

Environmental Monitoring & Compliance Division
Yarmouth District Office

Bob Petrie, District Manager

April 30, 2002

Mr. Paul Buxton
PO Box 98
Annapolis Royal, NS
B0S 1A0

Dear Mr. Buxton:

RE: Approval to Construct and Operate - Quarry
Approval No. 2002-026397, PID # 30161160

Enclosed please find Approval # 2002-026397 issued to Nova Stone Exporters, Inc to construct and operate a quarry at Little River, Digby County, Nova Scotia. Please ensure that you forward the original Approval to Nova Stone Exporters, Inc.

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 Brad Langille, Western Region, Yarmouth Office at (902) 742-8985.

Yours Truly,



B Petrie
District Manager

cc Robert Balcom, NSDEL
Mark McLean, NSDEL
Brad Langille, NSDEL
B. Cullen, Municipality of Digby

Eimas #: 2002-026397

APPROVAL


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

APPROVAL HOLDER: Nova Stone Exporters, Inc
APPROVAL NO: 2002-026397
EFFECTIVE DATE: April 30, 2002
EXPIRY DATE: April 30, 2012

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.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:

Construction and operation of a Quarry, at or near Little River, Digby County in the Province of Nova Scotia.

Administrator
Date Signed


April 30, 2002

- e) "Department" means the Western Region, Yarmouth Office, of the Nova Scotia Department of Environment and Labour located at the following address:

Nova Scotia Department of Environment and Labour
 Environmental Monitoring and Compliance Division
 Western Region, Yarmouth Office
 13 First St.
 Yarmouth, NS B5A 1S9

Phone: (902) 742-8985
 Fax: (902) 742-7796

- f) "Disturbed Area" means any area on a quarry site that has been stripped of vegetation and is susceptible to erosion.
- g) "Facility" means the Quarry and associated works
- h) "Minister" means the Minister of the Nova Scotia Department of Environment and Labour.
- i) "Rehabilitation" means restorative work performed or to be performed in accordance with the rehabilitation plan.
- j) "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.

2. Scope of Approval

- a) This Approval (the "Approval") relates to the Approval Holder and their application and supporting documentation, as listed in the reference documents above, to construct and operate the Facility, situated at or near Little River, Digby County (the "Site").
- b) The Facility shall be constructed and operated as outlined in the application for industrial approval dated April 23, 2002 and supporting documentation.
- c) The Site shall not exceed the area as outlined in the application and supporting documentation. No approval is granted for docking facilities.

- d) Should the work authorized by this Approval not be commenced within a year, this Approval shall automatically be null and void, unless extended in writing by an Administrator.

3. General Terms and Conditions

- a) The Approval Holder shall construct, operate and reclaim its Facility in accordance with provisions of the:
 - i) *Environment Act S.N.S. 1994-1995, c.1;*
 - ii) *Regulations pursuant to the above Act;*
 - iii) *Any future amendments to the Act and regulations*
 - iv) *Nova Scotia Department of Environment *Pit & Quarry Guidelines*, May 1999.*
 - v) *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters- Department of Fisheries and Oceans, 1998.*
 - vi) *Nova Scotia Department of Environment and Labour *Guidelines for the Formation of a Community Liaison Committee*.*
- b) No authority is granted by this Approval to enable the Approval Holder to construct the Facility on lands which are not in the control or ownership of the Approval Holder. It is the responsibility of the Approval Holder to ensure that such a contravention does not occur. The Approval Holder shall provide, to the Department, proof of such control or ownership upon expiry of any relevant lease or agreement. Failure to retain said authorization will result in this Approval being null and void.
- 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) The Minister or Administrator may modify, amend or add conditions to this Approval at anytime pursuant to Section 58 of the Act.
- e) This Approval is not transferable without the consent of the Minister or Administrator.
- f) (i) If the Minister or Administrator determines that there has been non-compliance with any or all of the terms and conditions contained in this Approval, the Minister or Administrator may cancel or suspend the Approval pursuant to subsections 58(2)(b) and 58(4) of the Act, until such time as the Minister or Administrator is satisfied that all terms and conditions have been met.

- (ii) Despite a cancellation or suspension of this Approval, the Approval Holder remains subject to the penalty provisions of the Act and regulations.
- g) The Approval Holder shall notify the Department prior to any proposed extensions or modifications of the Facility, including the active area, process changes or waste disposal practices which are not granted under this Approval. An amendment to this Approval will be required before implementing any change. Extensions or modifications to the Facility may be subject to the Environmental Assessment Regulations.
- h) Pursuant to Section 60 of the Act, the Approval Holder shall submit to the Administrator 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 after the issuance of the Approval.
- i) The Approval Holder shall immediately notify the Department of any incidents of non-compliance with this Approval.
- j) The Approval Holder shall bear all expenses incurred in carrying out the environmental monitoring required under the terms and conditions of this Approval.
- k) 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.
- l) All samples required by this Approval shall be analysed by a laboratory that is:
 - i) Accredited by the Standards Council of Canada; or
 - ii) Accredited by another agency recognized by the Nova Scotia Department of Environment and Labour to be equivalent to the Standards Council of Canada; or
 - iii) Maintaining an acceptable standard in a proficiency testing program conducted by the Canadian Association for Environmental Analytical Laboratories for all parameters being reported; or

