identified as having fish (fish and fish habitat, page 33 - *however, 2-3 individual fish were observed*

approximately 275 m downstream, outside of the Study Area, stranded in residual pools. Watercourse evaluations indicate that fish may be able to access lower portions of WC1 within the Study Area, but a lack of hydrological connectivity was observed during low and high flow conditions that prevents fish from being able to swim further north and in the vicinity of the quarry area. Further, the overall quality of fish habitat within WC1 that is accessible to fish was identified as low), and, if so, an analysis of any potential impacts to the water quality in that waterbody should be provided.

If you have any questions, please let me know.

Suzanne Wade

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NOVA SCOTIA

Sustainability and Applied Science

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MEMORANDUM

To: Candace Quinn, EA Branch

From: Water Resources Engineer, Water Resource Management Unit, Sustainability and Applied Science Division

CC: Jennifer Rocard, Manager, Water Resource Management Unit

Date: August 5, 2020

Subject: Sporting Mountain Quarry EA Review Comments

Scope of review:

The scope of this Environmental Assessment review from the NSE Sustainability and Applied Science Division Water Resources Engineer is to assess the potential environmental impacts and proposed mitigations of the proposed undertaking on surface water quantity and management. While comments may also include considerations for impacts on general surface water quality, groundwater, freshwater fish habitat, and wetlands, appropriate technical specialists for these areas should be consulted for specific review and comment.

Documents reviewed:

The documents outlined below formed the basis for this EA review, and is referred to as the 'the submission' through the rest of this memorandum:

- Environmental Assessment Registration Document – Sporting Mountain Quarry Expansion Seaview Richmond County Nova Scotia. Report Prepared by GHD, dated June, 2020, and accessed from https://novascotia.ca/nse/ea/Sporting-Mountain-Quarry-Expansion-Project/default.asp

Review re: Sporting Mountain Quarry Expansion EA document:

General:

- Operations are currently under an Industrial Approval for a quarry less than 4 ha

- Proposing to expand the existing quarry from <4 ha to 10 ha
- Maximum quarry depth estimated at 32 m, minimum of 22 m based on elevations provided in the submission
- Operations are proposed to be for 35 weeks per year, and be shut down for winter
- Proposed operations are planned to continue for 30+ years depending on market demand

Water quantity: Watercourses and Site Drainage

- Both watercourses identified in the study area (WC1 and WC2) have been reported as first-order, intermittent watercourses
- The project area is found in the headwaters of two branches of the East River Tillard, within the broader River Tillard secondary watershed.
- The project expansion area has been developed to provide a minimum 30 m buffer from field delineated watercourses and the majority of wetlands (with the exception of WL5, WL7, and parts of WL2)
- It is reported that "surface water collected in the quarry will continue to be directed to sediment control ponds that are designed to allow sediment to settle from the water (treated) prior to the water being released to the environment". It is also reported that 'off-site surface water flows shall be directed around the site to minimize the amount of runoff passing over the site.'
    - The description of the methodology used to assess potential impacts to surface water quantity provided in the submission highlights a very high-level assessment, with gaps that make it difficult to have a clear picture of the potential adverse effects and effectiveness of the proposed mitigations associated with what has been proposed.
    - No overview of current or planned surface water management is provided in any of the figures accompanying the report, and as such it is difficult to understand if/where sediment control ponds currently exist, where they are planned to exist, and whether these locations would be feasible to be used to collect site surface water. The submission reports that settling ponds will capture surface flow on site – how will water from the quarry floor be conveyed to these ponds? Pumping is not mentioned in the document, but based on the information available is likely to be how surface water will be directed to the settling ponds? How would the need to pump to the settling ponds be considered in the operation of the sediment ponds and their design criteria?
    - Drainage areas have not been delineated for pre and post development conditions, and no form of water balance or other sort of quantitative assessment of potential impacts on water resources is included within the submission. From a review of available topographic information, the current sediment pond location is such that natural drainage patterns could be impacted by site water management – i.e., areas of site that currently drain to WC2 are re-directed to WC1 through the estimated location of the current sediment pond. No assessment or comment is provided in the submission.
    - No discussion or assessment is provided related to expected changes to surface water quantity associated with the land use change that is proposed by the development of the quarry – i.e., potential changes to infiltration/runoff and resulting effects on downstream watercourses.
- A large standing water feature is evident from the figures, available air photography, and through photos taken by departmental staff on recent visits to site.

