

Environmental Assessment Approval

Approval Date:

DEC 22 2016

Envirosoil Facility: Addition of Stabilization & Solidification Technology

Envirosoil Ltd.

Halifax County, Nova Scotia

The Envirosoil Facility: Addition of Stabilization & Solidification Technology 2016 (the "Undertaking"), proposed by: Envirosoil Ltd. (the "Approval Holder") in Bedford, Halifax County, Nova Scotia is approved pursuant to Section 40 of the Environment Act and Section 13(1)(b) of the Environmental Assessment Regulations. This Approval is subject to the following conditions and obtaining all other necessary approvals, permits or authorizations required by municipal, provincial and federal acts, regulations and by-laws before commencing work on the Undertaking. It is the responsibility of the Approval Holder to ensure that all such approvals, permits or authorizations are obtained before commencing work on the Undertaking.

This Environmental Assessment Approval is based upon the review of the conceptual design, environmental baseline information, impact predictions, and mitigation presented in the Registration Document.

Terms and Conditions for Environmental Assessment Approval

1.0 General Approval

1.1 The Environmental Assessment Approval for the Undertaking is limited to the Undertaking as described in the Environmental Assessment Registration Document. Any proposal by the Approval Holder for expansion, modification or relocation of any aspect of the project from that proposed in the Registration Document must be submitted to the Environmental Assessment Branch for review and may require an environmental assessment (EA).

1.2 The Approval Holder must, within two years of the date of issuance of this Approval, commence work on the Undertaking unless granted a written extension by the Minister.

The Approval Holder must notify Nova Scotia Environment (NSE) the commencement date of the Undertaking, at a minimum 30 days prior to the commencement.

1.3 The Approval Holder is responsible for the cost of any specialized professional or consulting services deemed necessary by NSE, to assist in the technical review of documentation submitted for approval, or for compliance monitoring.

- 1.4 The Approval Holder must not transfer, sell, lease, assign or otherwise dispose of this Approval without the written consent of the Minister. The sale of a controlling interest of a business or a transfer of an approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.
- 1.5 The Approval Holder must implement all mitigation and commitments in the Registration Document, unless approved otherwise by NSE.

2.0 Receipt, Handling and Storage of Untreated Wastes:

- 2.1 The Approval Holder, as part of the application for the Part V Approval under the Environment Act, must submit the following to NSE for approval and implement them once approved:
 - a) operational procedures to receive, characterize, handle, segregate, and store contaminated wastes at the storage area (including details on estimated volume and types of wastes to be received annually and the maximum length of time wastes to be stored prior to treatment). The storage area refers to the area where untreated wastes are received, processed and/or stored;
 - b) engineering design details including at a minimum the addition of a high density polyethylene (HDPE) liner for the storage area and its associated storm water and run-off collection systems (e.g., storm water retention pond); and
 - c) odour monitoring and management procedures.

3.0 Stabilization and Solidification (S/S): Treatability/Testing Program and Full-Scale Confirmatory Testing Program (Performance Testing Program)

- 3.1 The Approval Holder, as part of the application for the Part V Approval under the Environment Act, must submit the Treatability and Testing Program Plan, and the Full-Scale Confirmatory Testing Program Plan to NSE for approval, and implement the plans once approved. The plans as a minimum must include:
 - a) procedures for the selection of reagent(s), and associated ratios;
 - b) unconfined compressive strength, hydraulic conductivity, Synthetic Precipitation Leaching Procedure, and mass flux testing procedures to be carried out during both the Treatability and Testing Program, and the Confirmatory Testing Program;
 - c) performance criteria and test methods for unconfined compressive strength, hydraulic conductivity, Synthetic Precipitation Leaching Procedure, and mass flux. Table 5 of the Registration Document is not acceptable as written. Amendments to Table 5 must be approved by NSE;
 - d) material handling procedures including sample collection, storage, disposal and cure times, as well as sampling size and sampling frequency; and

e) reporting format, including details on how the results of the Treatability and Testing Program and the Confirmatory Testing Program will be presented to NSE.

4.0 Treated Soil Fill Area (TSFA) for S/S Treated Wastes

4.1 The Approval Holder, as part of the application for the Part V Approval under the Environment Act, must submit the following to NSE for approval, and implement them once approved:

a) engineering design details for the TSFA including but not limited to: the HDPE cap and liner system, leachate collection system with associated monitoring and treatment plans, surface water diversion channels, and storm water retention pond;

b) TSFA operation and management procedures including but not limited to: transportation procedures for S/S treated materials from the processing site to the TSFA; procedures for removal and reprocessing of solidified materials should analytical testing determine the S/S treated materials have not met applicable criteria; and the timing and method for the placement of S/S materials at the TSFA including compaction techniques and performance criteria; and

c) monitoring and/or management measures (supported by geotechnical assessment results) to mitigate potential impacts on the TSFA, due to blasting activities associated with the adjacent quarry.

