

FINAL REPORT

Amherst Wind Energy Project
Environmental Assessment
Report

AMHERST WIND POWER LP

PROJECT 1005774

FINAL REPORT NO. 1005774

FINAL REPORT TO

**Amherst Wind Power LP
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FOR

**Amherst Wind Energy Project
Environmental Assessment**

May, 2008

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FOREWORD

This Environmental Assessment Report is intended to meet the requirements for a Screening under the *Canadian Environmental Assessment Act* and requirements of an environmental registration pursuant to the *Nova Scotia Environment Act*. The two separate environmental assessment processes are similar in certain aspects but have their own requirements as set by provincial and federal government agencies. This report integrates the work completed to meet both sets of requirements, including those requirements that do not overlap the two processes. This report generally follows the structure expected by Natural Resources Canada, as presented in their guidance document, “Environmental Impact Statement Guidelines for Screenings of Inland Wind Farms Under the *Canadian Environmental Assessment Act*” (2003) supplemented by provincial requirements for environmental assessment registration outlined in “The Proponent’s Guide to Wind Power Projects: Guide to Preparing an Environmental Assessment Registration Document” (NSEL 2007). See document concordance with the provincial guidelines in Table F-1.

Wind power is the fastest growing source of energy in the world. With a decrease in capital costs and advances in technology, the cost of wind energy has dropped sharply within the last decade, making wind a much more viable energy option. Commitments by the Canadian and Nova Scotian governments to reduce emissions and to further the development of cleaner sources of energy are encouraging the public to support wind and other sources of clean energy. The governments are also creating incentives for private firms and municipalities wishing to construct and operate wind energy facilities.

The construction and operation of the Amherst Wind Energy Project is not expected to have significant adverse residual effects on the environment, but the proponent is committed to monitoring the Project to confirm this expectation. However, many positive effects are expected to be realized. Landowners who are leasing their land for the Project will receive direct financial benefits from facility installation and operation, and the local government will receive revenue through property taxes, which will benefit residents in turn. The Project will offer employment and revenue to local workers, and tourism may actually increase as a result of the operation of the wind farm.

The Amherst Wind Energy Project will have a positive effect on the environment through displacement of burning fossil fuel. In light of both Canada’s and Nova Scotia’s commitment to reduce greenhouse gas emissions and invest in renewable energy, the Amherst Wind Energy Project will be an important component of Nova Scotia’s energy mix.

Table F-1 Document Concordance with Provincial Requirements

NSEnv Requirement as per NSEL (2007)*	Section Reference in this EA
2.1 Proponent Description	Section 1.1
3. General Information	See below.
Clearly indicate the name of the undertaking.	Section 1.2
Provide a brief description of the location of the undertaking and show its location on maps at regional and local scales, with the Universal Transverse Mercator (UTM) grid and the UTM coordinates showing the centre of the site. This map should also include the location of each turbine and any other structures on the site.	Sections 1.3, 2.5 and Figures 1-1, 1-2, 2-1, 2-2.
The names and credentials (CVs attached in an Appendix) of all primary and secondary investigators.	Appendix H
Nova Scotia Environment (NSEnv) and other Government regulatory agencies such as Nova Scotia Department of Natural Resources and the Canadian Wildlife Service should be contacted in advance of undertaking field work to help define priorities.	Sections 3.2.3 and 7.0
4. Public Involvement	Sections 3.3, 7.0, Appendix A
5. Description of the Undertaking	Section 2.0
5.1 Geographical Location	Sections 1.3 and 2.5 and Figures 1-1, 1-2, 2-1, 2-2.
5.2 Physical Components	Sections 1.3, 2.5, 2.6 and Figures 1-1, 1-2, 2-1, 2-2.
5.3 Site Preparation and Construction	Section 2.6.1
5.4 Setbacks and Separation Distances	Sections 5.0, 7.0
5.5 Operation and Maintenance	Section 2.6.2, 5.2.1, 5.2.2
5.6 Decommissioning	Sections 2.6.3, 5.3
6. Valued Environmental Components (VECs) and Effects Management	Section 3.0 (Scope and methods)
6.1 Biophysical Environment	Sections 4.1, 4.2, 4.3, 4.4 and Sections 5.2.1.5, 5.2.1.6, 5.6.2.1
6.1.1 Weather Conditions	Sections 4.4 and 5.5.1
6.1.2 Geology	Sections 4.1.2, 4.1.3, 4.1.4, 5.1, 5.2, 5.3
6.1.3 Surface Water	Section 4.2 and Sections 5.1, 5.2, 5.3
6.1.4 Groundwater	Section 4.1.5 and Sections 5.1, 5.2, 5.3, 7.1
6.1.5 Wetlands	Sections 4.3.1.2, 4.5.4
6.1.6 Flora and Fauna Species and Habitat	Section 4.3.1, 5.1, 5.2, 5.3, Appendix C
6.1.6.1 Native Vegetation/Biodiversity	Sections 4.3.1, 5.1, 5.2, 5.3
6.1.6.2 Bird Strike/Bird Migration	Sections 4.3.2.1, 5.1, 5.2.1.5, 5.6.2, Appendix D
6.1.6.3 Other Flying Species	Sections 4.3.2.2, 5.1, 5.2.1.6, 5.6.2
6.1.7 Fish and Fish Habitat	Sections 4.2, 5.1, Appendix B
6.1.8 Visual Impact Assessment	Sections 4.5.10, 5.1, 5.2.1.3, 5.6.2 and Figures 5-1, 5-2, 5-3, 5-4.
6.1.9 Noise Levels	Sections 4.5.6, 5.1, 5.2.1.4, 5.6.2, Appendix E
6.1.10 Other Issues Other issues that may need to be considered include shadow flicker, blade glint, coastal erosion and/or inundation, sites of cultural significance, electromagnetic interference, site access, ecological impacts, cumulative impacts, geotechnical/ ground stability and impacts to ground water. Also consider the net benefits of the project (i.e., reduction of green house gas emissions).	Shadow Flicker: 5.1, 5.2.1.3 and Figure 5-5 Archaeological and Cultural Resources: 4.5.7, 5.1, Appendix F Electromagnetic Interference: Section 5.2.1.8, Appendix G Site Access: Section 2.6 Potential Ecological Impacts: Sections 5.1, 5.2, 5.3, 5.7 Cumulative Effects: Section 5.6 Geotechnical/ground stability: Sections 2.6, 4.1 Groundwater: Section 4.1.5 Benefits: Sections 5.6.2, 8.0, Appendix A

