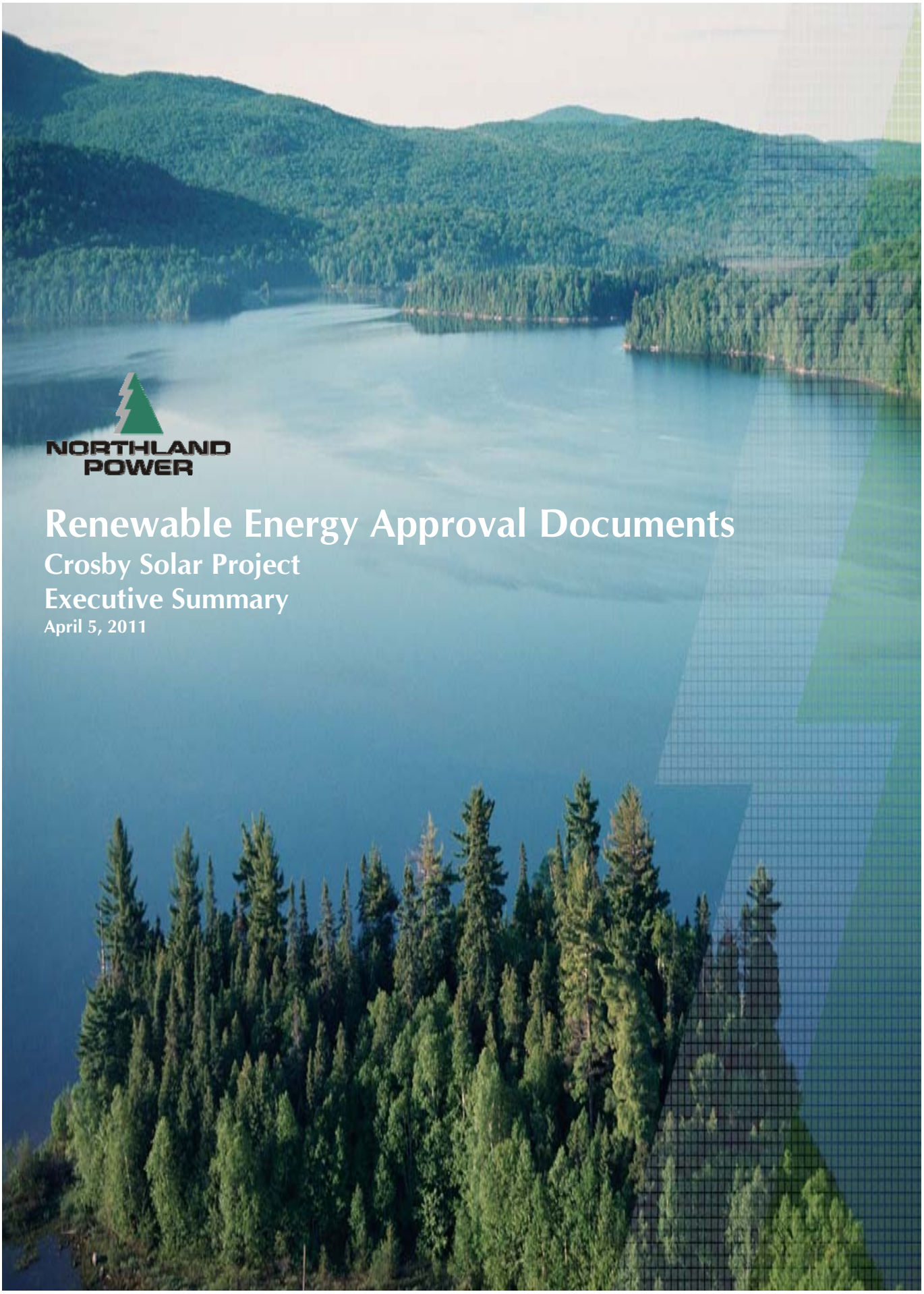


NORTHLAND POWER

Renewable Energy Approval Documents

Crosby Solar Project

Executive Summary

April 5, 2011

April 5, 2011

Northland Power Solar Crosby L.P.
Crosby Solar Project

Executive Summary

Table of Contents

1. Introduction

The Crosby Solar Project (hereinafter referred to as the "Project") is a proposed 10-megawatt (MW) solar farm in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville. The Project is being developed by Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland"). As required, Northland is commencing with the Renewable Energy Approval (REA) described in Ontario Regulation 359/09 under the *Environmental Protection Act*.

Northland is the proponent of the Project. The contact information is as follows:

Tom Hockin
Development Manager - Renewables
Northland Power Inc.
30 St. Clair Ave. West, 17th Floor
Toronto, ON
M4V 3A1

Tel: 647-288-1046
Fax: 416-962-6266
Email: Tom.Hockin@northlandpower.ca

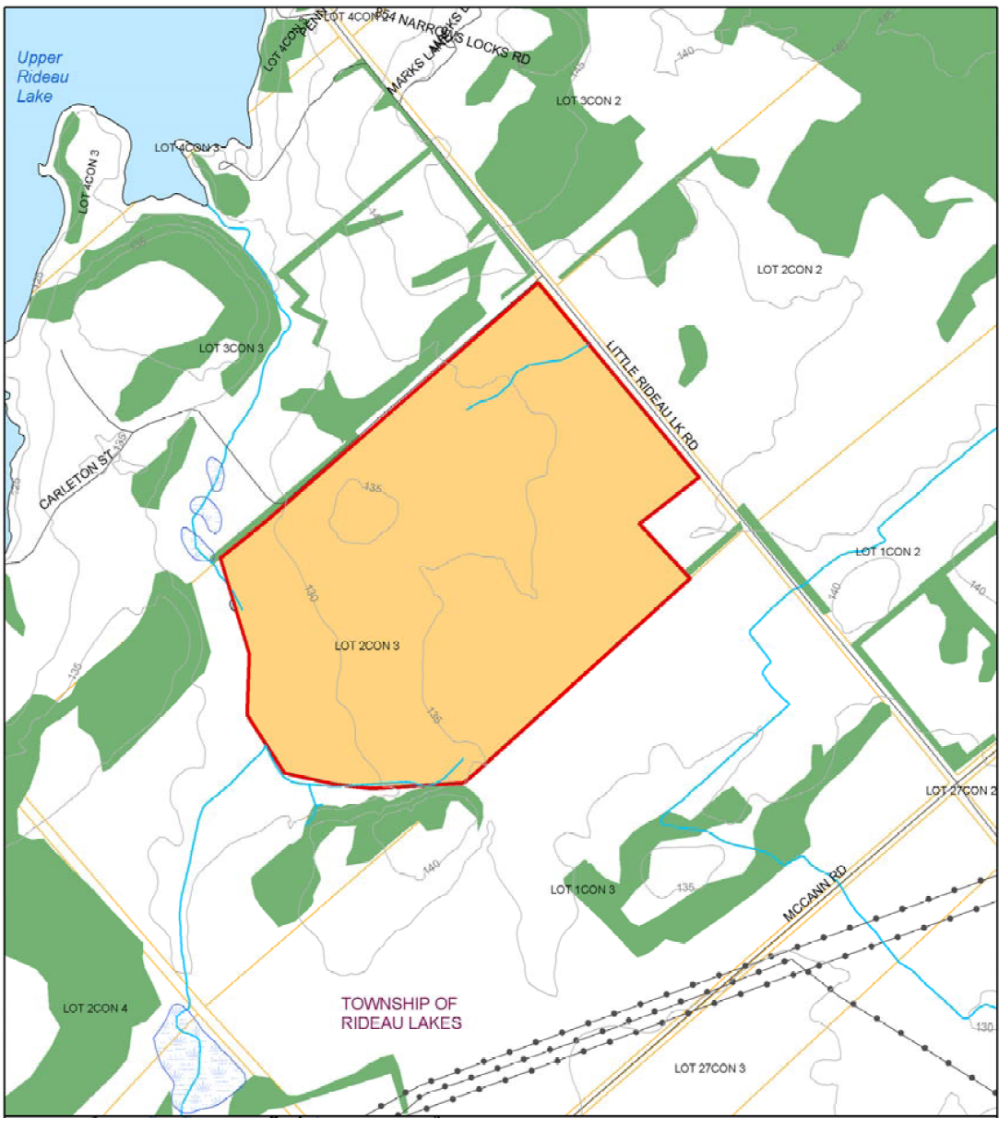
Northland has retained Hatch Ltd. (Hatch) to assist Northland in meeting the REA requirements. Contact information for Hatch is as follows:

Sean Male, MSc
REA Coordinator
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON
L2E 7J7

Tel: 905-374-0701, Ext. 5280
Fax: 905-374-1157
Email: smale@hatch.ca

1.1 Project Location

The Project is located northeast of the Town of Newboro. The Project location is approximately 52 hectares (ha) in size and located on Little Rideau Lakes Road.



