

Environmental Assessment Approval

Approval Date: original dated August 29, 2005

Highway 104 at Antigonish

**Nova Scotia Department of Transportation and Public Works,
Proponent**

**Antigonish, Antigonish County
Nova Scotia**

Highway 104 at Antigonish (the "Undertaking"), proposed by Transportation and Public Works (the "Proponent"), Antigonish, Antigonish County, is approved pursuant to Section 26. 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, by-laws, guidelines, policies or standards before commencing work on the Undertaking. It is the responsibility of the Proponent 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 Environmental Assessment Report (EA Report).

Terms and Conditions for Environmental Assessment Approval

1.0 General Approval

- 1.1 The Environmental Assessment Approval for the Undertaking is limited to the project as described in the EA Report. Any proposal by the Proponent for expansion, modification or relocation of any aspect of the Undertaking from that proposed in the EA Report must be submitted to the Environmental Assessment Branch for review and may require an environmental assessment.
- 1.2 The Proponent shall within 2 years of the date of issuance of this approval commence work on the Undertaking unless granted a written extension by the Minister.
- 1.3 The Proponent shall 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.

- 1.4 The Proponent shall implement all mitigation and commitments in the EA Report, unless approved otherwise by NSEL.

2.0 Environmental Management and Monitoring

- 2.1 The Proponent, prior to initiation of any site work, shall submit for review and approval of the District Manager, Antigonish Office, NSEL, an Environmental Protection Plan (EPP) for the Undertaking to be implemented through all phases of construction and operation.
- 2.2 The Proponent shall update and revise the EPP at the request of NSEL, at anytime during construction or operation of the Undertaking.

3.0 Atmospheric Air Quality and Noise

- 3.1 The Proponent shall implement a dust monitoring program for the purpose of addressing concerns raised by the community during construction. Details of the program shall be included in the EPP.
- 3.2 Petroleum products shall not be used as a dust suppressant.
- 3.3 If it is determined to not be feasible to construct an underpass at the Dunn's Loop location, the Proponent shall implement an engineered noise mitigation solution in consultation with affected adjacent landowners.
- 3.4 All equipment is to be operated with standard noise suppression exhaust systems and kept in good repair.
- 3.5 The Proponent shall monitor for noise at the request of NSEL.

4.0 Groundwater Resources

- 4.1 The Proponent shall conduct further investigation to identify the potential for karst topography along the alignment, especially at the location of any structures.
- 4.2 The Proponent shall complete a pre-construction/pre-blast water well

survey to document baseline conditions of water wells in the vicinity of the proposed highway. The water well survey shall be completed as described in the Procedure for Conducting a Pre-Blast Survey (NSEL, 1993).

- 4.3 Potential impacts to groundwater and wells associated with blasting, excavation, de-icing and road maintenance shall be mitigated by implementing the mitigative methods proposed in Table 5.11 of the EA Report. These measures include, but are not limited to, the use of ripping methods where possible in lieu of blasting within 500 m of water wells and the use of drainage controls to manage road salt impacts.
- 4.4 The Proponent shall develop a detailed groundwater monitoring plan, acceptable to NSEL, after the pre-construction water well survey is complete and prior to highway construction. The Plan shall address pre and post-construction groundwater monitoring and shall include the following:
 - a description of the well survey and pre/post-construction monitoring plans;
 - a map showing locations of all proposed monitoring sites
 - a table identifying the name, location, monitoring frequency and parameters for each monitoring site (provide a table for both pre and post-construction monitoring):
 - monitoring well decommissioning procedures; and
 - the duration of the proposed monitoring plans
- 4.5 A contingency plan, acceptable to NSEL, shall be prepared to provide details on the following: how water well complaints will be processed; what situations will trigger corrective action; and, how disputes will be resolved. If the highway causes water quality and quantity problems with any existing water wells, the Proponent shall rectify the problem to the satisfaction of NSEL.
- 4.6 The Proponent shall provide a copy of the contingency plan (4.5 above) and inform property owners within the Right of Way that raising concerns of water quality and quantity following construction activities is the property owner's responsibility.
- 4.7 In locations where the highway runs through the wellhead protection area for the Lower South River Wellfield, the highway construction and

operation shall be carried out in accordance with the source water protection plan for the wellfield and in consultation with the owner/operator of the wellfield.

4.8 The salt management strategy shall include water wells as “salt vulnerable areas.”

4.9 On page 81 of the EA Report it is stated that there is a dilapidated home within the proposed ROW that may need to be removed during construction. If there is a water well associated with this home that will no longer be used, it shall be properly abandoned by the Proponent, in accordance with Well Construction Regulations.

5.0 Surface Water

5.1 The Proponent, as part of the EPP, shall provide for review and approval:

- details of erosion and siltation control measures
- details of a program for monitoring surface water including: locations, sampling parameters and sampling frequency.

5.2 The Proponent shall follow the mitigation measures as presented in the EA Report, should acid generating bedrock be encountered.

5.3 All discharges from the site must meet the NSEL requirements.

6.0 Fish and Fish Habitat

6.1 The Proponent, as a general principle, will locate stream crossings in areas of more consistent gradient and naturally straighter stream character; this principle shall be stated within the EPP.

7.0 Rare Herpetiles

7.1 The Proponent shall develop a wood turtle risk management program in collaboration with NS Department of Natural Resources (NSDNR), prior to construction. The Proponent shall incorporate a suitable level of field survey follow-up monitoring in the wood turtle monitoring management plan.

The Proponent shall provide Environment Canada (EC) with a copy of the wood turtle risk management plan, and results of any field surveys.