- iv) Maintaining an acceptable standard in a proficiency or performance testing in another program considered acceptable to the Nova Scotia Department of Environment and Labour for all parameters being reported
- m) The Approval Holder shall submit any monitoring results or reports required by this Approval to the Department. Unless specified otherwise in this Approval, All monitoring results shall be submitted within 30 days following the month of monitoring.
- n) The Approval Holder shall ensure that this Approval, or a copy, is held on the 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.
- o) The Approval Holder will 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.
- p) This Approval shall expire on April 30, 2012.

4. Construction of Facility

- a) The proponent shall retain a licensed surveyor to survey and delineate the exact location, corners and boundaries of the active area and forward this information to the Department. The survey must also exhibit all applicable separation distances for quarry operations.
- b) All erosion and sedimentation controls are to be in place prior to construction at this Facility. The Nova Scotia Department of the Environment "Erosion and Sedimentation Control Handbook For Construction Sites" shall serve as the reference document for all erosion control measures. These measures are minimum requirements and additional controls shall be implemented if Site runoff exceeds the discharge limits contained herein.
- c) All erosion and sedimentation controls are to be maintained and remain in place until the disturbed areas are stabilized.
- d) All water leaving the Site during the construction phase shall be in compliance with total suspended solids limits of 50 mg/l grab or 25 mg/l monthly arithmetic mean.
- e) Appropriate signage including the hours of operation, emergency telephone numbers and contacts are to be posted at the entrance to the Facility. *

- f) The generation of dust from the Site shall be suppressed by the application of water sprays, or the application of other suitable approved dust suppressants as required.

5. Particulate Emissions (Dust)

- a) Particulate emissions shall not exceed the following limits at or beyond the Site property boundaries:

Annual Geometric Mean 70 $\mu\text{g}/\text{m}^3$

Daily Average (24 hr.) 120 $\mu\text{g}/\text{m}^3$

- b) The generation of fugitive dust from the Site will be suppressed by the application of water sprays, or the application of other suitable dust suppressants approved by the Department.
- c) Site access road(s) shall be maintained to minimize dust generation. The use of used oil is not permitted.
- d) Monitoring of particulate emissions shall be conducted at the request of the Department. The location of the monitoring station(s) for particulate will be established by the Administrator and may include point(s) beyond the property boundary of the quarry.
- e) When requested, suspended particulate matter shall be measured by the high volume method as described in report No. E.P.S. 1-AP-73-2.

6. Sound Levels

- a) Sound levels measured at the Site property boundaries shall not exceed the following equivalent sound levels (Leq):

Leq 65 dBA 0700-1900 hours (Days)

60 dBA 1900-2300 hours (Evenings)

55 dBA 2300-0700 hours (Nights and All Day Sunday and Statutory Holidays)

- 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 the Administrator and may include point(s) beyond the property boundary of the quarry.

7 Surface Water

- a) The Site shall be developed and maintained to prevent siltation of the surface water which is discharged from the property boundaries into the nearest watercourse or beyond the property boundary. The Nova Scotia Department of the Environment "*Erosion and Sedimentation Control Handbook For Construction Sites*" shall serve as the reference document for all erosion control measures. These measures are minimum requirements and additional controls shall be implemented if Site runoff exceeds the discharge limits contained herein.
- b) No authority is granted by this Approval to enable the Approval Holder to discharge surface water beyond the property boundary and onto adjoining lands without the authorization of the affected landowner(s). It is the responsibility of the Approval Holder to ensure that the authorization of said landowner(s) is current and valid. Failure to retain said authorization will result in this Approval being null and void. The Approval Holder shall provide, to the Department, proof of the continued authorization of the adjoining landowner(s) when the current agreement has expired.
- c) All erosion and sedimentation control devices shall be installed prior to any excavation of material.
- d) The Approval Holder shall ensure the liquid effluent levels in Table 1 are met and that the effluent is monitored at the frequency and locations indicated.

Table 1				
Final Effluent Discharge Limits				
Parameters	Maximum in a Grab Sample	Monthly Arithmetic Mean	Monitoring Frequency	Monitoring Station
Total Suspended Solids	50 mg/l	25 mg/l	weekly	settling pond outlet

pH	5 - 9	6 - 9	weekly	settling pond outlet
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- e) If it becomes necessary to drain the Site, the wastewater shall be drained to settling ponds for appropriate treatment to meet the suspended solids limits outlined in Table 1.
- f) All wash water systems shall be arranged in closed circuit.
- g) Additional monitoring stations for liquid effluent may be specified as required by the Department.
- h) A monthly summary of results of monitoring shall be submitted to the Department.