1.2 Project Proponent

Northland Power develops and operates clean and green power generation projects, mainly in the provinces of Ontario and Quebec, with Saskatchewan being added to that list shortly. Our facilities produce about 900 MW of electricity. Northland has been in business since 1987, and has been publicly traded on the Toronto Stock Exchange since 1997.

Sustainability is a core value at Northland Power. All of their development efforts and operational practices focus on ensuring the ability to provide long-term benefits to their customers, investors, employees, communities and partners.

Sustainability has many dimensions for Northland Power.

- Environmental: Northland Power was founded on the belief that clean and green energy sources are vital to the future of our planet. Northland Power produces nothing else. Their construction and operational practices are engineered to meet the highest environmental standards, even in jurisdictions where lower standards are legislated.
- Health and Safety: Northland Power ensures that their staff has the knowledge, tools and time to work safely. This is Northland's first priority. Their culture of safety, respect and independence helps to ensure they attract and retain the people that they need to perform.
- Operational: Northland Power maintains and reinvests constantly in their operating assets to achieve maximum efficiency and economic life.
- Community: Northland Power takes an active interest in its host communities, to ensure they remain vibrant, healthy places to live.
- Financial: Northland Power consistently chooses long term success over short term gain. Northland Power only pursues projects that meet strict return thresholds and have creditworthy customers. As a result, they have paid stable monthly dividends since 1997.

Northland's business model is to develop, finance, construct, own and operate its facilities for the duration of the project's useful life. As such, Northland considers itself to be members of the local community in which it operates and has a track record of being a good neighbour.

1.3 Project Benefits

Green Energy Act & Feed-in-Tariff (FIT) Program

The Ontario Government passed the "Green Energy and Green Economy Act" into law on May 14, 2009. The Act is expected to boost investment in renewable energy projects and increase conservation, creating green jobs and economic growth.

The Ontario Government lists the following objectives for the Ontario Green Energy Act:

- Spark growth in clean and renewable sources of energy such as solar, wind, hydro, biomass and biogas in Ontario.
- Create the potential for savings and better managed household energy expenditures through a series of conservation measures.

- Create 50,000 jobs for Ontarians in its first three years.

The FIT program was launched on October 1, 2009 to encourage use of renewable energy sources, and promote growth within the environmental industry. The Green Energy and Green Economy Act (2009) enabled the creation of the FIT program. Taken from the Program's website, the FIT program will create new jobs, boost economic activity and further the development of renewable energy technology and expertise in Ontario, while helping to phase out coal-fired electricity generation by 2014.

The Ontario Power Authority awarded 184 FIT contracts to renewable power developers in Ontario on April 8, 2010. Northland Power was awarded a total of 13 ground mount solar contracts for proposed development throughout the province. These projects are currently proceeding through the REA process.

Advantages of Solar Energy

Solar power has a multitude of advantages compared to fossil fuel powered energy plants. Most simplistically, the fuel is free. As many fossil fuels are expected to increase in price, having solar energy on the grid at a set price will give greater stability to future energy prices. Another key benefit is the lack of polluting emissions. With solar PV there are no emissions; this ensures that the surrounding local community will not have to live with poor air quality, disruptive sounds or noxious odours. Also, since solar PV is modular, it is well suited to distributed generation, meaning the power can be produced close to where it will be consumed. In addition, the solar PV systems are comprised of safe, common materials that will not affect the lands on which they are located, allowing for easy remediation upon decommissioning, unlike the vast majority of power plants.

As a source of electricity, solar PV has even more advantages when compared to other types of electricity generation. Peak power production with solar PV coincides with peak demand, during the middle of the day, reducing the need for gas fired peaking power plants.

Solar PV does not require any moving parts or water, unlike most other generation technologies, which greatly reduces its impact on the environment, its maintenance costs and its noise levels.

1.4 Project Description

Northland proposes to install ground mounted stationary photovoltaic panels which, when exposed to sunlight, will generate DC (direct current) electricity. The DC electricity will be conveyed through underground cabling to an inverter which converts the DC electricity to AC (alternating current) electricity. The electricity will then be conveyed to a single substation which will increase the voltage to 44 kV and a short transmission line will transfer the electricity to a connection tie-in point with the local distribution grid. The construction period is estimated to be approximately 6 months in duration, with Project commissioning anticipated in October 2011.

2. REA Process

Ontario Regulation (O. Reg.) 359/09 – Renewable Energy Approvals Under Part V.0.1 of the Act, (herein referred to as the REA Regulation) made under the *Environmental Protection Act* identifies the Renewable Energy Approval (REA) requirements for renewable energy projects in Ontario. The

Project is considered to be a Class 3 facility, as it is ground mounted and has a name plate capacity greater than 10 kW, and therefore requires a REA.

The REA Regulation details the required activities and reports to be completed and submitted in order to obtain the REA. The activities include Aboriginal, public, municipal and agency consultation in order to provide information on the Project to these groups and obtain feedback. Upon completion of these activities, they will be documented in the Consultation Report and submitted to the Ontario Ministry of the Environment (MOE) as part of the REA application.

The REA Regulation requires the preparation of reports, including:

- Project Description Report
- Construction Plan Report
- Design and Operations Report
- Decommissioning Plan Report
- Noise Report
- Natural Heritage Records Review, Site Investigations, Evaluation of Significance and Environmental Impact Study Reports
- Water Body Records Review, Site Investigation and Environmental Impact Study Reports
- Stage 1 and 2 Archaeological Assessment Reports.

As per Sections 16 and 17 of the REA Regulation, these draft documents are to be made available to the Aboriginal communities greater than 60 days from the second Public Meeting and to the public at least 60 days from the second Public Meeting. In addition, a summary of each document is to be prepared and sent to the Aboriginal communities.

In addition, a Letter of Confirmation is to be obtained from the Ontario Ministry of Natural Resources based on their review of the Natural Heritage Reports and is to be provided to the same groups aforementioned, at the same time as the draft documents. Similarly, a Letter of Confirmation is to be obtained from the Ontario Ministry of Tourism and Culture based on their review of the Stage 1 and 2 Archaeological Assessment Report and provided to the same groups and at the same time as the draft documents.

Also, as per section 20 of the REA Regulation, a determination is to be made as to whether or not a heritage resource is located on the project site and whether an assessment is required.

Therefore, this package was prepared to meet these requirements and the reports as listed above are contained within. For clarity and ease of understanding, the Natural Heritage and Water Body Reports should be read in the order in which they appear below.