Table F-1 Document Concordance with Provincial Requirements

NSEnv Requirement as per NSEL (2007)*	Section Reference in this EA
6.2 Socio-Economic Conditions	Sections 4.5, 5.1, 5.2.1, 5.6.2, 8.0, Appendix A
6.2.1 Economy	Sections 2.6, 4.5.1, 4.5.2, 5.6.2, 8.0, Appendix A
6.2.2 Land Use and Value	Sections 1.3, 2.2, 2.5, 4.3.1.1, 4.3.1.2, 4.3.2.1, 4.5.4, 4.5.5, 5.1, 5.2.1.1, 5.2.1.2
6.2.3 Transportation	Sections 4.5.8, 5.1
6.2.4 Recreation and Tourism	Sections 4.5.3, 5.1, 5.6.1
6.2.5 Human Health	Sections 4.5.9, 5.1, 5.2.1.7, 5.4
6.2.6 Cultural and Heritage Resources	Sections 4.5.7, 5.1, Appendix F
6.2.7 Other Undertakings in the Area	Section 5.6.1
7. Effects of the Undertaking on the Environment	Sections 5.1, 5.2, 5.3, 5.6.2
8. Effects of the Environment on the Undertaking	Section 5.5
9. Other Approvals Required	Section 1.8
10. Funding	Sections 1.0, 1.6
11. Additional Information	-

*The Proponent's Guide to Wind Power Projects: Guide to Preparing an Environmental Assessment Registration Document" (NSEL 2007)

EXECUTIVE SUMMARY

Introduction

Amherst Wind Power LP (Acciona) is proposing to construct and operate a 30 MW wind energy facility consisting of 20, 1.5 MW wind turbine generators. This facility is proposed to be located in Cumberland County, near the town of Amherst, Nova Scotia. The site lies to the immediate west of Highway 104, which connects the provinces of Nova Scotia and New Brunswick. The proposed Project is referred to as the Amherst Wind Energy Project (the Project).

Regulatory Approvals

Acciona is required to undertake a screening-level environmental assessment for this Project under the *Canadian Environmental Assessment Act (CEAA)* due to their anticipated request for funding from Natural Resources Canada (NRCan) under the ecoEnergy for Renewable Power (EERP). The Amherst Wind Energy Project has a nameplate capacity exceeding 2 MW, which requires the Proponent to undertake a Class I environmental registration pursuant to the Nova Scotia *Environment Act*. This environmental assessment (EA) report is intended to meet the requirements of both federal and provincial EA processes. Additionally, this EA will provide support in seeking other environmental and planning approvals necessary for this Project.

Project Description

The Project will consist of 20, 1.5 MW wind turbines. The following ancillary facilities are also considered part of the Project:

- underground, 12 kV collection lines (to link the wind turbines to the substation);
- substation (to step up the electric output from 12 kV to 138 kV);
- 138 kV tap (< 200 m) from the substation to the existing 138 kV overhead lines;
- maintenance and control building(s);
- access roads;
- culvert across LaPlanche River; and
- crane pads for assembly of the wind turbines.