5.0 Environmental Management and Monitoring

5.1 The Approval Holder must not undertake any project related activities within 30 metres of a watercourse and a wetland unless otherwise approved by NSE. No development or removal of vegetation within this 30 metre buffer is permitted unless otherwise approved by NSE;

5.2 The Approval Holder, as part of the application for the Part V Approval under the Environment Act, must submit the following surface water monitoring and management plans to NSE for approval, and implement the plans once approved:

a) a long-term surface water quality and quantity monitoring plan (pre- and post-development) including sampling locations and parameters;

b) erosion and sediment control measures; and

c) a storm water management plan including details for monitoring, maintenance and upgrading of the flow retention/siltation treatment areas. Design criteria must recognize increased likelihood of more intense precipitation events in coming decades; and

d) based on the results of the monitoring programs, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.

- 5.3 The Approval Holder, as part of the application for the Part V Approval under the Environment Act, must submit the following ground water monitoring and management plan to NSE for review, and implement the plan once approved by NSE:
- a) a long-term groundwater monitoring program (pre- and post-development) including the location of monitoring wells and monitoring parameters. This program must be designed to evaluate potential impacts to both groundwater levels and groundwater quality;
 - b) a plan to monitor the volume and concentration of leachate at the base of monolith within the TSFA. The leachate criteria as outlined in Table 3 of the Registration Document must be met at the base of monolith, and Table 3 must be expanded to include a phenol parameter;
 - c) a preliminary contaminated groundwater intercept contingency plan; and
 - d) based on the results of the monitoring program as proposed, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.
- 5.4 The Approval Holder, as part of the application for the Part V Approval under the Environment Act, must submit a cap monitoring and management plan to NSE for approval, and implement the plan once approved. Based on the results of the monitoring program, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.
- 5.5 The Approval Holder must replace, at their expense, any water supply which has been lost or damaged as a result of project operations to the satisfaction of NSE.
- 5.6 At the request of NSE, the Approval Holder must develop and implement an air quality and/or dust monitoring plan. This plan must include but not be limited to sampling locations, parameters, monitoring methods, protocols and frequency. Based on the results of the monitoring programs as proposed, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.
- 5.7 At the request of NSE, the Approval Holder must monitor noise levels. Based on the results of monitoring program as proposed, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.

6.0 Flora and Fauna

- 6.1 Prior to the commencement of the project, the Approval Holder must develop a wildlife management and monitoring plan to include the following points in consultation with Nova Scotia Department of Natural Resources and NSE, and must implement the plan once approved by NSE. Based on the monitoring results, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE.

- a) a water resource monitoring plan at Anderson Lake to protect Atlantic Whitefish (*Coregonus huntsman*); and
- b) a plan to mitigate potential project related impacts on migratory birds.

7.0 Archaeological and Heritage Resources / Aboriginal Interests

- 7.1 The Approval Holder must cease work and contact the Special Places Coordinator, Nova Scotia Department of Communities, Culture and Heritage immediately upon discovery of an archaeological site or artifact unearthed during any phase of the Undertaking. If the find is of certain or suspected Mi'kmaq origin, the Approval Holder must also contact the Executive Director of the Kwilmu'kw Maw-klusuaqn Negotiation Office.

8.0 Public and First Nation Engagement

- 8.1 Prior to the commencement of the project, the Approval Holder must develop and implement a complaint resolution plan to address all concerns associated with the Undertaking. The Approval Holder must appoint a contact person designated to deal with complaints, and must provide the contact information to NSE.
- 8.2 At the request of NSE, the Approval Holder must develop and implement a plan for the formation and operation of a Community Liaison Committee (CLC), including terms of reference. The Approval Holder must operate the CLC for the duration of the Undertaking and until released in writing by NSE. The NSE Guidelines for the Formation of a Community Liaison Committee must be used for guidance.

9.0 Contingency Plans

- 9.1 The Approval Holder, as part of the application for the Part V Approval under the Environment Act, must submit to NSE for review and approval a contingency plan that meets NSE's Contingency Planning Guidelines and addresses (including but not limited to):
 - a) accidental occurrences, and includes the location of spill equipment kept on-site and emergency phone numbers;
 - b) training to be delivered to staff, including contractors;
 - c) procedures for responding to incidents occurring during times when the facility is not staffed (e.g. evenings, weekends, holidays);
 - d) impacts to watercourses and water resources and domestic water supplies including interception, removal, treatment, and management of contaminated water resources;
 - e) releases of dangerous goods or waste dangerous goods;
 - f) potential fire at the facility (to be reviewed and approved by the local fire and emergency service providers);

g) petroleum and hazardous material spills and surface water control structure failure; and

h) such other information as required by NSE.

9.2 Contingency plans must be updated/revised to reflect the progressive development of the project. This is to take place over the lifetime of the project, at a schedule acceptable to NSE, and revised as approved by NSE.

9.3 Refuelling must not be conducted within 100 metres of any surface water resource, unless otherwise approved by NSE.

10.0 Site Reclamation and Closure

10.1 The Approval Holder, as part of the application for the Part V Approval under the Environment Act, must provide for review and approval a preliminary reclamation and closure plan that includes progressive reclamation and closure of the project area, and details of future land use.

10.2 Reclamation and closure plans must be updated/revised to reflect the progressive development of the project. This is to take place over the lifetime of the project, at a schedule acceptable to NSE, and revised as approved by NSE.

10.3 Project operations must be completed and reclaimed to the satisfaction of NSE and other appropriate regulatory departments.



Margaret Miller, MLA
Minister of Environment