2.1 Brief Summary of the Crosby Solar Project REA Reports

A brief summary of some of the Crosby Solar REA Reports is provided below. A description of the purpose of each of the REA Reports is provided in Figure 2, while Figure 3 provides the location of the complete summary of each REA report, along with the required confirmation letters and report on heritage considerations.

The Natural Heritage and Water Body reports have been prepared to identify potential negative environmental effects the Project may have on existing significant natural features or waterbodies, respectively. Where potential negative impacts have been identified, mitigation measures are proposed to prevent these effects from occurring or in the event that they do occur, to minimize the magnitude, extent, duration and frequency to an acceptable level.

The natural heritage features that are classified as significant are potential wildlife habitat for Milksnake on and within 120 m of the Project location; a bullfrog concentration area within 120 m northwest of the Project location; an animal movement corridor within 120 m west of the Project location; and significant woodlands within 120 m northwest of the Project location.

A Confirmation Letter from the Ontario Ministry of Natural Resources is included in Appendix O that confirms that the Natural Heritage Assessment satisfies the REA Regulation criteria. Overall, while the Project will result in some changes to the natural environment, no negative effects on the waterbodies are anticipated to occur following implementation of the mitigation and monitoring measures proposed.

An archaeological assessment has been conducted on the Crosby project location which included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2 km radius of the Crosby Solar Project location. It also included a systematic 5-m interval Stage 2 archaeological survey of all of the Leased Lands in the property.

The office of the Ministry of Tourism and Culture has reviewed the Archaeological Assessment Report in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, and accepted its findings. The three findspots highlighted in the Archaeological Assessment are considered provincially significant and may warrant further investigation, namely a Stage 3 Archaeological Assessment.

Research and agency consultation undertaken has not identified the need for a heritage impact assessment under Section 23 of the REA Regulation. A noise study has also been undertaken and indentifies mitigation measures the project will incorporate in order to meet MOE requirements.

3. Next Steps

A second Public Meeting was held for the Project on March 10, 2011 at the Portland Community Hall, 24 Water Street, Portland, Ontario, following a 60 day public review period for all the draft Project documents.

All the Project documents and a REA Application Form have now been sent to MOE for review and processing. The MOE has 6 months to review and make a decision on the Project. The MOE's decision will be posted for a 15-day review period on the Environmental Registry. Provided no appeal requests have been submitted, the Project will commence, pending receipt of all other required permits and approvals.

Questions or concerns related to these reports should be sent to:

Sean Male, MSc
REA Coordinator
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON
L2E 7J7

Tel: 905-374-0701, Ext. 5280
Fax: 905-374-1157
Email: smale@hatch.ca

Figure 1 Site Layout

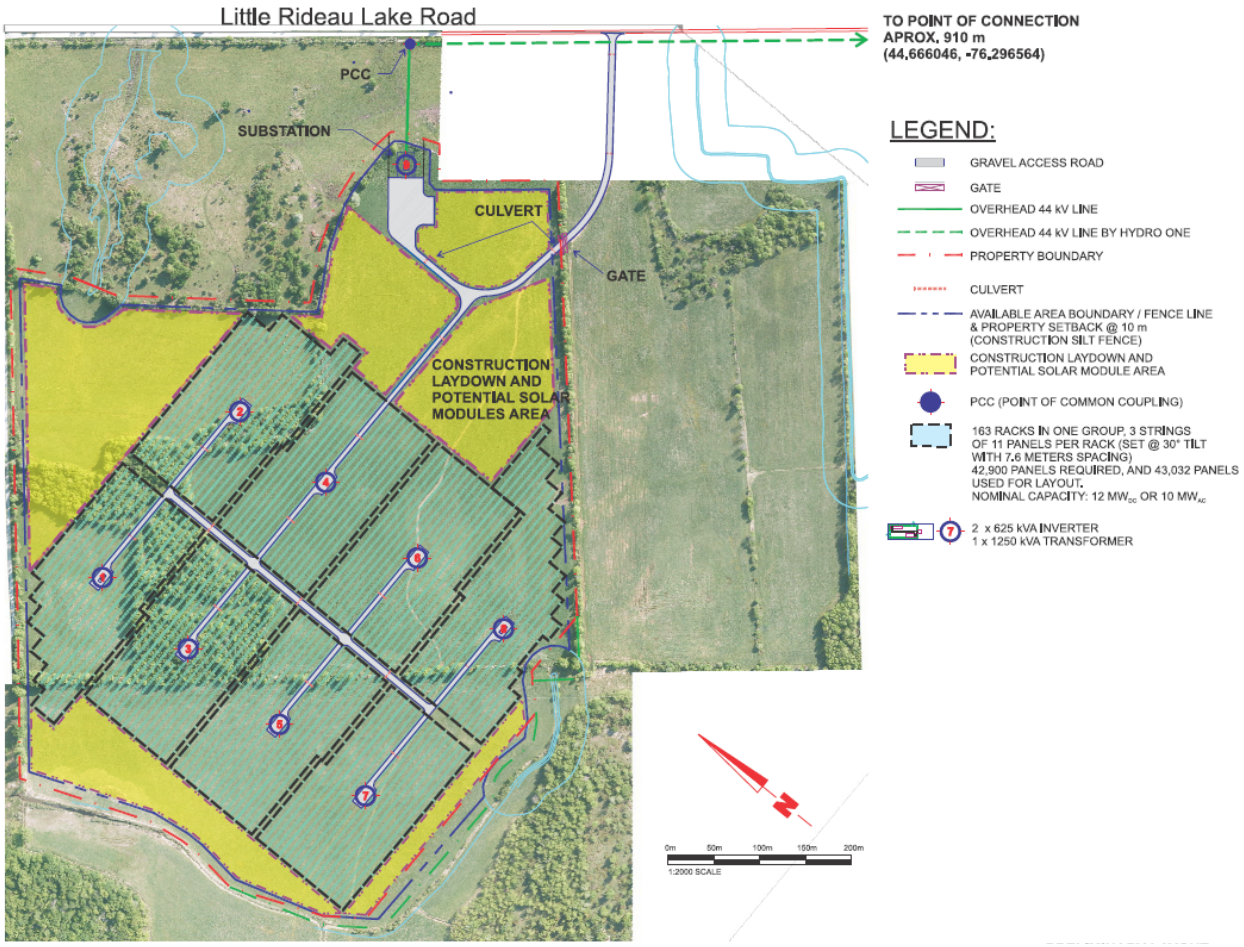


Figure 2 Report Name & Purpose

Report Name	Purpose
Project Description Report	Summarizes Project location, construction and operational activities, potential environmental effects and mitigation, and social and environmental benefits.
Construction Plan Report	Provides details on the construction activities, timelines, materials, temporary uses of land and waste materials generated and environmental effects, mitigation and monitoring during construction.
Design and Operations Report	Provides the site layout plan, Project components, operations and maintenance activities, communications and emergency response plan, and environmental effects monitoring plan.
Decommissioning Plan Report	Provides the activities to be undertaken during decommissioning and restoring the Project site.
Natural Heritage Records Review Report	Provides information from existing documentation on natural heritage features including woodlots, valleylands, wetlands, Areas of Natural and Scientific Interest and wildlife habitat.
Natural Heritage Site Investigations Report	Documents the results of the site investigations to identify and confirm natural heritage features on and within 120 m of the Project.
Natural Heritage Evaluation of Significance Report	Evaluates the significance of any natural heritage features located within 120 m of the Project.
Natural Heritage Environmental Impact Study	Identifies potential adverse environmental effects on significant natural heritage features, proposes mitigation measures to prevent or minimize adverse effects and provides monitoring program.
Water Body Records Review Report	Provides information from existing documentation on waterbodies including lakes, permanent and intermittent streams and groundwater seepage areas.
Water Body Site Investigation Report	Documents the results of the site investigations to identify and confirm water body features on and within 120 m of the Project.
Water Body Environmental Impact Study	Identifies potential adverse environmental effects on waterbodies, proposes mitigation measures to prevent or minimize adverse effects and provides monitoring program.
Stage 1 & 2 Archaeological Assessment Report	Documents the results of the Stage 1 assessment which is a desktop study identifying any archaeological potential and the Stage 2 assessment which is a site investigation confirming the archaeological potential.
Heritage Resources	Documents the results of the assessment of potential effects on protected properties and heritage resources.
Noise Study Report	Documents the results of noise modeling to identify noise emissions levels at nearby sensitive receptors and mitigation requirements to meet MOE noise emissions guidelines.

