

Appendix 1: NSE Industrial Approval



55 Starrs Rd. Unit 9
Yarmouth, NS
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Our File Number: 92100-30-YAR-2007-056846

January 22, 2018

B. SPICER CONSTRUCTION LIMITED
9777 HWY 1 RR#4
BRIDGETOWN, NS B0S1C0

Dear Sir or Madam

**RE: Approval for Operation - Quarry. Approval No. 2007-056846-02
PID # 05166004, 05166012, 05166020, 05166095**

Enclosed please find Approval 2007-056846-02 for Operation of the Quarry at Youngs Cove, Annapolis County Nova Scotia.

Strict adherence to the attached terms and conditions is imperative in order to validate this approval.

Despite the issuance of this Approval, the Approval Holder is still responsible for obtaining any other authorization which may be required to carry out the activity, including those which may be necessary under provincial, federal or municipal law.

Should you have any questions, please contact Adam d'Entremont, Western Region, Yarmouth Office at 902-742-8985.

Yours truly,

A handwritten signature in cursive script that reads 'Paddy-joe MacMillan'.

Paddy-joe MacMillan
District Manager



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APPROVAL

Province of Nova Scotia
Environment Act, S.N.S. 1994-95, c.1 s.1

APPROVAL HOLDER: B. SPICER CONSTRUCTION LIMITED

SITE PID: 05166004, 05166012, 05166020, 05166095

APPROVAL NO: 2007-056846-02

EXPIRY DATE: January 26, 2028

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.1 s.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:

Industrial - Construction - Quarry

Administrator: Paddy-joe MacMillan

Effective Date: January 26, 2018

The Minister's powers and responsibilities under the Act with respect to this Approval have been delegated to the Administrator named above. Therefore, any information or notifications required to be provided to the Minister under this Approval can be provided to the Administrator unless otherwise advised in writing.

TERMS AND CONDITIONS OF APPROVAL

Nova Scotia Environment

Approval Holder: B. SPICER CONSTRUCTION LIMITED

Project: Spicer Mountain Quarry, Spicer Mountain Quarry, Spicer Mountain Quarry,
Spicer Mountain Quarry

Site:

<u>PID</u>	<u>Civic #</u>	<u>Street Name</u>	<u>Street Type</u>	<u>Community</u>	<u>County</u>
05166004				YOUNGS COVE	ANNAPOLIS COUNTY
05166012				YOUNGS COVE	ANNAPOLIS COUNTY
05166020				YOUNGS COVE	ANNAPOLIS COUNTY
05166095				YOUNGS COVE	ANNAPOLIS COUNTY

Approval No: 2007-056846-02

File No: 92100-30-YAR-2007-056846

Reference Documents

- Application submitted December 28, 2017 and attachments.
- Previous File 2007-056846-A01 and the files contained within
- Previous File 2007-056846 and the files contained within

1. Definitions

- Abandonment means cessation of production of aggregate for a period of twelve (12) months, unless authorized by the Minister.
- Act means Environment Act, Chapter 1 of the Acts of 1994-95, and includes, unless the context otherwise requires, all regulations made pursuant to the Act.
- Active Area means the area required to operate the approved designated activity and includes the working face and associated works.
- Administrator means a person appointed by the Minister for the purpose of this

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Act, and includes an acting administrator.

- e. Approval means an Approval issued pursuant to this Act with respect to an activity.
- f. Associated Works means any building, structure, processing facility, pollution abatement system, (waste containment structure) or stockpiles of aggregate (material) associated with the Facility.
- g. Department means the Department of Environment, and the contact for the Department for this approval is:
Nova Scotia Environment
Western Region, Yarmouth Office
55 Starrs Rd. Unit 9
Yarmouth, Nova Scotia B5A 2T2