    - There is no mention about this in the submission
    - It is reported in the submission that 'No interactions are anticipated with groundwater resources from construction and operation of the Project. The quarry floor will be maintained at a minimum 1.0 m above the groundwater table.' It is also reported that 'Quarry Excavations will not enter the deep groundwater table without NSE approval'. No further information has been provided to support an understanding of the water table in the vicinity of the planned project, or what is meant by 'deep groundwater'.
    - Considering the depth of the quarry, local topography and water features, it is likely that the water evident in the quarry area represents groundwater infiltration into the quarry that would require some form of on-going management. Management of this water is not discussed at any point in the submission, and neither are the potential impacts associated with this. Where the quarry is planned for 125 masl and considering current standing water feature conditions, there is the potential for on-going management of groundwater inflows to the quarry over the long term. Additional information surrounding this is required to understand the potential for impacts from the perspective of local water resources (including wetlands) from both quantity and quality perspectives.
    - As discussed in comments above, no water balance or quantitative assessment of potential impacts to water resources are provided in the submission
    - Where the site is planned to operate for 35 weeks of the year, it is likely the pond will require significant pumping at startup every year. This is not considered in the submission, and as such no consideration of potential impacts and necessary mitigations related to pumping, including potential requirements for a water withdrawal application and the potential impacts on surrounding water resources related to cutting off this contributing drainage area during site shutdowns
- General details related to reclamation are provided in the submission - it is unclear what is proposed from a water management perspective for the reclamation phase. It is reported that 'the reclamation program will include a management plan for water features left on-site to address quality and erosion and sediment control', but no additional details are provided for how water within the quarry pit area is expected to be discharged in the closure case. Through assessment of the elevations of the property and the planned quarry floor, a significant quarry pit (depth of at least 22 m) will exist permanently in the reclamation case – details to support development of an understanding of what this will mean from the perspective of potential impacts to water resources is not assessed in the submission.
- It is noted that a 'visual surface water flow gauge monitoring event' took place. The results of this outline that flows are 'moderate'.
    - Based on the information provided in text, it is inappropriate to consider these as 'flow gauging monitoring events' as outlined in the report, and instead should be considered as visual observations. It is unclear how the information provided in this section supports assessment/characterization of surface water quantity for the site.
- It is understood through reading the document that no water withdrawals are planned as part of the proposed works.
    - It is stated in the document that "sediment and erosion control is well managed by use of water if needed for dust" (pg 17). Details surrounding the potential source and extent

of this water are not provided in the submission. In addition, as outlined in the comments above, activities surrounding the dewatering of the quarry may trigger the need for a withdrawal approval.

Conclusions & Recommendations:

It is my opinion that the information that has currently been provided in the submission is insufficient for predicting adverse environmental effects resulting from the proposed works. The potential impacts associated with the works is currently unclear based on the current level of information provided, and as such it is difficult to assess the appropriateness of the mitigations currently proposed. Please see below for a summary of issues and recommendations:

Planning/Design Issues:

- Without further assessment and clarity surrounding the standing water shown to exist within the quarry, it is difficult to understand and have confidence in the statements made re: groundwater interactions and water management on site
    - It is recommended that further information and assessment be provided related to the standing water observed on site and potential interaction of the quarry pit with groundwater, with considerations for the comments provided in the memo above.
- It is unclear in the submission what site water management will look like through the various phases of the proposed project, and as a result the potential long-term impacts of the proposed works.
    - It is recommended that further details and assessment surrounding water management for the various phases of quarry development (including reclamation case) be submitted with consideration for the comments provided in the memo above.

Operational Issues/Other Permitting Processes

- A detailed site surface water management plan should be developed by a qualified professional engineer with the intent of minimizing impacts and alterations to nearby surface water resources. This plan should include considerations for diversions of upstream areas around quarry footprints and minimizing changes to contributing drainage areas for the surrounding surface water resources.
- Details related to final settling pond designs (by a qualified professional engineer is required as part of any industrial approval application for the works, including a plan to monitor compliance during the different operational phases of the year, including times of shut-down. Designs must at minimum include considerations for appropriate remove of TSS and minimizing impacts to flow in watercourses downstream.
- A detailed sediment and erosion control plan is to be developed by a qualified professional and is required to be submitted as part of any industrial approval application for NSE review and approval prior to construction activities, including clearing, grubbing, and stripping, take place.
- It is recommended that the water use for the purpose of dust suppression be evaluated to understand whether any additional approvals are necessary to support this specific activity
- A detailed surface water monitoring program is required to support on-going evaluation of the mitigations in place for the proposed works from a surface water quality perspective and to

validate conclusions provided in the submission surrounding insignificant impacts to water quantity in the surrounding watercourses. This plan is to be submitted to NSE for review and approval prior to construction activities, including clearing, grubbing, and stripping, take place.

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NOVA SCOTIA

Environment

Date: July 31, 2020

To: Manager, Water Resource Management Unit

From: Senior Surface Water Quality Specialist, Water Resource Management Unit

Subject: Sporting Mountain Quarry Expansion Environmental Assessment – Review Comments & Recommendations

Scope of Review

As Senior Surface Water Quality Specialist with the Nova Scotia Environment (NSE) Sustainability and Applied Science Division, the following Sporting Mountain Quarry Expansion Environmental Assessment (EA) review focuses on the following subjects:

- Surface water quality & its management
- General surface and groundwater resources, and fish and fish habitat & their management

The following review considers whether the environmental concerns associated with the above subjects and the proposed mitigation measures have been adequately addressed in the Environmental Assessment. The recommendations provided below are meant to supplement the actions outlined in the EA submission documents.

While general comments on fish and fish habitat, wetlands, surface water quantity, and groundwater quality and quantity may be included below, applicable technical specialists should be consulted for specific review and comment.

Reviewed Documents

The following document was the basis for this EA review:

GHD. 2020. *Sporting Mountain Quarry Expansion.* Seaview Richmond County. Environmental Assessment Registration. Nova Construction Co. Ltd. 11194492 Report No. 1

Comments

General

- Table 7-1 and Page 11 indicate to reduce the resuspension of dust from crushing activities, and/or unpaved roads and work areas that a water spray will be potentially used. The source of water for dust suppression is not discussed nor an amount identified, which may trigger the requirement for a water withdrawal approval application.