Figure 3 Appendices of Project Report Summaries

Contained as appendices to this Executive Summary are as follows:

- Appendix A Project Description Report Summary
- Appendix B Construction Plan Summary
- Appendix C Design and Operations Report Summary
- Appendix D Decommissioning Plan Summary
- Appendix E Natural Heritage Records Review Report Summary
- Appendix F Natural Heritage Site Investigation Report Summary
- Appendix G Natural Heritage Evaluation of Significance Report Summary
- Appendix H Natural Heritage Environmental Impact Study Summary
- Appendix I Water Body Records Review Report Summary
- Appendix J Water Body Site Investigation Report Summary
- Appendix K Water Body Environmental Impact Study Summary
- Appendix L Stage 1 and 2 Archaeological Assessment Report Summary
- Appendix M Noise Study Summary
- Appendix N Protected Properties and Heritage Resource Information
- Appendix O Letter of Confirmation – Ontario Ministry of Natural Resources
- Appendix P Letter of Confirmation – Ontario Ministry of Tourism and Culture

Appendix A

Project Description
Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Project Description Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Project Description Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Table 1 of the REA Regulation requires proponents of Class 3 solar projects to prepare a Project Description Report (PDR). The PDR is prepared as one of the first Project documents once the REA process commences and is made available for public review prior to the first public meeting. The purpose of the PDR is to provide preliminary information regarding the Project to members of the public, Aboriginal groups, municipalities and other government agencies. The contents of the PDR are summarized in the following sections.

2. Summary of Project

The proposed Project consists of a 10-MW Class 3 solar facility, constructed on privately owned land in the Township of Rideau Lakes. Northland Power Solar Crosby L.P. has entered into a lease agreement with the private landowner for a lease term of 30 years. Northland Power Solar Crosby L.P. has obtained a contract from the Ontario Power Authority (OPA) to buy the power produced by the proposed facility under the Feed-In-Tariff (FIT) program for a period of 20 years.

Construction of the proposed facility would occur over a 4 to 8 month period with major construction activities including site preparation, access road construction, installation of solar panels (including footings, support structures and panels), installation of inverters and transformer and all electrical cabling and site rehabilitation following construction.

The facility would operate 365 d/yr, generating electricity when sufficient solar irradiation conditions exist. Inspection and maintenance activities would be conducted periodically through the year, with primary activities including inspection of components, replacement of air filters, and maintenance of ground cover vegetation. The proposed facility would not consume any fuels nor produce any waste as a result of generation activities.

3. Potential Environmental Effects

The PDR summarized the existing environmental features on the Project location. The site primarily consists of agricultural land and a woodland with constructed drainage ditches and woodlots along the property boundary. A tributary of the Upper Rideau Lake runs along the western boundary of the Project location.

The PDR also identified preliminary potential environmental effects of the Project including

- potential erosion and sedimentation due to construction activities
- temporary loss of agricultural lands due to facility installation and operation
- removal of tree species in the woodland
- noise emissions from the invertors and transformer.

Mitigation measures were identified to prevent or eliminate those effects. Potential effects and mitigation measures were assessed in more detail in other Project reports.

Appendix B

Construction Plan
Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Construction Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Construction Plan Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled the Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of 8 arrays, each of 1.25 MW. Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The interconnection point will be on Little Rideau Lakes Road, northeast of the Project location. The Project will connect to a distribution line that Hydro One will extend approximately 900 m from its current location.

2. Construction

The construction process of the Project consists of four phases:

- Phase 1 – Site Preparation
- Phase 2 – Construction and Installation of Plant
- Phase 3 – Testing and Commissioning
- Phase 4 – Site Restoration.

The site work is scheduled to start in early summer of 2011 and have an estimated 6 to 8 month construction period.

2.1 Phase 1 - Site Preparation

Site preparation refers to all necessary activities prior to the construction of foundations, substation, and installation of the PV modules. It includes surveying/staking, site clearing and grubbing,

construction of access roads and drainage systems, installation of security gate and fencing, and construction of a staging area.

The site preparation work will take place from August to October 2011.

2.2 Phase 2 - Construction and Installation of Plant

Construction and installation of the facility consists of building foundations, trenches for cabling, structural support and finally installation of the panels on the structural support. The substation and associated electrical equipment will also be installed. This includes the underground and above ground cabling on the Project site. In addition, an overhead distribution line to transmit power from the Project substation to the local distribution network will be installed.

The construction and installation of the plant will take place from September 2011 to February 2012.

2.3 Phase 3 – Testing and Commissioning

Testing and commissioning will be performed on the installation prior to start-up and connection to the power grid. Solar modules, inverters, collection system, and substation will be checked for system continuity, reliability, and performance standards. If problems or issues are identified, modifications will be made prior to start-up.

The testing and commissioning will take place in February 2012.

2.4 Phase 4 – Site Restoration

Site restoration will be applicable for the entire Project location. The main objective will be to re-instate the area to the original pre-construction condition, such as the ecosystem, vegetation, and drainage. All construction material, equipment, temporary facilities, and waste will be removed from the site. Topsoil will be backfilled where required, including landscaping to achieve proper drainage. Revegetation will include planting of native plants and hydro-seeding where required.

The revegetation where possible will take place in October 2011 and the remaining site restoration will be completed in the spring of 2012.

3. Environmental Effects

Environmental effects and proposed mitigation measures are summarized in the table below.

Environmental Feature	Anticipated Impact	Proposed Mitigation
Soils	Negative effects on soil quality, loss of soils due to erosion and soil compaction	Erosion and sedimentation control measures will be implemented and soil loosening measures could be applied, if necessary
Groundwater	Pumping of groundwater could lower water table locally.	Limited impacts due to the duration of pumping (e.g., only during excavations). Any pumped water will be treated.

Environmental Feature	Anticipated Impact	Proposed Mitigation
Surface Water Quality	Surface water quality could be impacted by erosion/ sedimentation of excavated or exposed soils, erosion caused by increased runoff from impervious or less pervious areas, deposition of fugitive dust, or disturbance of channel bed sediments during water crossing installation.	Erosion and sedimentation control measures, spill prevention and response plan, air quality measures will all mitigate impacts.
Aquatic Habitat and Biota	Limited impacts, as a 30-m setback from all watercourses. Water crossing could impact aquatic habitat and biota.	Wherever possible, work within 100 m of these features will be timed outside of the amphibian movement and bullfrog breeding period (April through June, and September/October). However, if this is not possible, a 60-m setback from these features will be maintained during construction in sensitive time periods.
Vegetation	Minor removal of vegetation and trees from a non-significant woodland to occur. Dust deposition and spills could also impact vegetation.	In order to minimize potential losses from surrounding vegetation communities, areas where clearing is required will be well marked, and workers will be instructed not to enter areas of natural vegetation.
Wildlife	Impacts to wildlife could occur as a result of loss of habitat, disturbance from construction activities, or incidental mortality as a result of collision with construction vehicles.	In order to minimize the potential for habitat loss, work areas will be demarcated in order to ensure that the contractor does not work beyond those bounds. Vegetation ground cover to be used on the Project location will be selected in consideration of promotion of wildlife features. In order to minimize potential for disturbance or incidental take of wildlife, construction activities will be timed outside of the breeding bird period (generally May through July), wherever possible.