Project Activities

The development of the proposed Project will include several phases, including site preparation and construction, operations and maintenance, and decommissioning. Activities within these phases will include:

- surveying;
- developing access roads;
- updating and installing ditching and culverts;
- clearing (minimal clearing required);
- sod harvesting, soil removal and stockpiling;
- grading;

- ploughing and/or trenching for underground power lines;
- piling and foundation excavation;
- pouring turbine foundations;
- turbine delivery;
- equipment lay-down and turbine assembly;
- tower, generator, and rotor assembly;
- installation of 138 kV distribution line;
- installation of substation equipment;
- clean-up and reclamation;
- operation and maintenance of the Project; and
- decommissioning of the turbines and the overall Project.

While not a phase of Project development, potential accidents and malfunctions can occur during any Project phase. Acciona has developed environmental management, worker health and safety, emergency response and environmental protection plans to handle any accidents or malfunctions that may occur.

Construction Schedule

The proposed construction schedule for the Project is presented in Table E-1. The life-span of the proposed Project will likely equal or exceed 25 years. Decommissioning activities will last roughly the same amount of time as comparable construction activities.

Table E-1 Anticipated Construction Schedule

Activity	Timing/Duration
Development of access roads	July 2008-April 2009
Culvert installation	July-September 2008
Surveying	May-June 2008
Clearing (minimal clearing required)	March-April 2009
Soil removal and stockpiling	March-April 2009
Grading	March-May 2009
Ploughing and trenching for underground power lines	March-May 2009
Foundation excavation	March-June 2009
Pouring turbine foundation	March-June 2009
Equipment lay-down and turbine assembly	April-August 2009
Installation of substation equipment	March-August 2009
Turbine commissioning	May-September 2009
Clean-up and reclamation	September-October 2009
In-service	No later than December 2009

The construction schedule was designed to account for minor delays that could result from delayed equipment arrival and adverse weather conditions.

Environmental Management Strategy

Acciona is committed to ensure that the construction, operation, and decommissioning of the proposed Project are conducted in an environmentally responsible manner. Acciona will implement a life cycle environmental management strategy to ensure the recommended mitigation measures for the Project

are successfully implemented in the context of Acciona's corporate sustainable development framework. To accomplish this objective, the following initiatives will be addressed: integration with the corporate environmental management framework; compliance with worker health and safety rules; emergency response planning; environmental protection planning; and environmental monitoring.

Public Consultation

The consultation activities for the Amherst Wind Energy Project included submission of a Project Description to government agencies, three public Open Houses in Amherst (March 2002, December 2005 and October 2007), and direct contacts with agencies, interest groups and other interested parties throughout the course of the study. The public will be invited to submit written comments on the proposed Project and information contained in the EA document, to regulators for consideration during the EA review process. The public will continue to be consulted in future phases of development.

Impact Assessment

No significant adverse residual environmental effects of the Amherst Wind Energy Project are likely, considering the existing conditions of the Project site, the design of the Project and mitigation measures recommended to be implemented as part of the Project. A summary of the predicted environmental effects and mitigation measures for this Project is presented in Table E-2.

Table E-2 Summary of Impact Management and Proposed Mitigation Measures

Environmental Component	Project Activity	Potential Effects	Mitigation Measures
Birds and Other Wildlife	Construction & Decommissioning	Sensory Disturbance	Overall disturbance will be limited to designated workspaces. Delivery vehicles will remain on designated roads.
		Habitat Loss/Alteration	Construction on site will occur outside of the breeding season to the extent possible. If this is not possible, during detailed layout surveying activities, a biologist on-site will identify nests within or immediately adjacent to work areas, and flag any found for avoidance. Buffers developed in consultation with the Canadian Wildlife Service (CWS) will be established around flagged nests. Habitat loss may be mitigated by only clearing the amount of land necessary for construction activities and by limiting the overall land disturbance to within designated workspaces. Upon completion of construction and/or decommissioning, habitat will be restored to the extent possible. Areas of significance (e.g., nesting sites) will be avoided, to the extent possible.
		Mortality	In order to reduce the potential of bird mortality, land clearing and construction activities will be performed, to the extent possible, outside of critical time periods for breeding.
	Operation	Sensory Disturbance	Not required.