- The quarry rock is identified as being too hard to extract via mechanical methods and blasting is required.

Surface Water Resources

- The EA Registration Document and NS hydrology geographic information system (GIS) layer identify that the proposed Project is located in the headwaters of the East River Tillard River, which discharges into the Tillard River before reaching the Atlantic Ocean. Two unnamed tributaries of the East River Tillard receive drainage from the proposed quarry area and associated work areas.
- The proposed quarry site boundary is designed to provide a minimum 30 m buffer from adjacent field delineated watercourses, conducted by McCallum Environmental Ltd., without requiring alterations.
- The proposed quarry site boundary is designed to provide a minimum 30 m buffer from adjacent field delineated wetlands, conducted by McCallum Environmental Ltd., except for a section in the northeast corner of the project development area.
- The drainage areas for the wetlands and/or watercourses that are adjacent to the existing quarry and quarry expansion have not been delineated in the EA Registration Document. Looking at available topographic mapping, pre-existing quarry the natural drainage is in a south to southeast direction across the site, which drains towards the expected flow path of the field delineated WC2 channel. The existing quarry site drainage discharges off-site via a sedimentation pond outlet and overland flow that drains to the west into WC1. The quarry expansion drainage is proposed to be managed and discharged off-site via the existing sedimentation pond, and additional ponds constructed in future. There is no discussion in the EA Registration document about potential expected changes in surface water drainage volumes to the east and WC2 with the re-direction of surface water runoff flows to the west and WC1.
- No municipal or private registered water supplies are located adjacent to or downstream of the Project area.
- In June and July 2020, NSE staff conducted two separate site visits which visually observed ponded water collected within the existing active quarry area. This ponded water is also visible in the Figures (2, 3 and 7) provided in the EA Registration Document as a blue-green shape. Google Maps also presents aerial/satellite imagery that indicates a flooded quarry area. The active quarry area did not have any observed surface water drainage channels or other visible infrastructure to indicate that water from the quarry area would flow by gravity into the existing sedimentation pond. It is expected that the only method to drawdown the active quarry area would be via pumping. Depending on the volume withdrawn and frequency there may be a need for a water withdrawal approval application to NSE, which is not identified in the EA Registration Document. The EA Registration Document indicates that the quarry floor will remain 1.0 m above the groundwater table (Section 6.6.2). The observed approximate elevation of the ponded water was approximately 150 mASL, which indicated a substantial volume of water collected if the active quarry floor is 125 mASL (Section 3.2). This volume of water and the observed flooded quarry in the figures is indicative of potential groundwater infiltration into the quarry that is being managed now via active drawdown to access the resource and will require additional management with the quarry expansion. The proposed 1.0 m separation distance mitigation measure would appear to be not be met by the

existing active quarry.

Surface Water Quality

- The potential influence of groundwater infiltration into the quarry observed by NSE staff, and its potential discharge via the surface runoff collection, treatment and discharge infrastructure is not evaluated in the EA Registration Document. This includes potential effects of blasting residues on discharge water quality and within the receiving water environment.
- Aggregate washing is identified as potentially required and will use a closed-circuit process (Section 6.5.2). There is no additional discussion of this process in the EA Registration Document, such as:
    - What is the source of water be obtained for the wash process to start-up the close-circuit process? What is the volume to be withdrawn and expected frequency? Will it be sufficient to trigger the requirement for a water withdrawal approval application?
    - Where will the used closed-circuit water be disposed of (e.g., sedimentation pond(s))?
- Baseline surface water quality monitoring was conducted at three sites (SW-1 (WC1 downstream of existing sedimentation pond outlet, SW-2 (wetland upstream of project area) and SP-1 – sedimentation pond) on September 15, 2019 and March 23, 2020. SP-1 was not sampled during the March 23, 2020 event due to frozen conditions, with no rationale provided on why this particular date and environmental condition was acceptable for evaluating existing conditions. It is not stated whether SP-1 was actively flowing during the September 15, 2019 event or represents the sedimentation pond outlet.
    - Comparison of the results with Canadian Council of Ministers of the Environment (CCME) protection of freshwater aquatic life criteria identified criteria exceedances for pH (SW-1 and SW-2 for at least one event), total aluminum (all three for at least one event), total iron (SP-1 and SW-2 for one event). The assessment approach for these limited samples is reasonable.
    - Rationale on why these dates were chosen for monitoring and how they adequately represent surface water quality from the existing quarry discharge and upstream and downstream sites is not provided.
    - Long-term monitoring during the operations phase is proposed to continue at these baseline monitoring sites with visual monitoring of erosion and sediment control (ESC) measures and follow-up monitoring with total suspended solids sampling if pathways from ESC measures identified. No details are provided on sampling frequency or parameters for the Project. Parameters would typically include for quarry operations pH, TSS and select metals.
- Quarry rock samples were submitted to the Dalhousie University Minerals Engineering Centre for acid rock generation testing and observed to have acid producing potential below the provincial threshold (Section 6.1.1).
- For the proposed quarry site, the existing sedimentation pond is proposed to be used with discharge to the west and into WC1. Additional ponds are proposed to be constructed as required, but no additional details are provided. No details are provided on whether the existing sedimentation pond will be re-sized or enhanced as part quarry expansion. No details are provided on the criteria used for sizing the

sedimentation ponds (existing or new), including design storm events and/or discharge water quality.
- Section 6.5.2 lists surface water quantity and quality being considered in relation to fish habitat. This is potentially too narrow of an ecosystem view and assessment should be considered with respect to aquatic life and their supportive habitat (e.g., benthic macroinvertebrates).