Phone: (902) 742-8985
Fax: (902) 742-7796
- h. Disturbed Area means any area on the site of the approved designated activity that has been stripped of vegetation and is susceptible to erosion.
- i. Extension means an increase in size, volume or other physical dimensions of an activity such that the increase may cause an adverse effect if not properly mitigated.
- j. Facility means the Quarry and associated works.
- k. Minister means the Minister of Environment and includes any person appointed as a designate of the Minister.
- l. Modification means a change to an activity that may cause an adverse effect if not properly mitigated and includes, but is not limited to, the expansion of the same process, addition of product lines and replacement of equipment with different technology other than that presently in use.
- m. Reclamation means work performed or to be performed in accordance with an authorized plan, and includes rehabilitation of a site or facility.
- n. Site means the lands where an activity or proposed activity will take place.
- o. Structure includes but is not limited to a private home, a cottage, an apartment building, a school, a church, a commercial building or a treatment facility associated with the treatment of municipal sewage, industrial or landfill effluent, an industrial building, infrastructure or construction, a hospital, and a nursing home, etc.
- p. Water Resource means all fresh and marine waters comprising all surface water,

groundwater, and coastal water.

- q. Watercourse means the bed and shore of every river, stream, lake, creek, pond, spring, lagoon or other natural body of water, and the water therein, within the jurisdiction of the Province, whether it contains water or not, and all groundwater.
- r. Wetland means land commonly referred to as marsh, swamp, fen or bog that either periodically or permanently has a water table at, near or above the land's surface or that is saturated with water, and sustains aquatic processes as indicated by the presence of poorly drained soils, hydrophytic vegetation and biological activities adapted to wet conditions.

2. Scope

- a. This Approval (the "Approval") relates to the Approval Holder(s) and their application and supporting documentation, as listed in the reference documents above, to construct, operate and/or reclaim the Facility, situated at or near Spicer Mountain Quarry (the "Site").
- b. The Facility shall be constructed and operated as outlined in the application for the approval dated December 28, 2017 and supporting documentation.
- c. The Site and/or Facility shall not exceed the area as outlined in the application and supporting documentation.

3. General

- a. The Approval Holder(s) shall construct, operate and reclaim the Facility in accordance with the following provisions:
 - i. Environment Act S.N.S. 1994-1995, c.1, s.1 as amended from time to time
 - ii. Regulations pursuant to the above Act, as amended from time to time
 - iii. Nova Scotia Environment and Labour Pit and Quarry Guidelines, 2003, or latest revision unless otherwise varied by condition of approval
- b. No authority is granted by this Approval to enable the Approval Holder(s) to construct or operate the Facility on lands which are not in the control or ownership of the Approval Holder(s). It is the responsibility of the Approval Holder(s) to ensure that such a contravention does not occur.
- c. If there is a discrepancy between the reference documents and the terms and conditions of this Approval, the terms and conditions of this Approval shall apply.
- d. Any request for renewal or extension of this Approval is to be made in writing, to the Department, at least ninety (90) days prior to the Approval expiry.
- e. The Minister may modify, amend or add conditions to this Approval at any time

pursuant to Section 58 of the Act.

- f. This Approval is not transferable without the consent of the Minister.
 - i. If the Minister determines that there has been non-compliance with any or all of the terms and conditions contained in this Approval, the Minister may cancel or suspend the Approval pursuant to subsections 58A(1) and 58A(2) of the Act, until such time as the Minister is satisfied that all terms and conditions have been met
 - ii. If the Minister cancels or suspends this Approval, the Approval Holder(s) remains subject to the penalty provisions of the Act and regulations
- g. The Approval Holder(s) shall notify the Department prior to any proposed extensions or modifications to the Facility, including, but not limited to, the active area, operating area, processing changes or waste disposal practices which are not granted under this Approval. An amendment to this Approval may be required before implementing any change.
- h. Extensions or modifications to the Facility may be subject to the Environmental Assessment Regulations. Written approval from the Minister may be required before implementing a change.
- i. Pursuant to Section 60 of the Act, the Approval Holder(s) shall submit to the Minister any new and relevant information respecting any adverse effect that actually results, or may potentially result, from any activity to which the Approval relates and that comes to the attention of the Approval Holder(s) after the issuance of the Approval.
- j. The Approval Holder(s) shall immediately notify the Department of any incidents of non-compliance with this Approval.
- k. The Approval Holder(s) shall bear all expenses incurred in carrying out the environmental monitoring required under the terms and conditions of this Approval.
- l. Unless specified otherwise in this Approval, all samples required to be collected by this Approval shall be collected, preserved and analysed, by qualified personnel, in accordance with recognized industry standards and procedures.
- m. Unless written authorization is received otherwise from the Minister, all samples required by this Approval shall be analysed by a laboratory that meets the requirements of the Department's Policy on Acceptable Certification of Laboratories as amended from time to time.
- n. The Approval Holder(s) may be required to register their project under Part IV of the Environment Act should the Facility and associated works including access roads exceed an area of four (4) hectares.