Table E-2 Summary of Impact Management and Proposed Mitigation Measures

Environmental Component	Project Activity	Potential Effects	Mitigation Measures
		Mortality	The wind turbines will be designed and built in order to minimize the potential for bird collisions. Turbines were sited away from the banks of the river (<i>i.e.</i> minimum 37 m buffer zone, which is the blade length), to reduce the likelihood of birds flying in close proximity to turbines. The turbines to be used extend no higher than 120 m above the ground thus avoiding the flight height of nocturnally migrating land birds. Lighting will be the minimum allowed by Transport Canada for aeronautical safety. The turbines for this Project will be built using tubular steel towers. Electrical cables will be buried underground within the wind farm, to reduce perching opportunities for birds and to reduce the likelihood of collision with the wires. Where aboveground electrical lines are necessary, they will be to the minimum extent required. Post-construction monitoring will direct the need and form of further post-construction mitigation measures.
Water Quality/ Aquatic Environment	Construction & Decommissioning	Surface Water Contamination	All activities, including equipment maintenance and refuelling, will be controlled to prevent entry of petroleum products or other deleterious substances, including any debris, waste, rubble or concrete material, into a watercourse. Construction material, excess material, construction debris, and empty containers will be stored away from watercourses and watercourse banks.
		Sediment Loading	Temporary erosion and sediment control measures, silt fence, straw bales (<i>etc.</i>) will be maintained and kept in place until 100% of all work is complete. Culvert will be installed in the dry and during a time when fish runs are not an issue (ideally mid-July through September).
Soils and Vegetation	Construction & Decommissioning	Soil Erosion and Compaction	Limit access to the turbine sites via established access roads, where possible. Keep size of access roads to the minimum required for the safe construction, operation and decommissioning of the equipment. Whenever possible, clearing activities will be timed to periods when the ground surface is best able to support construction equipment (winter or dry season). Replace topsoil stored on-site in order that the land may be reclaimed to its original condition.
		Loss of Plant Species	30 m buffer zone from LaPlanche River which may house sensitive species, with the exception of the culvert construction and road upgrades to the old aboiteau.
Noise	Construction & Decommissioning	Increase Sound Levels (short-term)	Nearby residents will be advised of significant sound generating activities and these will be scheduled to create the least disruption to receptors. Heavy equipment will only be operated between 7:00am and 6:00pm, avoiding Sundays and holidays unless absolutely necessary. Equipment will be delivered between 7:00 a.m. and 10:00 p.m., avoiding Sundays and holidays unless absolutely necessary.

Table E-2 Summary of Impact Management and Proposed Mitigation Measures

Environmental Component	Project Activity	Potential Effects	Mitigation Measures
			<p>Construction equipment will have mufflers. Noise abatement equipment, in good working order, will be used on all heavy machinery used on the Project.</p> <p>Adhering to the recommended setback between the Project site and receptors (<i>i.e.</i>, at least 500 m from houses).</p> <p>Attending to routine maintenance of the wind turbines and associated equipment, as recommended by the manufacturer.</p>
	Operation	Increase Sound Levels (long-term)	Not required. Noise emissions have been considered in turbine siting.
Tourism	Construction & Decommissioning	Effect on Tourism (short-term)	Not required.
	Operation	Effect on Tourism (long-term)	Not required.
Local Community	Construction	Effect on Property Value	Not required.
		Effect on Tax Base	Not required.
		Effect on Employment	Not required.
		Effect on Traffic	<p>No modifications to existing roads expected.</p> <p>A Special Move Permit and any associated approvals will be obtained through the Department of Transportation and Infrastructure Renewal for heavy load transport.</p> <p>Any mitigation measures required for approvals will be implemented. None have been identified at this stage.</p>
	Operation	Effect on Local Economy	Local residents will be employed to the extent possible during the construction, operation and decommissioning of the Project.
		Effect on Property Value	Not required.
		Effect on Tax Base	Not required. Municipal taxes will be remunerated, thus increasing the local tax base, which could be used to increase funding of local municipal initiatives.
	Decommissioning	Effect on Employment	Not required.
Visual	Construction, Operation & Decommissioning	Effect on Adjacent Stakeholders	Not required. Turbines will be all of the same type and model, and will be painted light grey to reduce reflection.
Archaeological and Cultural Resources	Construction	Effect on Archaeological/ Cultural Resources	<p>Areas of significance (<i>i.e.</i>, river banks) will be avoided, with the exception of culvert installation and road upgrades to the old aboiteau.</p> <p>Any features, artifacts or other cultural material will be reported to the Nova Scotia Museum prior to proceeding with construction activities.</p>

Table E-2 Summary of Impact Management and Proposed Mitigation Measures

Environmental Component	Project Activity	Potential Effects	Mitigation Measures
Health and Safety	Construction, Operation & Decommissioning	Effect on Personnel	All on-site personnel will follow Acciona's existing safety protocol. On-site personnel will park vehicles in such a way as they are located upwind of the wind turbines so as to minimize the potential of ice throw resulting in property damage and personal injury.
	Construction & Operation	Effect on Adjacent Stakeholders	Warning signs will be posted at the perimeter of the Project area, discouraging trespassing on private lands. Appropriate setback distances from local residences have been incorporated into the site layout. During operation, access to the wind turbine sites will be restricted to authorized personnel only.