Fish and Fish Habitat

- The fish and fish habitat assessment identified that fish may be able to access the lower portion of WC1 within the study area, and downstream of the proposed discharge from the quarry. WC2 was identified within the study area as not being fish habitat due to lack of hydrologic connection to potential downstream fish habitat.
- No assessment is provided on changes to surface water runoff from re-directing flows to WC1 from WC2, and also changing to a sediment pond that is only filled or potentially discharges during periods of active pumping from the quarry site due to the observed existing drainage patterns by NSE staff.

Surface Water Quantity

- No discussion is provided on changes to surface water runoff from the existing forest and wetland land uses to an active quarry for the Project area, or what is observed at the existing quarry site with respect to runoff differences from the surrounding landscape.
- A statement with respect to wetlands within Wet Areas Database adjacent to the site are predicted to have groundwater within 0.5 m of the surface. No additional discussion is provided on surface water-groundwater interactions for the watercourses delineated within the study area, or in general within the local/regional area.
- A site visits was conducted to do a visual assessment of surface water flows on March 23, 2020 (SW1 on WC1 and SW2 within WL2, with an unidentified flow path downstream of towards WC1 or 2) identified moderate flow. What is moderate flow? How is this information useful in characterizing existing conditions, and predicting potential effects and supporting development of mitigation measures?

Groundwater Quantity & Quality

- As discussed in the surface water resources section, ponded water is observed in the existing active quarry area that is potentially associated with groundwater infiltration. Groundwater infiltration into the quarry area is not presented in the EA Registration Document. Section 6.6.2 indicates the quarry floor will be maintained 1.0 m about the groundwater table, which does not align with the NSE staff observations at the site in June and July 2020. No information is presented indicating the potential groundwater inflow into the existing and proposed quarry, which conflicts with these site observations.
- No discussion is provided on changes to infiltration from the existing forest land use to an active quarry flow for the proposed quarry site, or what is observed at the existing quarry site.
- The Project is stated as not expecting a significant effect on groundwater resources.

Recommendations

Planning/Design

The activities conducted in supporting the Project effects assessment for surface water resources are inadequate to determine the significance of the effects. Contradictory information is presented within the EA Registration Document to what NSE staff have observed at the Site with respect to supporting the conclusion that significance of effects on surface water resources is negligible. This is due to NSE staff observed ponded water during site visits in June and July 2020 in the existing active quarry area, that appeared to be due to surface water runoff and groundwater inflows, and no natural surface water drainage via gravity to the existing sedimentation pond. These observations are not presented within the EA Registration Document as current or proposed environmental and operating conditions. A revised and detailed assessment related to surface water resources and the associated VECs of fish and fish habitat, and groundwater resources is required to adequately assess the significance of the Project impacts on them.

The following are recommendations for each of the above listed VECs:

- A water balance and its associated assessment should be developed to adequately assess potential impacts to surface water quantity. This water balance should include an appropriate quarry floor infiltration rate and consideration of groundwater-surface water interactions that include consideration of observed groundwater inflows into the existing quarry. These tools would be used in conjunction with other models and tools to assess impacts to surface water quality, and groundwater quality and quantity from the Project activities. This will assist with the development of effective mitigation measures, which may require further evaluation to confirm their effectiveness in addressing surface water quantity impacts.
- If active pumping is planned to be part of the surface water runoff management program at the quarry site, assess potential expected changes in flow regime within receiving watercourses due to episodic release of water, including potential effects on surface water quality and fish and fish habitat.
- Due to the potential groundwater contribution to surface water runoff from the quarry site, assess surface water quality that is expected to be discharged into WC1, including use of the water balance model results. Assess potential blasting residue contamination as appropriate. Appropriate mitigation measures should be developed based on the assessment results.
- Based on the results of the water balance recommended above and if changes in surface water runoff are predicted to WC1 and WC2, additional baseline fish and fish habitat studies and a revised effects assessment should be conducted. Appropriate mitigation measures should be developed based on the results of the effects assessment.
- The recommended water balance above should consider potential groundwater impacts of the Project. Appropriate mitigation measures should be developed based on the revised water balance results.