Environmental Feature	Anticipated Impact	Proposed Mitigation
Air Quality and Noise	Dust may become airborne from vehicular traffic, heavy machinery use, and soil moving activities. Dust in the air can have a range of effects including, but not limited to: impacts on human health as a result of irritation to lungs, eyes, etc, which could impact construction workers or nearby residents, impacts on surface water quality and aquatic habitat if the dust is deposited into waterbodies, impacts on vegetation if heavy dust loads build up on photosynthetic surfaces, thereby resulting in mortality of the plants. Construction and installation activities have the potential to result in increased noise levels on and within the vicinity of the Project location.	These mitigation measures are to include, as required, use of dust suppression (i.e., water) on exposed areas including access roads, stockpiles and work/laydown areas as necessary, hard surfacing (addition of coarse rock) of access roads or other high-traffic work areas, phased construction, where possible, to limit the amount of time soils are exposed, avoid earth-moving works during excessively windy weather. Stockpiles to be worked (e.g., loaded/unloaded) from the downwind side to minimize wind erosion, stockpiles and other disturbed areas to be stabilized as necessary (e.g., taped, mulched, graded, revegetated or watered to create a hard surface crust) to reduce/prevent erosion and escape of fugitive dust, dust curtain to be used on loaded dump trucks delivering materials from off site, workers to utilize appropriate personal protective equipment (e.g., masks, safety goggles) as necessary.
Traffic	Increased traffic volumes and equipment delivery to the Project location and temporary disruption along routes utilized by construction vehicles may result in occasional delays to local community traffic flow during the construction period.	Mitigation measures include: designated transportation routes will be utilized; a police or security escort will be utilized to guide or accompany major equipment deliveries to the Project location if necessary, flagmen will be utilized as required to facilitate traffic flow and control if necessary; construction vehicles will be driven in a proper manner with respect for all traffic laws, signage providing any detour directions will be prominently displayed, vehicle imprints or erosion gullies will be repaired or regraded as necessary.
Municipal Roadways	The use of municipal roadways by construction vehicle traffic may result in some minor damage to roadways during the construction of the Project, given their proximity to the Project location.	Mitigation measures include: designated and appropriate transportation routes will be utilized; construction vehicles will be driven in a proper manner with respect for all traffic laws; roadways will be photographed prior to construction and damage to municipal roadways, above and beyond normal wear and tear, will be repaired as necessary.

Environmental Feature	Anticipated Impact	Proposed Mitigation
Public and Construction Site Safety	Construction of the proposed development poses potential public and construction site safety concerns in the vicinity of the Project location.	Mitigation measures include: public access to the construction area will be prevented through the use of fences, gates, and security procedures; signage will be posted to notify the public of construction in the area; workers will be required to adhere to prescribed safety procedures; proper procedures for construction traffic will be developed, where required.
Waste Management	Construction activities will likely result in the generation of recyclable material, as well as construction and sanitary waste.	Mitigation measures include: construction waste will be properly stored on site prior to disposal off site at local; registered disposal facilities; all sanitary waste is to be contained and hauled off site by a designated hauler throughout the construction period; hazardous wastes will be properly stored in secure containers inside impervious berms or other containment areas until disposal off site at a registered facility; reuse and recycling will be practiced wherever possible.
Land Use	Lands within the Project location will be removed from agricultural production upon Project construction.	Land use could be retained upon completion of the Project.
Protected Properties	No protected properties, as defined in Section 19(1) of O. Reg. 359/09, exist in the vicinity of the Project location.	N/A
Built Heritage and Cultural Heritage Landscapes	No negative effects to built heritage and cultural heritage landscapes are anticipated as no potential impacts to the resources were identified.	N/A
Archaeological Resources	A Stage 1 and 2 Archaeological Assessment was conducted for the Project location. Three findspots were discovered during the course of the Stage 2 Archaeological Assessment.	Through consultation with the MTC it was determined that a setback from the identified resources of 20 m will ensure the protection of these resource. If deeply buried resources are recovered, work shall stop and OPP and MTC shall be contacted. Work will resume only after the site is cleared by an archaeologist
Spills	Spills of petroleum hydrocarbon materials from vehicles/ equipment operating on site, such as fuel or hydraulic oils, or spills of concrete materials from concrete trucks, could occur during the construction process.	Best management practices shall be implemented, including but not limited to: all refuelling and equipment maintenance activities will be conducted at specified locations, equipment is to be monitored to ensure it is well maintained and free of leaks, spill containment and clean-up supplies are to be maintained on site at all times, spills will be cleaned up immediately and reported accordingly.

4. Conclusion

Weekly inspections will ensure conformance with environmental mitigation measures. Overall, no adverse impact to the environment is anticipated when the mitigation measures are implemented.

Appendix C

Design and Operations Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Design and Operations Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Design and Operation Reports for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of 8 arrays, each of 1.25 MW. Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The connection point will be on Little Rideau Lakes Road, northeast of the Project location. The Project will connect to a distribution line that Hydro One will extend approximately 900 m from its current location.

2. Facility Components

Facility component consist of security gate, fencing and lighting, access roads, drainage systems, foundations, trenches for cabling and instrumentation control, structural support and temporary construction staging area. The Project is designed to generate 10 MW (AC) by using eight arrays of photovoltaic modules. Each array has a nominal capacity of 1.25 MW and is comprised of two sub-arrays, each with one inverter with a nominal capacity of 630 kW. The modules, inverters, intermediate transformers, AC switch, main step-up transformer, and the equipment control and monitoring system are the main electrical components of a solar facility.

3. Facility Operation Plan

The Project does not require any permanent on-site operator as it will be operated remotely. For general monitoring and maintenance purposes, two part time or full-time local personnel may be hired and will be dispatched from a central operations office as needed. Any damage or faults with the PV modules and electrical systems will be alerted to staff remotely and repaired (or replaced) by facility staff or qualified professionals. Access to the site will be limited to Project personnel.

3.1 Maintenance

The weather conditions, such as the quantity and frequency of rain and snow at the Project location will determine the frequency of cleaning. At the very most, it is expected that the modules will require cleaning quarterly, but it is possible cleaning the modules will not be necessary at all. If required, water trucks will bring water to the site to supply the water required. No chemicals would be used for cleaning.

The transformers will be visually inspected on a monthly basis and their status recorded. Any leaks will be repaired immediately. Spill response equipment will be left on site or in the maintenance trucks should leaks be observed.

3.2 Environmental Effects Monitoring Plan

The Project Environmental Effects Monitoring Plan will be implemented through all phases of the Project. The purpose of the plan is to ensure that performance objectives and mitigation measures are working as designed to mitigate negative impacts. As well, it provides additional measures, if primary measures are not functioning. Table 4 in the Design and Operations Report provides the details of the proposed monitoring plan to monitor the impacts to the natural and social environments.

3.3 Emergency Response Plan

The Project Emergency Response Plan will be implemented through all phases of the Project. The purpose of the plan is to establish and maintain emergency procedures required for effectively responding to accidents and other emergency situations, and for minimizing associated losses. The Plan provides the emergency response and communications procedures to be used in response to these three potential emergency scenarios (i.e. fire, personal injury and spills).

All Project personnel will be trained in the following emergency response and communications procedures.

Appendix D

Decommissioning Plan
Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Decommissioning Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Decommissioning Plan Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of 8 arrays, each of 1.25 MW. Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The connection point will be on Little Rideau Lakes Road, northeast of the Project location. The Project will connect to a distribution line that Hydro One will extend approximately 900 m from its current location.