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APPENDIX H	CVs of Team Members

1.0 PROJECT SUMMARY

Amherst Wind Power LP is proposing to construct and operate a wind energy facility located in Cumberland County near Amherst, Nova Scotia (the Project). Amherst Wind Power LP has retained Jacques Whitford Limited (Jacques Whitford) to assist in the environmental assessment (EA) process for this Project, named the Amherst Wind Energy Project. This Project is subject to provincial environmental registration requirements as a Class I undertaking pursuant to the Nova Scotia *Environment Act*. "The Proponent's Guide to Wind Power Projects: Guide to Preparing an Environmental Assessment Registration Document" (NSEL 2007) was used to ensure provincial requirements for registration are met.

The Proponent has applied for funding from Natural Resources Canada (NRCan) under the ecoEnergy for Renewable Power (EERP) program. The application for funding triggers the requirement for a federal environmental assessment under the *Canadian Environmental Assessment Act (CEAA)*. In addition, the installation of a culvert in LaPlanche River during road construction will require authorization under the *Navigable Waters Protection Act (NWPA)*. This will be screened under a separate submission to Transport Canada, Navigable Waters Division pursuant to *CEAA*. At the time of submission, it is unclear whether other agencies such as Fisheries and Oceans Canada (DFO) have regulatory responsibilities under *CEAA*. As such, this document has been prepared in compliance with *CEAA* requirements following NRCan's "Environmental Impact Statement Guidelines for Screenings of Inland Wind Farms under the *Canadian Environmental Assessment Act*" (NRCan 2003).

This report includes:

- A description of the Project, including its location and details regarding its construction, operation and decommissioning;
- A summary of the existing environmental conditions and socioeconomic features of the area which may be subject to Project-related adverse environmental effects;
- A summary of specific environmental concerns, identified through data collection, consultation with agencies and the public, and/or based on professional judgement;
- An assessment of the positive and/or negative effects associated with this Project;
- An assessment of cumulative environmental effects of this Project;
- An assessment of the environment's effect on the Project;
- A summary of mitigation, impact management and monitoring measures of this Project; and,
- A summary of the advantages and disadvantages of the Project taking the foregoing into account.

1.1 Project Proponent

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1.2 Title of Project

Amherst Wind Energy Project.

1.3 Project Location

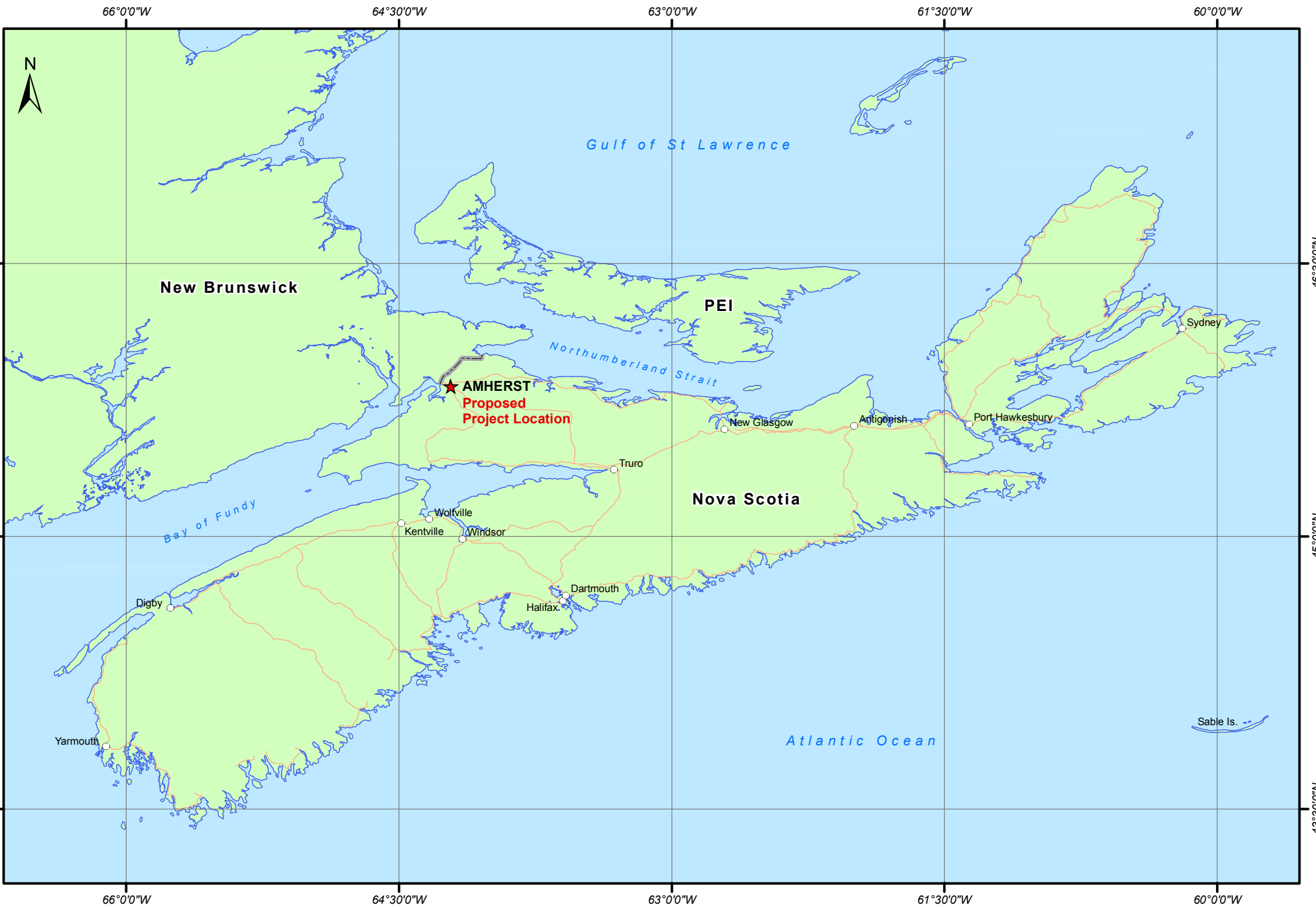
The proposed Project area is located in Cumberland County, near the town of Amherst, Nova Scotia (Figure 1-1). The selection of the Amherst Wind Energy Project site was based on a number of factors including:

- preliminary wind resource assessment;
- review of terrain and topography;
- access to power grid interconnection;
- site access;
- existing land use; and
- community support.

The wind energy facility will be constructed on lands primarily used for sod farming and pasture, approximately 437 hectares (1,079 acres) in size. This area is considered the Project area for the purposes of this EA (Figure 1-2) as described in Section 3. It should be noted that the tower structures and ancillary facilities for the proposed wind farm will occupy a small portion of the land base within the Project area as described in Section 2.

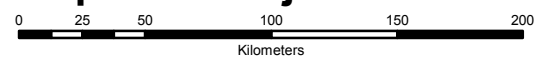
1.4 Estimated Capacity of Facility

The proposed Project will consist of up to 20, 1.5 MW wind turbine generators (WTGs) and ancillary facilities. The energy produced by the Project will be linked to the Nova Scotia electrical transmission system.



Map Parameters
 Projection: Geographic, NAD83
 Scale 1:3,000,000
 Date: April 25, 2008
 Project No.: 1005774

Figure 1-1
Amherst Wind Energy Project
Proposed Project Location



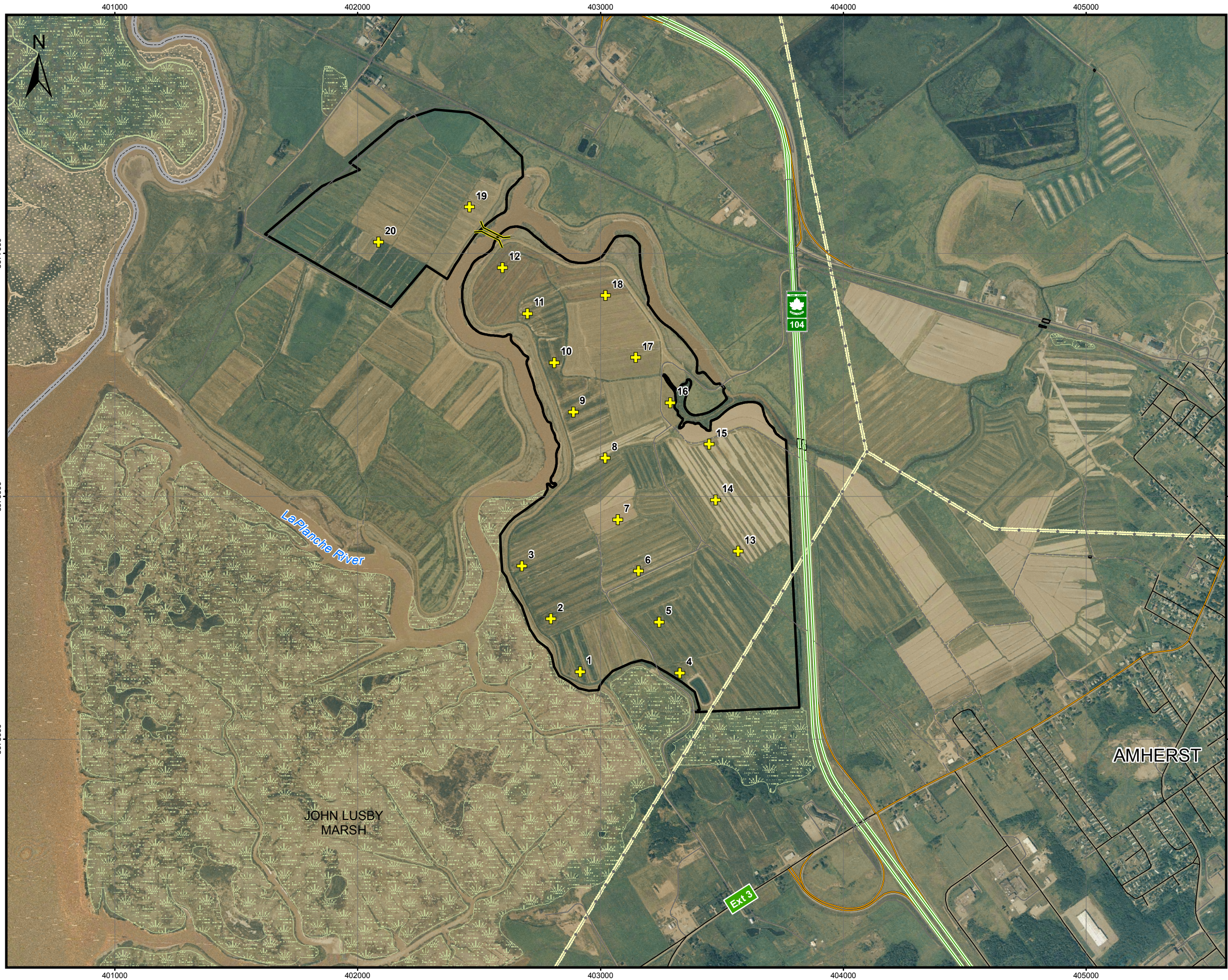


Figure 1-2

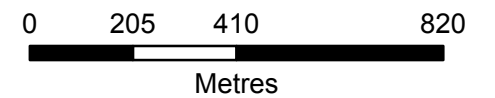
Project Area

Amherst Wind Energy Project

Map Features

- Proposed Turbines
- Highway
- Major Road
- Secondary Road
- Tertiary Road
- Bridge
- Railway
- Trail/Track
- Proposed Culvert
- Utility Line
- Provincial Border
- Project Area
- Mud Flat
- Wetland

Spatial Data Source: Service Nova Scotia



Map Parameters
 Projection: UTM, NAD83, Zone 20
 Scale 1:15,000
 Date: January 2008
 Project No.: 1005774.



1.5 Construction Schedule

The proposed construction schedule for the Project is presented in Table 1-1. The lifespan of the proposed Project will likely equal or exceed 25 years. Decommissioning activities will last roughly the same amount of time as comparable construction activities.

Table 1-1 Anticipated Construction Schedule

Activity	Timing/Duration
Development of access roads	July 2008-April 2009
Culvert installation	July-September 2008
Surveying	May-June 2008
Clearing (minimal clearing required)	March-April 2009
Soil removal and stockpiling	March-April 2009
Grading	March-May 2009
Ploughing and trenching for underground power lines	March-May 2009
Foundation excavation	March-June 2009