8. Groundwater

- a) The Approval Holder shall replace at their expense any water supply which has been lost or damaged as a result of extracting aggregate.
- b) The Approval Holder shall secure from the Administrator an approval amendment prior to excavating below the watertable.

9. Separation Distances

- a) The Approval Holder shall not locate the Active Area of the quarry within:
 - i) 30 m. of the boundary of a public or common highway, unless consent is received from the Department of Transportation & Public Works.
 - ii) 30 m. of the bank of any watercourse or ordinary high water mark.
 - iii) 30 m. of the boundary of the quarry property.
- b) The Approval Holder shall not blast within:
 - i) 30 m. of the boundary of a public or common highway.
 - ii) 30 m. of the bank of any watercourse or ordinary high water mark.
 - iii) 800 m. of the foundation or base of a structure located off site.

- iv) 15 m. of the property boundary when a structure on the abutting property is not involved.

10. Blasting

- a) The Approval Holder 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. The design shall be sent to the Department for review prior to any blasting.
- b) The Approval Holder shall conduct a pre-blast survey including a water quality analysis of all structures within 800 metres of the Facility. 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 any blasting on the Site. Water quality parameters will be determined by NSDEL staff.
- c) The Approval Holder shall call the nearest weather office, to assess the climatic conditions prior to conducting any blasting. No blasting will be permitted if there is a thermal atmospheric inversion, a low cloud cover or fog conditions.
- d) No blasting shall occur on Sunday, on a statutory holiday prescribed by the Province, or on any day between 1800 and 0800 hours.
- e) The Approval Holder shall ensure that all blasts are monitored for concussion and ground vibration to ensure that the limits in Table 2 are not exceeded:

Table 2			
Blasting Limits			
Parameters	Maximum	Monitoring Frequency	Monitoring Station
Concussion (Air Blast)	128 dBA	Every Blast	Within 7 m of the nearest structure not located on the Site

Ground Vibration	0.5 in/sec (12.5 mm/s) Peak Particle Velocity	Every Blast	Below grade or less than 1 m above grade in any part of the nearest structure not located on the Site
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- f) The monitoring stations for blasting shall be as indicated in Table 2. Additional monitoring stations for blasting may be specified as required by the Department.
- g) A monthly summary of results of monitoring shall be submitted to the Department.
- h) Blasting shall be conducted in accordance with the Department of Fisheries and Oceans *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters* - 1998.
- i) A report shall be completed by the proponent in advance of any blasting activity verifying the intended charge size and blast design will not have an adverse effect on marine mammals in the area. This report shall be submitted to the Department of Fisheries and Oceans (DFO), Maritimes Aquatic Species at Risk Office and written acceptance of the report shall be received from DFO and forwarded to the Department before blasting commences.

11 Public Communications

- a) At the request of the Department, the proponent shall undertake a public information program accepted by the Department which will include but is not limited to:
 - i) size and nature of the project;
 - ii) description of processes involved;
 - iii) anticipated environmental effects and proposed mitigation;
 - iv) future of the project;
 - v) any other information requested by the Department;
- b) At the request of the Department, the proponent shall establish a community liaison committee and:
 - i) The proponent shall submit a plan for the establishment of a CLC based upon the document "*Guidelines for the Formation of a CLC*" October 28, 1993, available from the Nova Scotia Department of Environment and Labour.

- ii) Upon acceptance of the plan by the Department, the proponent shall implement the plan and adhere to its requirements.

12. Rehabilitation and Security

- Bound Estimation*
- a) The Approval Holder shall post an interim security in a form acceptable to the Department in the amount of \$6250.00 per hectare of disturbed area on or before ~~March 15~~, 2002 or prior to any disturbance, whichever occurs first.
 - b) The interim security shall not exceed one (1) year unless otherwise agreed in writing by the Administrator.
 - c) The Approval Holder shall submit a rehabilitation plan to the Department for review by April 30, 2003. The rehabilitation plan shall be revised and updated every three years 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 quarry
 - d) Before the expiry of the interim security, the Approval Holder shall post a final security which shall be calculated using the rehabilitation plan and factors in item c) above. The final security shall be revised every three years in accordance with the revised rehabilitation plan.
 - e) The Approval Holder shall rehabilitate the Site within twelve (12) months of abandonment and in accordance with the rehabilitation plan submitted by the Approval Holder in 11 (c) or other terms as specified by the Department,
 - f) The Nova Scotia Department of Environment and Labour shall release the security to the Approval Holder after final rehabilitation of the Site has been completed to the satisfaction of the Minister or Administrator. The Approval Holder shall notify the Department when rehabilitation has been completed.
 - g) The Approval Holder shall ensure that any security posted for rehabilitation be kept valid for the term of the Approval.