As required, two scenarios were taken into consideration for the Decommissioning Plan which includes decommissioning after ceasing operation and decommissioning during construction should the Project be cancelled/abandoned during construction. The following provides the activities to be completed for the former scenario. For the latter scenario, the decommissioning activities depend on when the construction has ceased; however, the following provides a complete list of potential decommissioning activities under the latter scenario.

It is anticipated that the Project will have a useful lifetime of at least 20 years, which can be extended up to 50 years or more with proper maintenance, component replacement and repowering. It is assumed that the Project will be decommissioned after the 20-yr power purchase agreement with the Ontario Power Authority concludes.

2. Decommissioning Activities

2.1 Equipment Dismantling and Removal

All decommissioning of electrical devices, equipment, and wiring/cabling will be in accordance with local, municipal, provincial and federal agencies standards and guidelines. Any electrical

decommissioning will include obtaining the required permits and following lockout/tag out procedures before de-energizing, isolating, and disconnecting electrical devices, equipment and wiring/cabling.

2.2 Site Restoration

The proposed Project area will be restored to its pre-development state, subject to environmental requirements and the wishes of the landowner. The following will be undertaken:

- any trenches/drains excavated will be filled with suitable materials and leveled
- any roads or embankments will be removed completely, filled with suitable sub-grade material and leveled
- any compacted ground will be tilled, mixed with suitable sub-grade materials and leveled
- any damage to any existing tile drainage system caused by the Project will be repaired/restored
- prepared soil, with all the nutrients required by the crop to grow, will be spread wherever necessary.

2.3 Management of Waste and Excess Materials

All waste and excess materials will be disposed of in accordance with municipal, provincial and federal regulations. Waste that requires disposal will be disposed of in a provincially licensed facility by a provincially licensed hauler. Although hazardous waste is not anticipated on site (with the exception of the aforementioned transformer oil), any hazardous waste will be removed from site and disposed of in accordance with federal, provincial and municipal requirements.

2.4 Emergency Response

The Project Emergency Response Plan will be implemented through all phases of the Project. The purpose of the plan is to establish and maintain emergency procedures required for effectively responding to accidents and other emergency situations, and for minimizing associated losses. The Plan provides the emergency response and communications procedures to be used in response to these three potential emergency scenarios (i.e. fire, personal injury and spills).

All Project personnel will be trained in the following emergency response and communications procedures.

3. Restoration of Land Negatively Affected by the Project

Following decommissioning of the Project, if any lands or water features are negatively affected by the Project, Northland is committed to restoring the site as close to its pre-construction state as feasible. This would be subject to environmental requirements and wishes of the landowner.

Appendix E

Natural Heritage
Records Review Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Natural Heritage Records Review Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Records Review Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled the Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Section 25 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Natural Heritage Records Review. Records were searched within a minimum distance of 1 km from the Project location from Ministry of Natural Resources (MNR), federal government, United Counties of Leeds and Grenville, Township of Rideau Lakes and other relevant sources.

2. Results

Key natural features and points of interest identified during the records review include the following:

- woodlands are present on and within 120 m of the Project location
- there are three small wetlands located within 120 m northwest of the Project location
- there are no ANSIs or valleylands were identified within the vicinity of the Project location
- NHIC identified occurrences of two uncommon species [Prairie Warbler (*Dendroica discolor*), Early Hairstreak (*Erora laeta*)] within 1 km of the Project location
- information received from the MNR indicates that Butternut (*Juglans cinerea*) may be present on the Project location
- the Ontario Herpetofaunal Summary Atlas identified several species of reptile and amphibian whose ranges may include with the Project location of which several are species at risk or species of conservation concern, including: Blanding's (*Emydoidea blandingi*), Northern Map (*Graptemys geographica*), and Common Musk Turtles (*Sternotherus odoratus*), Western Chorus Frog (*Pseudacris triseriata*), Five-lined Skink (*Eumeces faciatus*), Milksnake (*Lampropeltis triangulum*), Gray Ratsnake (*Elaphe obsoleta*), Eastern Ribbonsnake (*Thamnophis sauritus septentrionalis*).

- in the Ontario Breeding Bird Atlas, species at risk or species of conservation concern were identified within the vicinity of the Project: Bald Eagle (*Haliaeetus leucocephalus*), Black Tern (*Chlidonias niger*), Bobolink (*Dolichonyx oryzivorus*), Canada Warbler (*Wilsonia canadensis*), Cerulean Warbler (*Dendroica cerulean*), Chimney Swift (*Chaetura pelagica*), Common Nighthawk (*Chordeiles minor*), Golden-winged Warbler (*Vermivora chrysoptera*), Least Bittern (*Ixobrychus exilis*), Loggerhead Shrike (*Lanius ludovicianus migrans*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Whip-poor-will (*Caprimulgus vociferus*).

3. Conclusions

Table 3.1 summarizes the results of the records review.

Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in a natural feature?	Yes	There are woodlands on the Project location.
Is the Project within 50 m of an ANSI (earth science)?	No	The nearest earth science ANSI is located several kilometres from the Project location.
Is the Project within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	There are wetlands and woodlands on and within 120 m of the Project location.

Therefore, depending on the layout of the proposed Project, some components could potentially be located within 120 m of a natural feature. As per Section 26 of the REA Regulation, a site investigation will be required to confirm the features identified during this records review. The site investigation will i) identify if any corrections to the information presented herein are required, ii) determine whether any additional natural features exist on or adjacent to the Project location, iii) confirm the boundaries of the natural features within 120 m of the Project, and iv) determine the distance from the Project to the natural feature boundary.

Appendix F

Natural Heritage
Site Investigation Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Natural Heritage Site Investigations Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Site Investigations Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled the Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Section 26 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Natural Heritage Site Investigation for the purpose of determining if the information provided in the Natural Heritage Records Review Report is correct, if any additional natural heritage features are present within 120 m of the Project, and if the borders and distance of the natural heritage features from the Project location are correct. To obtain this information a site visit was completed. If any features are located within the specified setbacks, an Evaluation of Significance is required.

2. Results

The Project location is primarily characterized as a mix of agricultural fields for production of forage crops used for hay and pasture and a livestock (i.e., cattle) operation. The areas that are not in agricultural production are comprised of natural features, such as woodlands.

The vegetation communities on the Project location include woodlands and hedgerows. The majority of the agricultural fields are comprised of a mix of grasses and legumes and used for the production of hay and as cattle pasture.

The hedgerow communities identified on the Project location are found along the property line and are used to separate one field from another.

The woodland in the northwest corner of the Project location is described as a middle-aged to mature, tolerant, hardwood forest with a closed canopy (approximately 90%). Cattle are permitted to graze within this woodland. The microtopography is complex and includes upland and low-lying areas. The soils within this woodland are shallow and stony with limestone bedrock exposed at the surface in some locations. Gently-sloping to strongly-sloping areas are found within the upland areas

and consist of well-drained sandy loam to loam soils. The low-lying areas include shallow depressions with poorly drained clay soils.

This area is located in the northeast corner of the Project location and is actively used as cattle pasture. It is a low-lying, seasonally flooded area with shallow soils with some areas of exposed bedrock at the surface. There is an intermittent watercourse that flows southeast through this portion of the agricultural field where it drains into a catch basin located along the eastern boundary of the Project location. The vegetation within and surrounding this watercourse is representative of a wet meadow marsh with species such as sedges, grasses, rushes and ferns. Tree and shrub cover represents $\leq 25\%$.

The Significant Wildlife Habitat Technical Guide (SWHTG) (MNR, 2000) identifies four main types of wildlife habitat that can be classified as significant:

- habitat for seasonal concentrations of animals
- rare or specialized habitats for wildlife
- habitat for species of conservation concern
- wildlife movement corridors.

Candidate habitat for seasonal concentrations of animals was considered during the site investigations, however only bullfrog concentration areas will be carried forward to the Evaluation of Significance (EOS).