- o. The Approval Holder(s) shall ensure that this Approval, or a copy, is kept on Site at all times and that personnel directly involved in the Facility operation are made fully aware of the terms and conditions which pertain to this Approval.
- p. Upon any changes to the Registry of Joint Stock Companies information, the Approval Holder(s) shall provide a copy to the Department.

4. Sound Levels

- a. Sound levels measured at the Site property boundaries shall not exceed the following equivalent sound levels (Leq):
 - i. 65 dBA 0700-1900 hours
 - ii. 60 dBA 1900-2300 hours
 - iii. 55 dBA 2300-0700 hours
- b. Monitoring of sound levels shall be conducted at the request of the Department. The location of the monitoring station(s) for sound will be established by a qualified person retained by the Approval Holder(s) and submitted to the Department for approval, this may include point(s) beyond the property boundary of the Site.

5. Separation Distances

- a. The Approval Holder(s) shall not locate the Active Area of the Site within the following separation distances unless otherwise exempted or varied by conditions of this approval:
 - i. 30 m of the boundary of a public or common highway
 - ii. 30 m of the bank or ordinary high water mark of any watercourse or wetland
 - iii. 30 m of the property boundary that does not form part of the Site Active Area
- b. The Approval Holder(s) shall not situate a Working Face of the Site within the following separation distances unless the Approval Holder(s) has obtained written letters of permission from the property owner of the structure on or before the date of the Approval:
- c. The Approval Holder(s) shall not blast within the following separation distances unless the Approval Holder(s) has obtained written letters of permission from the property owner of the structure on or before the date of Approval:
 - i. 800 m from the foundation or base of a structure located off site. This shall not apply to structures which are placed within the 800 metre separation

distance following the date of which an application for approval is received from the Approval Holder(s)

6. Particulate Emissions (Dust)

- a. Particulate emissions shall not contribute to an ambient concentration of total suspended particulate matter that exceed the following limits (in micrograms per cubic metre of air) at or beyond the Site property boundaries:
 - i. Daily Average (24 hr.) 120 μm^3
 - ii. Annual Geometric Mean 70 μm^3
- b. The use of oil as a dust suppressant is prohibited.
- c. Monitoring of ambient total suspended particulate matter shall be conducted at the request of the Department. The location of the monitoring station(s) for suspended particulate matter will be established by a qualified person retained by the Approval Holder(s) and submitted to the Department for approval; this may include point(s) beyond the property boundary of the Site.
- d. When requested, ambient total suspended particulate matter shall be measured in accordance with EPA standard; EPA/625/R-96/010a; Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 shall be done using a High Volume (HV) Sampler.

7. Surface Water

- a. The Site shall be developed and maintained to prevent surface water contaminants from being discharged into a watercourse, wetland, water resource, or beyond the property boundary, in excess of the following criteria:
 - i. Total Suspended Solids, Clear Flows (Normal Background Conditions):
 - (a) Maximum increase of 25 mg/l from background levels for any short term exposure (24 hour or less);
 - (b) Maximum average increase of 5 mg/l from background levels for longer term exposure (inputs lasting between 24 hours and 30 days).
 - ii. Total Suspended Solids, High Flow (Spring Freshets and Storm Events):
 - (a) Maximum increase of 25 mg/l from background levels at any time when background levels are between 25 mg/l and 250 mg/l.
 - (b) Maximum increase of 10% over background levels when background is >250 mg/l.
 - iii. pH (Outfall):

- (a) Maximum 5 to 9 in grab sample;
 - (b) Maximum 6 to 9 as a Monthly Arithmetic Mean.
- b. The Approval Holder(s) shall ensure surface water is monitored at the locations and frequencies listed in the Surface Water Monitoring Location and Frequency table.
- c. Erosion and sedimentation control devices shall be installed prior to construction at the Site and shall remain in place and be maintained until disturbed areas are stabilized.
- d. The Department reserves the right to require modifications including, but not limited to, monitoring locations, monitoring frequency, contaminants of concern, and surface water criteria.
- e. No authority is granted by this Approval to enable the Approval Holder(s) to discharge surface water onto adjoining lands without the authorization of the affected landowner(s). It is the responsibility of the Approval Holder(s) to ensure authorizations are current and valid.
- f. The Approval Holder(s) shall immediately contact the Department should sulphide bearing material be encountered on the Site and shall include planned remedial measures in conformance with the Sulphide Bearing Material Disposal Regulations.