Operational Issues/Other Permitting Processes

Surface Water Quality

- No aggregate washing activities should occur at the Site without permission from NSE.
- Submission of proposed dust control activities to NSE staff for review as part of the Industrial Approval application, including the proposed source of water, expected withdrawal volumes, and associated mitigation measures to reduce impacts. If water withdrawal volumes trigger requirements for a water withdrawal application, this should be prepared and submitted prior to the start of quarry construction and operation activities.
- An erosion and sediment control plan developed by a qualified professional engineer should be submitted for NSE review and approval prior to the start of construction and operation activities for the new quarry site and expanded crushing/stockpile area, including clearing, grubbing and stripping.
- New surface water management infrastructure (e.g., settling ponds, ditches, seep away) and existing infrastructure enhancements should be designed by a qualified professional engineer to reduce sediment loading from the quarry site. Enhancements should be considered for all existing drainage management infrastructure due to the expected additional surface water runoff that will be directed to this infrastructure. Site drainage should be developed to minimize changes in surface water runoff to existing drainage areas (e.g., WC1 and WC2). This infrastructure should include proposed clean water diversion berms and other drainage systems to convey non-site impacted water away from the Project area. Pre- and post-development surface water runoff rates should be considered in the design with the objective of a zero increase in peak discharge from the project development area, including seep away designs. Pond design should consider potential scour impacts to the receiving water environment. Appropriate mitigation measures should be implemented to support surface water management through all phases of project phases, including incorporating seasonality (e.g., winter site management). Final infrastructure design criteria, storm event sizing, and effluent discharge concentration and monitoring requirements should be developed and submitted to NSE staff for review and approval prior to the start of quarry construction.
- A surface water quality monitoring program should be developed to monitor discharge from the proposed surface water runoff management infrastructure, and potential effects on watercourses impacted by the project development. A baseline monitoring site should be established on an upstream section of WC1 that will not be affected by the Project works, if feasible. The monitoring programs should include regular TSS and pH water sample collection and analysis when drainage works are flowing to assess their adequacy in reducing sediment loads. If groundwater is planned to part of the surface water discharge from the quarry, monitoring for an expanded list of parameters such as metals, which would be expected at different concentrations than local surface water systems, should be included as part of the program. This plan should be submitted to NSE staff for review and approval prior to the start of quarry construction.
- The existing site-specific contingency plan should be revised based on the expanded quarry operations that includes prevention and response methods for spills and inadvertent releases. This plan should be submitted to NSE staff for review and approval prior to the start of expanded quarry construction, including

grubbing and clearing.

Surface Water Quantity

- Depending on the revised effects assessment for surface water quantity, a water flow monitoring program should be developed to confirm predicted changes to WC1, WC2 and adjacent wetlands as required. The flow monitoring program should be submitted to NSE staff for review and approval prior to the start of expanded quarry construction.

Groundwater Quality and Quantity

- The proposed groundwater quality and quantity monitoring program within the EA submission should be developed and implemented, including a monitoring interval for wells upgradient of the proposed quarry site to represent baseline monitoring conditions. This program should be developed in consultation with and reviewed and approved by NSE staff prior to the start of quarry construction.

Date: August 6, 2020

To: Candace Quinn, Nova Scotia Environment

From: Nova Scotia Office of Aboriginal Affairs

Subject: Sporting Mountain Quarry Expansion Project

The Nova Scotia Office of Aboriginal Affairs (OAA) has reviewed the Environmental Assessment Registration Document for the proposed Sporting Mountain Quarry Expansion Project, submitted by Nova Construction Co. Ltd. on July 6, 2020. The review considered 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.

Section 6.15 Mi'kmaq Ecological Knowledge Study (MEKS)

Results of the Mi'kmaq Ecological Knowledge Study (MEKS) undertaken for the proposed Project identified traditional use areas within the Project Site, including deer hunting, rabbit hunting, partridge hunting and gathering of roots and sweetgrass. The MEKS also noted that trout fishing and deer hunting were the predominant traditional use activities within the Study Area. Overall, these activities took place primarily in the Current Use timeline categories.

Given the results of the MEKS, the proposed Project may potentially adversely impact Aboriginal and Treaty rights within the Project Site and broader Study Area. Based on this information, OAA recommends that engagement with the Mi'kmaq, through a Mi'kmaq Communications Plan, be required for the proposed Project, if approved, in to mitigate any potential adverse impacts to Aboriginal and Treaty rights.

OAA has no further comments for the proposed Sporting Mountain Quarry Expansion Project at this time. OAA will however, continue to work with the EA Branch to address any comments submitted by the Mi'kmaq of Nova Scotia through the Environmental Assessment process.

NOVA SCOTIA
Department of Business

Centennial Building
1660 Hollis Street
Suite 600
Halifax, Nova Scotia
Canada B3J 3C8

Date: July 30, 2020

To: Nova Scotia Environment

From: The Department of Business

Subject: Sporting Mountain Quarry Expansion Project

The mandate of the Department of Business (DOB) is to lead and align provincial government efforts behind a common agenda for inclusive economic growth. This mandate focuses on strategic priorities and opportunities that encourage Nova Scotia's innovation, competitiveness, entrepreneurship, and export orientation.

Fulfilling this mandate involves working collaboratively with our Crown corporations (Develop Nova Scotia, Halifax Convention Centre Corporation (Events East Group), Innovacorp, Invest Nova Scotia, Nova Scotia Business Inc. and Tourism Nova Scotia), key partners in other levels of government, entrepreneurs, large businesses, post-secondary institutions, venture capital investors and Nova Scotians.

After reviewing the Sporting Mountain Quarry Expansion Environmental Assessment Registration Document, the proposed project was deemed to be consistent with the mandate of the Department of Business.

NOVA SCOTIA

Environment

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: July 30th 2020

To: Candace Quinn, Nova Scotia Environment

From: Christina Wells, Air Quality Protection Advisor, Air Quality Unit

Subject: Sporting Mountain Quarry Expansion Project

Further to your request, the Air Quality Unit provides the following comments on the Environmental Registration Document for the Sporting Mountain Quarry Expansion:

Appendix D with respect to Air Quality

1) Appendix D details the monitoring strategy undertaken for Total Suspended Particles (TSP) with meteorological data obtained from the Port Hawkesbury meteorological station that is operated by Environment Canada. The collected samples cover two 24 hour periods in August at three receptors. The results cannot be considered to be a worst case scenario for three reasons:

    a. The reported activity at Sporting Mountain Quarry during sampling was considered to be 'minimal' (Appendix D 1.1 Site Description).
    b. Two quarries near the site were described as 'non-operational' so the samples do not reflect the cumulative impact of activity in the area.
    c. The prevailing wind direction during sampling was NNE. This wind direction would not result in operational impacts on local residents.