Pouring turbine foundation	March-June 2009
Equipment lay-down and turbine assembly	April-August 2009
Installation of substation equipment	March-August 2009
Turbine commissioning	May-September 2009
Clean-up and reclamation	September-October 2009
In-service	No later than December 2009

The construction schedule was designed to account for minor delays that could result from delayed equipment arrival and adverse weather conditions.

1.6 NRCan's Involvement in the Project

Amherst Wind Power LP has applied for funding under the federal EERP program, to be administered by NRCan. An application for federal funding is a trigger for a screening level environmental assessment under CEAA. To ensure that CEAA requirements are met, this EA was undertaken following the guidance provided in NRCan's "Environmental Impact Statement Guidelines for Screenings of Inland Wind Farms Under the *Canadian Environmental Assessment Act*" (NRCan 2003).

1.7 Provincial Environmental Registration

Pursuant to the Nova Scotia *Environment Act*, environmental registration with Nova Scotia Environment (NSEnv) is required for an electric generating facility which has a production rating of two megawatts (2 MW) or more derived from wind energy.

The Amherst Wind Energy Project will have a capacity exceeding 2 MW and is therefore subject to environmental registration. This EA satisfies the requirements outlined for provincial environmental registration as a Class I undertaking and was prepared following guidance from "The Proponent's Guide to Wind Power Projects: Guide to Preparing an Environmental Assessment Registration Document" (NSEL 2007).

For the purposes of this Project, a number of provincial and federal agencies were contacted as part of the consultation activities. The following federal and provincial agencies have provided some level of comment regarding this EA, as described in more detail within Section 7:

- Natural Resources Canada (NRCan);
- Environment Canada;
- Fisheries and Oceans Canada (DFO);
- Transport Canada;
- Health Canada;
- Canadian Broadcasting Corporation (CBC);
- Royal Canadian Mounted Police (RCMP);
- Department of National Defence (DND) Radiocommunications;
- Department of National Defence (DND) Air Traffic Control;
- Nova Scotia Environment (NSEnv); and
- Nova Scotia Department of Natural Resources (NSDNR).