8. Groundwater

- a. The Approval Holder(s) shall replace at their expense any water supply which has been lost or damaged as a result of extracting aggregate.
- b. The Approval Holder(s) shall notify the Department prior to excavating below the water table. An amendment to this approval and/or written authorization from the Minister may be required before excavating below the water table.
- c. The Approval Holder shall monitor the groundwater at the 3 prescribed location in accordance with Table 1
- d. Changes to the groundwater monitoring may be specified as required by the Department.

9. Blasting

- i. The Approval Holder(s) shall have a technical blast design prepared by a qualified person which ensures the ground vibration and air concussion limits in this Approval can be achieved
- ii. At the request of the Department, the Approval Holder(s) shall submit a copy of the blast design

- iii. At the direction of the Department, the Approval Holder(s) shall modify or cease blasting
- a. The Approval Holder(s) shall conduct a pre-blast survey of all structures within 800 metres of the point of blast including a water quality analysis of any wells serving these structures. The survey shall be conducted in accordance with the Department's "Procedure For Conducting a Pre-Blast Survey" and the results of this survey sent to the Department prior to blasting on the Site. Additional water quality parameters may be required by the Department staff.
- b. The Approval Holder(s) shall call the nearest weather office, to assess and record the climatic conditions prior to conducting any blasting. No blasting will be permitted if thermal inversion conditions are anticipated at the time of the proposed blast.
- c. No blasting shall occur on Sunday, on a statutory holiday prescribed by the Province, or on any day between 1800 and 0800 hours.
- d. The Approval Holder(s) shall ensure that all blasts are monitored for concussion and ground vibration to ensure that the limits in the Blasting Limits table are not exceeded.
- e. The monitoring station for blasting shall be as indicated in the Blasting Limits table. Additional monitoring stations for blasting may be specified as required by the Department.
 - i. The Approval Holder(s) shall submit a record of individual blast results if so directed by the Department

10. Reporting

- a. The Approval Holder shall submit an annual report to the Department, by January 31st of each calendar year, documenting the following information:
 - sample monitoring results for groundwater chemistry;
 - depths of groundwater in monitoring wells;
 - results from sampling surface water ;
 - records of blasting events and surveys conducted;
 - quantities of rock removed from the site for the year;
 - rehabilitation undertaken during the year;
 - summary of complaints received and actions taken to address the complaints;
 - any spills at the site and corrective action taken;
 - updated contingency plan, if required;
 - results from wetland sampling ;
 - reports required to be completed regarding wetlands referenced in this Approval;
 - a written discussion and interpretation of raw sampling data including

notification of any trends observed and any necessary action to be taken as a result of those trends.

11. Reclamation

- a. The Approval Holder shall submit a rehabilitation plan to the Department for review by February 15, 2018. The rehabilitation plan shall be revised and updated every three year thereafter and submitted for review. The rehabilitation plan shall include the estimated total cost for labour, equipment, supplies and services of a third party contractor to undertake the following activities:
 - i. Surface contouring
 - ii. Establishing proper drainage
 - iii. Re-vegetation work
 - iv. Any work necessary to reclaim the Site
 - v. The Approval Holder(s) shall post a reclamation security which shall be calculated using the reclamation plan and factors listed above. The reclamation security shall be revised every three years in accordance with the revised reclamation plan.
 - vi. The reclamation security shall be posted in a form and value which is acceptable to the Department. In no case shall the value be less than \$6250 per hectare.
- b. The Approval Holder(s) shall reclaim the Site within twelve (12) months of abandonment and in accordance with the latest reclamation plan submitted by the Approval Holder unless an alternate time frame is provided by the Department.
- c. The Department shall release the security to the Approval Holder(s) after final reclamation of the Site has been completed to the satisfaction of the Minister. The Approval Holder(s) shall notify the Department when reclamation has been completed.
- d. The Approval Holder(s) shall ensure that any security posted for reclamation be kept valid for the term of the Approval. The expiry date of the security shall be automatically renewed or coincide with the expiry date of the Approval.