No rare vegetation communities were found on or within 120 m of the Project location.

Candidate specialized habitats for wildlife was considered during the site investigations, however only habitat for Northern Harrier, an area sensitive species will be carried forward to the EOS.

Candidate habitat for species of conservation concern was considered during the site investigation, and potential habitat for Milksnake and confirmed habitat for Bullfrog will be carried forward to the EOS.

Animal movements corridors associated with the hedgerows, woodlands and watercourse will be carried forward to the EOS.

No species at risk were observed during the site investigations, however suitable habitat for Gray Ratsnake and American Ginseng was note on the Project location and consultation is ongoing with MNR Kemptville in order to determine whether a permit under the *Endangered Species Act* is required.

3. Conclusions

Based on the results from the site investigation, there is a correction to the Records Review Report whereby several areas of wetland habitats were identified on and within 120 m of the Project location.

There are several features present within the vicinity of the Project location that will require an Evaluation of Significance in order to determine whether Environmental Impact Studies (EIS) are required. These are

- bullfrog concentration area
- woodlands on and within 120 m of the Project location
- habitat for Northern Harrier, American Bullfrog and Milksnake
- animal movement corridors
- wetlands located within on and 120 m of the Project location.

Therefore, some components of the Project are located within 120 m of a natural feature (i.e., wildlife habitat and woodlands). As per Section 27 of the REA Regulation, an Evaluation of Significance is required to determine if these natural features are significant.

Appendix G

Natural Heritage
Evaluation of Significance
Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Natural Heritage Evaluation of Significance

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Evaluation of Significance – Natural Heritage Features for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled the Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 40 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Section 24 of the REA Regulation requires proponents of Class 3 solar projects to undertake an Evaluation of Significance for each natural heritage feature identified in the records review and site investigations reports within 120 m of the Project. These reports identified the need to complete an Evaluation of Significance for

- bullfrog concentration area
- woodlands on and within 120 m of the Project location
- habitat for Northern Harrier and Milksnake
- animal movement corridors
- wetlands located on and within 120 m of the Project location.

2. Results

2.1 Wildlife Habitat

Four types of candidate significant wildlife habitats were identified during the site investigation:

- animal movement corridors
- habitat for species of conservation concern (Milksnake, American Bullfrog)
- habitat for area-sensitive species (Northern Harrier)
- bullfrog concentration area.

Bullfrog Concentration Area

Criteria for evaluation of seasonal concentration areas are identified in Table Q-1 of Appendix Q of the Significant Wildlife Technical Habitat Guideline (SWTHG). Given the demonstrated use of the feature, and the uncertainty associated with historical use and relative importance, the bullfrog concentration area is considered to be significant wildlife habitat.

Habitat for Northern Harrier, an Area-Sensitive Species

Criteria for evaluation of specialized habitats for wildlife are identified in Table Q-2 of Appendix Q of the SWTHG. The habitat did not meet any of the criteria for an area sensitive species therefore it is not considered to be significant wildlife habitat.

Habitat for Milksnake, a Species of Conservation Concern

Criteria for evaluation of species of conservation concern are identified in Table Q-3 of Appendix Q of the SWTHG. Given that Milksnake are habitat generalists, the entire Project location was considered to be suitable habitat for Milksnake. Milksnake are identified as a species of Special Concern on the ESA, and therefore though use is unconfirmed, the area is treated as significant wildlife habitat.

Habitat for American Bullfrog, a Species of Conservation Concern

As the Project location is identified as a Bullfrog Concentration Area, the Project location is considered significant wildlife habitat.

Animal Movement Corridors

Criteria for evaluation of animal movement corridors are identified in Table Q-4 of Appendix Q of the SWTHG.

- The hedgerows are generally restricted to a depth of a single tree width and do not connect the features to other significant natural areas, these features are not considered to be significant wildlife habitat.
- The woodlands on the Project location are generally both narrow and cover a small distance such that its function as an animal movement corridor providing protection for various species is limited. As a result, it is determined to not meet the requirements of a significant animal movement corridor.
- The woodlands within 120 m of the Project location likely provide animal movement corridors around the lake, an obstruction in the landscape. However, risk of mortality within this corridor is moderate given that several roadways cross the corridor and there are numerous interruptions and locations where corridor width is reduced to a single tree row.
- The watercourse west of the Project location is an animal movement corridor for reptiles and amphibians. This feature was determined to be significant as it links critical habitats (breeding with over-wintering).

As a result, no significant animal movement corridors are identified on or within 120 m of the Project location.

2.2 Woodlands

The Evaluation of Significance was completed in consideration of the Evaluation Approach outlined in the Natural Heritage Resource Manual (NHRM). The evaluation criteria recommended in the NHRM to assess significance of woodland include: woodland size, ecological function (e.g.,

woodland interior, proximity to other woodlands or other habitats, linkages, water protection and woodland diversity), uncommon characteristics, economic and social functions.

Woodland on the Project Location

This woodland is not considered to be significant as it meets none of the criteria of significance.

Woodland Located Northwest of the Project Location

This woodland is considered significant as it meets the requirements for size and interior habitat.

Woodland Located Southwest of the Project Location

This woodland does not meet the minimum size requirements to be considered significant woodland.

2.3 Wetlands

Natural Resources Solutions Inc. (NRSI) completed the wetland evaluations on the unevaluated wetlands on and within 120 m of the Project location. Their evaluation found that the wetlands were all an Evaluated Non-Provincially Significant Wetland Complex.

3. Conclusions

Table 3.1 summarizes the results of the evaluation of significance report.

Table 3.1 Significant Natural Features on and within 120 m of the Project Location

Natural Feature		Project Location	Adjacent Lands (within 120 m)
SIGNIFICANT	Woodland	No	Yes
	Wildlife Habitat	Yes	Yes
	Valleyland	No	No
PROVINCIALLY SIGNIFICANT	Wetland	No	No
	Earth Science ANSI	No	No
	Life Science ANSI	No	No

Therefore, of the natural heritage features evaluated, the woodlands within 120 m of the Project location and wildlife habitat on and within 120 m of the Project location will require an Environmental Impact Study as per Section 38 of the REA Regulation.

Appendix H

Natural Heritage Environmental Impact Study Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Natural Heritage Environmental Impact Study

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Environmental Impact Study - Natural Heritage Features for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled the Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Section 38 of the REA Regulation requires proponents of Class 3 solar projects to complete an Environmental Impact Study (EIS) for all significant natural heritage features determined to be within a specified setback in order to obtain a REA. The EIS is required in order to determine i) any potential negative environmental effects on the natural features; ii) identify mitigation measures; iii) describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects and iv) describe how the Construction Plan Report addresses any negative environmental effects.

The natural heritage features that are classified as significant are potential wildlife habitat for Milksnake on and within 120 m of the Project location, a bullfrog concentration area within 120 m northwest of the Project location, an animal movement corridor within 120 m west of the Project location, and significant woodlands within 120 m northwest of the Project location.

2. Results

The results of the EIS on the significant natural features are summarized in Table 2.1.