- 7.2 The Proponent shall consult with NSDNR , in choosing specific design criteria for crossing structures, to develop an appropriate mitigative design that accommodates sensitive ecological features at these crossings including, but not limited to, wood turtles.

8.0 Rare Mammals and Critical Habitat

- 8.1 The Proponent, in consultation with NSDNR, shall include within the EPP a report on how they will preserve natural vegetation buffers along all watercourses or road crossings, through expanded span lengths, arch culverts, or other means, to facilitate wildlife movement.
- 8.2 The need for, and design of wildlife underpasses shall be identified after the location of the alignment and interchanges are finalized and after consultation with NSDNR. This information shall be included in the EPP.

9.0 Rare Plants and Plant Communities

- 9.1 The Proponent shall consult with NSDNR and NSEL regarding the methods and level of rare plant habitat restoration and preservation as well as the amount of suitable land to be purchased under the habitat enhancement program. Every effort shall be made to successfully conclude the purchase of suitable lands.

10.0 Wetlands

- 10.1 The Proponent shall develop a wetland compensation plan for review and approval by NSDNR and NSEL to help mitigate the loss of wetland habitat as a result of this Undertaking.
- 10.2 The Proponent shall consult with EC, as an expert federal department, on the preparation of the wetland compensation plan, and make reasonable efforts to reach agreement on plan provisions.
- 10.3 Further field survey shall be undertaken following detailed design work, to define the areas and extent of project impacts on wetlands.
- 10.4 If field study and detailed design reveal the impairment of hydrologic function or damage to wetland habitat results, then the wetland compensation plan shall include replacement of hydrologic function and/or habitat, as appropriate.

- 10.5 If wetland habitat is constructed, then the wetland's water quality function shall be preserved, and follow-up monitoring including functional analysis shall be conducted on the created habitat. Monitoring parameters shall be established in consultation with NSDNR and EC.
- 10.6 Mitigative measures and how the success of their implementation will be evaluated shall be more fully described by the Proponent in the EPP.

11.0 Public Consultation

- 11.1 The Proponent shall form a Community Liaison Committee (CLC) in consultation with the NSEL and with municipal and community representatives. The NSEL *Guidelines for the Formation of a Community Liaison Committee* shall be used for the guidance of the Proponent and community. The CLC shall be created to focus specifically on subject matter relating to the construction and operational phases of the new highway project, and shall be linked with any broader strategic planning processes relating to community growth and development to the extent deemed necessary and appropriate.
- 11.2 The Proponent shall provide to NSEL, prior to initiation of any site work, a dispute resolution policy, to include an appropriate level of Proponent involvement with the CLC in achieving resolution of disputes relating to the Undertaking.
- 11.3 The Proponent shall provide the results of the dust monitoring program to the public through the CLC.

12.0 Land Use

- 12.1 In the event that a final decision is made for the new highway to cross the existing Highway 104 by means of an overpass, the Proponent shall take all reasonable measures to mitigate impacts on affected lands including the James Fraser Dunn property and, in cases in which mitigation proves insufficient, that the Proponent shall consider appropriate compensation.
- 12.2 All adjacent property owners, where major adverse effects can be anticipated, shall be dealt with according to the same standard as in condition 12.1
- 12.3 Every reasonable effort shall be made to acquire land adjacent to the northern and currently used portion of the St. Ninian's Cemetery Care Company property as compensation for those portions of the cemetery's property that are identified to become incorporated into the new highway

alignment or severed by the new highway alignment, and that, in the event it may not be possible to acquire land adjacent to Saint Ninian's Cemetery, construction of a tunnel under the proposed highway be given careful consideration.

13.0 Archaeological and Heritage Resources

- 13.1 The Proponent shall provide the heritage research report reference (s) and identification of the archaeologist (s) who conducted the study to the Director, Heritage Division, Nova Scotia Department of Tourism, Culture and Heritage,
- 13.2 The Proponent shall prepare a mitigation plan as directed by the Director, Heritage Division, Nova Scotia Department of Tourism, Culture and Heritage, for the A. Fraser House.
- 13.3 The Proponent shall conduct archaeological monitoring in the area of the nineteenth century carriage house during construction of the South River crossing.
- 13.4 The Proponent, as part of the EPP, shall submit for review and approval a contingency plan to ensure that procedures are in place to ensure appropriate response in the event that archaeological or heritage resources may be encountered during the construction phase of the Undertaking.
- 13.5 The Proponent shall continue to communicate with representatives of the Mi'kmaq community regarding present day uses of lands, water and resources in the study area that may be affected by the Undertaking.
- 13.6 Follow-up for archaeological issues shall be undertaken at the direction of the Director, Heritage Division, Nova Scotia Department of Tourism, Culture and Heritage

14.0 Transportation Infrastructure

- 14.1 The Kell and Cunningham roads shall remain connected to Church Street Extension via a tunnel, as the least disruptive approach to mitigating the impacts of the proposed new highway on the referenced local roads.
- 14.2 Before completion of the detailed design phase of the Undertaking, the Proponent shall carefully evaluate the option of constructing an underpass where the new highway alignment is proposed to cross the existing Highway 104 in the vicinity of Dunn's Loop, and further, that unless demonstrated conclusively to not be feasible due to accepted design

standards or cost, this option be adopted as the preferred course of action.

15.0 Contingency Plans

- 15.1 The Proponent, as part of the EPP, shall submit for review and approval, a contingency plan that addresses accidental occurrences including, but not limited to, spills of hydrocarbons or other hazardous materials; failure of erosion and sediment control measures; fires; and vehicular collisions.

Original signed by

Kerry Morash
Minister of Environment and Labour