1.8 Environmental Approvals

This report addresses both the provincial and federal EA requirements. However, additional environmental and land use permits, licenses and approvals may be required for this Project. Requirements identified to date are listed in Table 1-2.

Table 1-2 Required Environmental and Land Use Approvals

Approvals Required	Summary
Federal	
<i>CEAA</i> Screening	Triggered by a request for funding under the federal EERP program, administered by NRCan. Federal agencies that may be involved in the review of this EA report include Environment Canada, Transport Canada, Fisheries and Oceans Canada and potentially other federal departments.
Canada <i>Fisheries Act</i> (Section 35(2))	The LaPlanche River runs through the proposed Project site. The Proponent is committed to maintaining buffer zones around the river with respect to infrastructure siting. A culvert may be required for access to two turbines located across the river. At this time it is unclear whether authorization under the <i>Fisheries Act</i> will be required, however the Proponent is prepared to obtain necessary approvals and authorizations.
<i>Navigable Waters Protection Act</i>	Project information has been submitted to the Navigable Waters Protection Branch of Transport Canada. An application will be sought under the <i>Navigable Waters Protection Act</i> for authorization to construct a culvert in the LaPlanche River. In addition, the culvert installation will be screened pursuant to <i>CEAA</i> under a separate submission to Transport Canada. The Proponent is prepared to obtain all necessary approvals and authorizations.
Canadian Aviation Regulations Standard 621.19	Section 5.9 of these regulations state that a wind turbine should have a flashing white beacon mounted on the highest practical point of the turbine if the structure is taller than 90 m. Lighting requirements have been determined in consultation with Transport Canada. Consultation is required with the appropriate regional Civil Aviation authority, providing information on the planned obstruction using the Aeronautical Obstruction Clearance Form (#26-0427).

Table 1-2 Required Environmental and Land Use Approvals

Approvals Required	Summary
Provincial	
Environmental Registration with Environmental Assessment Regulations (NS <i>Environment Act</i>)	Triggered by the nameplate capacity of 30 MW (Class I Undertaking).
Special Move Permit with Department of Transportation and Infrastructure Renewal	A Special Move Permit and any associated approvals will be obtained for heavy load transport.
Marshlands Clearance	A permit for variance under the <i>Agricultural Marshland Conservation Act</i> has been approved to allow for development in a marshland area.
Municipal	
Application for Amendment to the Zoning By-Law	<p>A municipal zoning by-law amendment was required for this Project to accommodate the additional land use of electricity generation. The Project area was rezoned from Rural Resource Zone to Utility Zone on March 16, 2005.</p> <p>The zoning permit also serves as the building permit.</p> <p>Since that time, the land use by-law has been revised. The updated Strategy By-Law provides that wind farms may be constructed in rural areas as of right, subject to certain requirements including that turbines be set back 500 m from buildings.</p>

1.9 Structure of this Report

This report is intended to meet both the federal and provincial environmental assessment requirements. To ensure that the federal environmental assessment requirements were met, this report generally follows the structure recommended by NRCAN in their guidance document “Environmental Impact Statement Guidelines for Screenings of Inland Wind Farms Under the *Canadian Environmental Assessment Act*” (NRCAN 2003). Likewise, in accordance with the Nova Scotia *Environment Act*, this report also documents how the requirements of the provincial registration were met.

The following outlines the structure of the Report:

- Section 1 introduces the Project and summarizes the salient elements of the Project and the regulatory regime.
- Section 2 describes in more detail the Amherst Wind Energy Project, in terms of physical description and the activities that are conducted for this Project that should be considered for this EA.
- Section 3 identifies the methodology employed for this EA, including a description of how the Project was scoped and how impact was assessed.
- Section 4 provides a description of the existing environment of the Amherst Wind Energy Project site, including both biophysical and socioeconomic elements of the environment.
- Section 5 presents the assessment of potential effects that the Project may have on elements of the environment. This section discusses the potential effects for each component of the Project, including accidents and malfunctions, and discusses the potential cumulative effects of the Project in association with other existing and planned projects and the potential effect of the environment on the Project.
- Section 6 identifies follow-up measures that are intended to be implemented for the Project.

- Section 7 describes the consultation program undertaken for this Project.
- The conclusion of this EA is presented in Section 8, followed by a list of supporting documents in Section 9.
- Technical reports and supporting information are presented in appendices at the end of this document.

1.10 Author of EA

This EA was completed by Jacques Whitford Limited (Jacques Whitford), an independent, multi-disciplinary team of consultants with extensive experience in undertaking environmental assessments across Canada and internationally. Specifically, and on behalf of Jacques Whitford, the report was prepared and reviewed by the following:

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