2) On p.22 of the Registration Document, it states that the samples were shipped for analysis by AGAT Laboratories in Dartmouth. However, in Appendix D (p.2) it is reported that the samples were shipped to Maxxam Analytics in Sydney for analysis.

3) The proposed dust/TSP mitigation measures are limited. A proactive approach to controlling dust emissions should be employed to limit future dust/TSP impacts on local residents.

Appendix D with respect to Noise.

1) Appendix D also provides the results for the noise impact monitoring. The results reported in Appendix D cannot be considered as worst case for the following reasons:

a. During the sampling period, there was limited activity at the Sporting Mountain Quarry, and also at the surrounding quarries. This would have resulted in minimal movement of trucks along Morrison Road – truck movement, especially of unladen trucks, would be a primary source of noise to local residents.
b. The wind direction was not blowing towards the sampling locations during the sampling period.

2) On page 9 of the Registration Document it is stated that:

> 'The quarry (crushing, stockpiling, and loading) will operate during daylight hours, however other limited site activity may occur in predawn or twilight hours. Twenty-four hour operation is not envisioned for this site.'

The impact of noise on local residents from activities that occur in daylight hours before 7am and after 7pm, should be taken into account when planning such activities.

3) The impacts of operations on local residents should be central when considering the location and timing of activities. A proactive approach to mitigation measures, and communication with local residents, should be used to limit noise complaints.

Health Canada Santé Canada

Environmental Health Program
Regulatory Operations and Regions Branch
1505 Barrington Street, Suite 1817
Halifax, NS B3J 3Y6

August 5, 2020

Candace Quinn
Environmental Assessment Officer
Nova Scotia Environment
Suite 2085 1903 Barrington St
Halifax, NS

Subject: Health Canada's Response – Sporting Mountain Quarry Expansion Environmental Assessment Registration Document[1]

Dear Ms. Quinn:

Thank you for your e-mail dated June 26th, 2020, requesting Health Canada's review of the above-mentioned Environmental Assessment (EA) Registration document[1] with respect to issues of relevance to human health. Health Canada has reviewed the document and is providing the following information with respect to noise, air quality, water quality and country foods for your consideration.

Project Location and Characteristics:

The proposed project is an expansion of the approved <4 ha to 10ha, referred to as the Sporting Mountain Quarry, located north of Morrison Road, Richmond County, Nova Scotia. The expansion proposes to operate over the next 30 years with anticipated future operations involving the extraction of approximately 20,000 to 30,000 tonnes/year.

Receptor Location(s):

Section 5.1 states "*The consultation program included one public session completed in St. Peter's in February of 2020, and discussions with KMKNO (Kwilmu'kw Maw-klusuaqn Negotiation Office) and providing information to the closest Mi'kmaw community identified by KMKNO as Potlotek located approximately 20 kilometres to the east of the Site.*"

[1] GHD. Environmental Assessment Registration Document, Sporting Mountain Quarry Expansion. Seaview, Richmond County Nova Scotia. Prepared on behalf of Nova Construction Co. Ltd. June 2020.

Sent by e-mail to Canadace.Quinn@novascotia.ca

- If future Mi'kmaq engagement sessions occur and additional human health issues are identified, these additional concerns should be addressed and additional mitigation may be required.

Noise:

Noise can be created from multiple quarry sources including the use of heavy equipment, hauling of material by trucks, quarry processing equipment, the asphalt plant and trucking of quarry rock. As the proposed operating schedule for the 30-year lifetime of the project is 12 hrs/day, five-six days/week for 35 weeks/year, (as required) noise may be a concern for nearby receptors.

In quiet rural areas, Health Canada suggests that during construction, the long-term average day-night sound level (Ldn) be below 57 adjusted A-weighted decibels (dBA) at residences. An Ldn of 57 dBA is expected to be the threshold for widespread complaints for construction noise (United States Environmental Protection Agency or US EPA, 1974). If noise levels at residences are expected to exceed this level, it is suggested that the report include a discussion about proposed mitigative measures. Appendix H of Health Canada (2017) provides information about potential construction-related noise abatement techniques.

If a Ldn of 57 dBA at receptors cannot be obtained with the use of quieter technology, Health Canada suggests that community consultation be undertaken to determine work schedules and to inform the public of the times and durations of noisy activities (including blasting if applicable). In general, Health Canada suggests that impulsive sources (e.g. hammering, pile driving) be avoided at night and in the early morning. Further, Health Canada suggests that noise management and noise monitoring plans, including complaint resolution, as appropriate, be included as part of an Environmental Management Plan.

In the event of public complaints related to construction noise, Health Canada advises that additional mitigation measures be implemented, such as those presented in Appendix H of Health Canada's 2016 noise guidance document, which is available at http://publications.gc.ca/collections/collection_2017/sc-hc/H129-54-3-2017-eng.pdf

Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Air Quality:

Section 4.4 states: *"Equipment exhaust and dust will represent the majority of air emissions from the Site. Emissions produced will include carbon monoxide, carbon dioxide, oxides of nitrogen, sulphur dioxide, and dust."* and Section 3.2 "*There will be a mobile asphalt plant on the Project Site from time to time as required for projects in the area*".