12. Site Specific Conditions

- a. The boundaries of the Facility will be adequately marked, cut out and/or clear of new growth. Permanent visible markers shall be placed at changes in direction and be no more than 100 metres between markers along the Facility boundary.
- b. The Approval Holder(s) shall be required to establish a Community Liaison

Committee (CLC) at the direction of the Department.

- c. Refueling and vehicle maintenance shall only be carried out in a designated refueling area, where conditions will allow the containment of any accidental spills.
- d. The surface of the refueling area shall be comprised of low permeability material and shall be sloped or bermed in such a way that spills will be captured prior to encountering a watercourse or water resource.

13. Wetlands

- a. The Approval Holder shall not remove any vegetation or conduct any quarry activities within 30 metres of the wetland boundary. These boundaries shall be well marked and visible on the ground during construction and throughout the life of the quarry.
- b. The Approval Holder shall ensure no silt or sediment enters the wetland at any time during construction and throughout the life of the quarry. To facilitate this, the western boundary of the wetland shall be re-vegetated with native species and protected with silt fencing prior to starting quarry activities.
- c. The Approval Holder shall not quarry within an area defined by a line running from a point 30 metres south of the northwest corner to the northeast corner of the quarry boundary, as this northwest corner carries surface flow towards the wetland. This line shall be well marked on the ground and maintained prior to the start of the activity and during the life of the quarry.
- d. The Approval Holder shall ensure that blasting, while approaching the northern extent of the quarry, is blasted with reduced magnitude to lessen the potential for fractures that may drain the wetland area.
- e. The Approval Holder shall sample the wetland (Wetland #1) to monitor changes in surface water levels and turbidity. Monitoring shall be conducted by an independent professional in accordance with Table 2 .
- f. The Approval Holder shall ensure that key wetland plant species sensitive to surface water changes, such as *Osmunda cinnamomea* and *Chrysosplenium americanum*, are monitored every three years (next scheduled for 2018) by an independent professional during appropriate seasonal timing in order to determine any change in plant diversity relating to hydrology. Results shall be included in the annual report.
- g. Should the monitoring required in this Approval demonstrate that an adverse effect to the wetland has occurred or will occur, the Approval Holder shall take corrective action to the satisfaction of the Department.
- h. The Department may deem a change to the wetland as the result of quarry

operations as a wetland alteration and direct the Approval Holder to take corrective action to its satisfaction.

- i. Changes to the wetland monitoring may be specified as required by the Department.

Surface Water Monitoring Locations and Frequency	
Monitoring Location	Monitoring Frequency
Ray Brook 10 -15 meters downstream from access road bridge	Minimum of one sample during spring thaw , no later than April 30th of each year
Ray Brook 75 meters upstream from access road bridge	Minimum of one sample during spring thaw , no later than April 30th of each year
As Requested by NSE	As Requested by NSE

Blasting Limits			
Parameters	Maximum	Monitoring Frequency	Monitoring Station
Concussion (Air Blast)	128 dBL	Every Blast	Within 7 m of the nearest structure not located on the Site
Ground Vibration	0.5 in/sec (12.5 mm/s)	Every Blast	Below grade or less than 1 m above grade in any part of the nearest structure not located on the Site

Table 1.

Groundwater Monitoring

Parameter	Frequency
Water Level	2 times per year (once during recharge in spring/fall and once during summer)
E.coli and Total Coliforms	Twice per year (spring and fall)
General Inorganics	Twice per year (spring and fall)
Trace Metals	Twice per year (spring and fall)
Volatile Organic Compounds	Annually
As Requested by NSE	As Requested by NSE

Table 2.

Wetland Monitoring

Frequency	Parameter	Location
Annually in September	Water Level	Three Surface Water Monitoring Wells
Twice per year (spring and fall) , during storm event	Turbidity	Wetland Outlet