Section 6.2.2 states: "*Monitoring of particulate emissions will be conducted as required by NSE."*

- Air quality may become a concern for nearby receptors. If concerns are raised regarding

air quality; monitoring and/or additional mitigation may be required, particularly in the event of public complaints. The EA document does not discuss monitoring of NOx, SO2, CO, PAHs or VOCs. Further, the mitigation measures only discuss mitigation of dust and no other air pollutants, therefore it may be necessary to monitor other air pollutants and develop mitigation if there are public complaints.

As discussed above, if there are public complaints about air quality, further mitigation may be required.

For a detailed description of Health Canada's guidance for evaluating air quality in EAs, please see the attachment.

Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Water Quality:

Blasting may change or impact groundwater flow and the use of ammonium nitrate in the blasting process has the potential to leave residual nitrogen that can leach into groundwater. Processing of aggregate and rock at a quarry (notably crushing and exposure of rock to water and oxygen), can also create dissolved solids and metals which could potentially make its way to water wells or surface water features.

According to the EA document, there are no residences and therefore no wells within 1.2 km of the Project Site, therefore the potential impact to well water supplies may be low. If concerns are raised by nearby receptors, including seasonal receptors, pertaining to well water impacts, baseline sampling for quantity and biological and chemical quality is recommended.

For a detailed description of Health Canada's guidance for evaluating water quality in EAs, please see the attachment.

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Country Foods:

Section 6.13.1 states:
Impacts to human health as a result of project related activities include potential effects to air quality, specifically fugitive dust on country foods, and from accidents and malfunctions.

- There is no additional discussion in the EA registration document concerning the potential for contamination of the country foods harvested in the area. Table 6-10 Resource Use within the Study Area identifies 99 areas and 15 species utilized by the Mi'kmaq for food/sustenance. As the use of country food in the area is an important resource for the Mi'kmaq, additional information on the potential impact to country food

and the potential for contamination should be included.

For a detailed description of Health Canada's guidance for evaluating country foods in EAs, please see the attachment.

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

If you have any comments/questions, please contact the undersigned at your convenience.

Sincerely,

Sara Rumbolt
Regional Impact Assessment Specialist
Health Canada, Atlantic Region
Suite 1625, 2505 Barrington Street, Halifax, NS B3J 3Y6
Sara.rumbolt@canada.ca

Sent by e-mail to Canadace.Quinn@novascotia.ca

cc: Rick O'Leary, Manager, Environmental Health Program, Health Canada, Atlantic Region

Attachments:

Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

From: @mapcorg.ca>
Sent: Tuesday, July 14, 2020 10:01 AM
To: @nova-construction.ca>
Cc: Rachel.Boomer@novascotia.ca; frontdesk@mapcorg.ca
Subject: RE: Sporting Mountain Quarry Expansion Project - EA Registration

Good afternoon Mr. Martell,

The Maritime Aboriginal Peoples Council (MAPC) is the regional intergovernmental body of three partner Native Councils: the Native Council of Nova Scotia, the New Brunswick Aboriginal Peoples Council and the Native Council of Prince Edward Island, collectively representing off reserve persons with Aboriginal Identity as reported in the Canada 2016 Census of: 42,145 in Nova Scotia, 21,915 in New Brunswick and 2,210 in Prince Edward Island as either Mi'kmaq, Malecite or Passamaquoddy Aboriginal/Indigenous People, and Section 91(24) Indians "Status and Non-Status

Indians" continuing to reside on their Traditional Ancestral Homeland Territories (off Indian Act reserves), as Heirs to Treaty Rights, Beneficiaries of Aboriginal Rights, and who hold interest in Other Rights, including Land Claim Rights.

The three Native Councils Communities of Off-Reserve Status and Non-Status Indian Mi'kmaq Malecite Passamaquoddy Aboriginal/Indigenous Peoples as Section 91(24) Indians, support projects, works, activities and undertakings which do not significantly alter, destroy, impact, or affect the sustainable natural life ecosystem, or natural eco-scapes formed as either hills, mountains, wetlands, meadows, woodlands, shores, beaches, coasts, brooks, streams, rivers, lakes, bays, inland waters, including the near-shore, mid-shore and off-shore waters, to list but a sampling of some natural features, with their multitude of in-situ biodiversity. Our community of Section 91(24) Indians has continued to access and use natural life within those ecosystems and eco-scapes for thousands of years with our eco-centric worldview expectation of the equitable sharing of benefits arising from projects, works, activities and undertaking which should serve to benefit society as a whole and advance progress in general while demonstrating the sustainable use of the natural wealth of Mother Earth, recognizing and respecting the Constitutional Treaty Rights, Aboriginal Rights, and Other Rights and Interests of the three Native Council Communities continuing throughout the Traditional Ancestral Homeland Territory of Mi'kma'ki, now referred to as the provinces of Nova Scotia, New Brunswick and Prince Edward Island, or the Maritimes.

I take this opportunity to introduce myself. I am , the MAPC, Maritime Aboriginal Aquatic Resources Secretariate (MAARS) Habitat Impact Assessment Manger (HIAM) supporting the three Native Council Partners of MAPC in the review of project, works, activities, undertakings and developments throughout their traditional ancestral homeland territory.

I appreciate your e-mail informing us about Nova Construction Co. Ltd.'s environmental assessment registration in regards to their proposed Sporting Mountain Quarry Expansion on Morrison Road, in Richmond Country, Nova Scotia. I have reviewed the EA Registration document which is fairly complete, however I do note that there has been little to no consultation with the Native Council regarding the Sporting Mountain Quarry Expansion. I would like to request that we have a meeting via phone conference so that a work rapport may be created between our two organizations and that we may receive further clarification regarding the Sporting Mountain Quarry Expansion.

We would like to receive any further notices about this project or others that Nova Construction Co. Ltd. is involved in.

Advancing Aboriginal Fisheries & Oceans Entities
Best practices, management and decision-making

Habitat and Impact Assessment Manager
Maritime Aboriginal Aquatic Resources Secretariate
172 Truro Heights Road
Truro Heights, Nova Scotia
B6L 1X1
Canada

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Fax: 902 895 3844

Native Council of Nova Scotia

The Self-Governing Authority for Mi'kmaq/Aboriginal Peoples residing Off-Reserve in Nova Scotia throughout traditional Mi'kmaq Territory

"Going Forward to a Better Future"

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Aboriginal/Treaty Rights Negotiations Facilitating Directorate

NCNS Citizenship Information Office

Education & Student Services

Rural & Native Housing Group

Aboriginal Peoples Training & Employment Commission (APTEC)

Netukulimkewe'l Commission

Wenjikwom Housing Commission

Social Assistance Recipient Support for Employment & Training (SARSET)

Micmac Language Program

Native Social Counselling Agency

Child Help Initiative Program (CHIP)

E'pit Nuji Ilmuet Program (Prenatal)

Aboriginal Homelessness Program

Parenting Journey Program

Youth Outreach Program

Mi'Kma'ki Environments Resource Developments Secretariat (MERDS)

July 20, 2020

Project Lead
NOVA CONSTRUCTION LTD
P.O. Box 1328
Antigonish, Nova Scotia
B2G 2L7

Dear I

On behalf of the Maritime Aboriginal Peoples Council Partner, Native Council of Nova Scotia and Maritime Aboriginal Aquatic Resources Secretariate (MAARS), I would like to thank you for convening the Zoom teleconference held on July 17, 2020, regarding the Environmental Assessment Registration Document Sporting Mountain Quarry Expansion, Seaview, Richmond County Nova Scotia proposed by Nova Construction Ltd, filed on June 18, 2020 with the Nova Scotia Department of Environment. On the Zoom teleconference call, we had yourself /
and and from MAPC/MAARS for the NCNS,
and Habitat and Impact Assessment Manager (HIAM).

During the Zoom teleconference, we had discussed a number of issues which I list below, some of which form undertakings which we look forward to you undertaking:

1. Consultation with the Native Council of Nova Scotia on this and any future projects proposed or conducted by Nova Construction Ltd. should occur. We accept Mr. Oram's explanation for the oversight and expect that any future filing by Nova Construction Ltd, will take note of NCNS as well as MAPC/MAARS. From this first Zoom teleconference, we hope that this is the beginning of a relationship of discussing this project as it moves forward. Your main contact will be . jmacdonald@mapcorg.ca.
2. When and if a Community Liaison Committee (CLC) is formed, Nova Construction Ltd. will inform the Native Council of Nova Scotia/MAPC/MAARS through (HIAM) from MAARS as well as provide us with an invitation to attend any CLC meetings, in addition to receive information about project development, and Nova Construction Ltd. will provide us with any meeting summaries or meeting minutes to Jesse MacDonald.
3. MAPC/MAARS is providing, as promised, the NCNS's Netukulimkewe'l Commission Community Aquatic Harvest Guidelines 2020. Please note

4. that our Mi'kmaq community in the area does harvest flora, fauna, as well as fowl life.
5. If and when Nova Construction Ltd. plans to conduct blasting, which we understand will be limited to once a year, if possible, we would expect Nova Construction to provide a notice of such blasting to and the Netukulimkewe'l Commissioner who will advise community members in the area.
6. In the event that the "Special Management Zone" is created for the Canadian Lynx, MAPC/MAARS would like to be involved in its development, conditions for the management zones, boundaries, and if you know, could you provide us with the contact person developing the management plan.
7. Nova Construction Ltd. will develop a practice or procedure in regards to cleaning their mobile asphalt plant before transporting it to the project site to ensure that any components of the asphalt plant are not vectors for invasive flora species.
8. If a new settling pond is built, MAPC/MAARS would like Nova Construction to advise Jesse MacDonald of its proposed location and hold discussions on that new settling pond.
9. When these points are answered about the Environmental Assessment Registration, and those issues noted above and answered, we would then be satisfied.

The teleconference meeting concluded.

On behalf of MAPC/MAARS for the NCNS, thank you for hosting this teleconference meeting and holding frank open discussion. We wish Nova Construction Ltd. every good success with this Environmental Assessment Registration to advance the Sporting Mountain Quarry Expansion.

Advancing Aboriginal Fisheries & Oceans Entities
Best practices, management and decision-making

Habitat and Impact Assessment Manager

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Cc: President, Nova Construction Ltd.
, Project Advisor, Nova Construction Ltd.
Nova Construction

Enclosure: Native Council of Nova Scotia Netukulimkewe'l
Commission Community Aquatic Harvest Guidelines 2020