Table 2.1 Summary of Potential Negative Environmental Effects and Proposed Mitigation

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Vegetation Communities/Wildlife Habitat		
Construction	Removal of vegetation due to direct encroachment on the natural feature.	Work areas in proximity to the woodlands, bullfrog concentration area and semi-aquatic animal movement corridor will be marked, workers to be made aware not to enter these significant natural features. Temporary direct encroachment onto Milksnake (*Lampropeltis triangulum*) habitat will occur, resulting in a minor loss of habitat for this species during construction. However, as Milksnake are a habitat generalist, this will result in a negligible loss of habitat.
Construction/ Decommissioning	Heavy dust may impact photosynthesis due to fugitive dust generation.	Use of dust suppressant, phased construction and decommissioning, stockpiles to be stabilized and/or covered, avoid earthworks during windy days.
Construction	Increase in surface water runoff rate and alter surface water pattern and therefore effect vegetation due to land grading and ditching, soil compaction, and vegetation removal.	Minor grading will occur and take into consideration current land grade to replicate present stormwater flow pattern. Discing or other soil loosening methods will be used on compacted areas. Long-term ground cover will be planted.
Operations	Placement of solar panels on Milksnake habitat.	Presence of Project components on Milksnake habitat is not expected to impact Milksnake as they are a habitat generalist and are commonly found around man-made structures.
Operations	Alterations to surface water runoff and therefore vegetation communities due to changes in grading and ditching, impervious or less pervious surfaces and changes in vegetation.	Minor grading will occur and take into consideration current land grade to replicate present stormwater flow pattern. Long-term ground cover will be planted. Impervious and less pervious soils drain into ditches or localized areas; therefore no appreciable impact to local drainage patterns.
Decommissioning	Alterations to surface water runoff due to changes in grading and changes in vegetation.	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions.
Wildlife Communities		
Construction/ Decommissioning	Auditory and visual disturbance of local wildlife populations may result in a short-term reduction of resident populations.	Due to existing disturbances, it is not anticipated that wildlife disturbance will be significant. A 100-m setback from the animal movement corridor during active construction/decommissioning will be in place during migration periods to minimize disturbance. If the 100-m setback cannot be maintained, a 60-m setback will be enforced during sensitive periods.

Table 5.1 in the EIS summarizes the proposed monitoring plan.

As discussed in the Design and Operations Report, environmental effects monitoring is proposed with respect to any negative environmental effects that may result from engaging in the Project. The monitoring plan in the Design and Operations Report identifies: performance objectives with respect to the negative environmental effects; mitigation measures to assist in achieving the performance objectives; and, a program for monitoring negative environmental effects for the duration of the time the Project is engaged in, including a contingency plan to be implemented if any mitigation measures fail.

In addition, the Construction Plan Report for the Project details the construction and installation activities, location and timing of construction and installation activities, any negative environmental effects that result from construction activities within 300 m of the Project and mitigation measures for the identified negative environmental effects.

3. Conclusions

The EIS has been prepared to identify potential negative environmental effects that all phases of the Project may have on the significant natural feature. Mitigation measures have been proposed to prevent these effects from occurring or minimize the magnitude, extent, duration and frequency in the event that they do occur to an acceptable level.

Appendix I

Water Body
Records Review Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Water Body Records Review Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Water Body Records Review Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Section 30 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Water Body Records Review. The focus of the assessment was on identifying whether or not the project was located within or adjacent to any of the specified water features (e.g. within 120 m of the average annual high water mark of a permanent or intermittent stream). Records were searched from the Ministry of Natural Resources (MNR), Ontario Ministry of Agriculture, Food and Rural Affairs, federal government, United Counties of Leeds and Grenville, Township of Rideau Lakes and other relevant sources.

2. Results

Key water body features and points of interest identified during the records review include the following:

- one unnamed watercourse (Watercourse B) on and immediately adjacent to the western Project site boundary. Watercourse B flows in a northeasterly direction adjacent to the western boundary of the Project site before flowing into Upper Rideau Lake, which is located approximately 600 m north of the Project site
- unnamed watercourse (Watercourse A) approximately 140 m south of the Project location. Watercourse A approaches the Project location on the southeast side and flows south away from the Project location
- Newboro Lake is located approximately 1 km south of the Project location
- the proposed Project is situated primarily within the jurisdiction of the Rideau Valley Conservation Authority (RVCA), although a very small portion (<5%) is situated within the Cataraqui Region Conservation Authority (CRCA) area

- mapping from the RVCA Property Inquiry identified both Watercourses A and B and permanent streams on and within 120 m of the Project location
- the Regulated Areas mapping did not indicate the presence of any Regulated river or stream valleys with identified Flood or Erosion Hazards in proximity to the Project location
- Cataraqui Source Protection Area indicates that the Project location is in close proximity to significant groundwater recharge areas.

3. Conclusions

Table 3.1 summarizes the results of the records review.

Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in a water body?	No	The Project is not located in a water body.
Is the Project within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity?	No	No lake is present within 120 m of the Project location.
Is the Project within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity?	No	No lake trout lakes are present within 300 m of the Project location.
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	There is one watercourse located within 120 m of the Project location.
Is the Project within 120 m of a seepage area?	No	No seepage areas are present on or within 120 m of the Project location.

A site investigation, as required in Section 31 of the REA Regulation will be completed to i) confirm the features identified during this records review, ii) identify if any corrections to the information presented herein are required, iii) determine whether any additional waterbodies exist on or within 120 m of the Project location, iv) confirm the boundaries of any water feature within 120 m of the Project and v) determine the distance from the Project to the water boundary.

Appendix J

Water Body
Site Investigation
Report Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Water Body Site Investigations Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Water Body Site Investigations Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatts (MW) solar photovoltaic project titled Crosby Solar Project (hereinafter referred to as the "Project"). The Project site be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Section 31 of the REA Regulation requires proponents of Class 3 solar projects to undertake Water Body Site Investigation for the purpose of determining if the information provided in the Water Body Records Review Report is correct, if any additional waterbodies are present within 120 m of the Project, and if the borders and distance of the waterbodies from the Project location are correct. To obtain this information a site visit was completed. If any waterbodies are located within the specified setbacks an Environmental Impact Study (EIS) is required.

2. Results

Several waterbodies where identified within 120 m of the Project location. They are described as follows:

Watercourse A

- Originates approximately 1.1 km east of the Project location and flows in a southwesterly direction toward the eastern Project boundary in a linear, channelized, drainage feature through open agricultural fields toward Little Rideau Lake Road.
- On the west side of Little Rideau Lake Road, it continues to run in a channelized drainage ditch through open fields toward the Project location.
- Diverges from the Project location and runs south through a series of woodlots and open agricultural fields, toward an unnamed tributary of Newboro Lake.
- Site investigation has confirmed that the average annual high water mark of Watercourse A does not exceed the top of bank level of the excavated drainage ditch, therefore no Environmental Impact Study (EIS) is required.

Watercourse B

- Originates approximately 1.6 km southwest of the Project location.
- Flows in an excavated linear drainage channel through the agricultural field adjacent to the western boundary of the Project location.
- Flows through a shrub and meadow wetland and field area before draining into Stedman's Bay on Upper Rideau Lake, approximately 600 m north of the Project location.
- Portion of the watercourse that flows east through the agricultural field is dominated by grasses, sedges, rushes, herbs and isolated patches of shrubs.
- Site investigation has confirmed that Watercourse B is a permanent stream, therefore an EIS is required.

Watercourse C

- An excavated linear drainage ditch commencing in the southwestern portion of the Project location, where it flows west for approximately 400 m and then curves north where it converges with Watercourse B.
- Intermittent as it receives flow from a tile drainage outlet that discharges water collected from the agricultural fields to the east.
- Consists of a narrow, shallow, excavated channel (<1.5 m wide) that flows through a vegetated corridor (approximately 5 m wide) surrounded by the adjacent agricultural fields.
- Site investigation confirmed that Watercourse C is an intermittent stream, therefore an EIS is required.

Watercourse D

- West-east through the northeastern portion of the Project location and appears to be man-made as it originates in the middle of the agricultural field, west of the Project location.
- Intermittent watercourse that receives flow after heavy precipitation events and is dry the remaining months of the year.
- Less than 1 m in width and follows a natural contour before draining into a catch basin located along the eastern boundary of the Project location.
- Flows southeast through the agricultural field through a naturally cut channel as it moves downstream.
- Site investigation confirmed that Watercourse D is an intermittent stream, therefore an EIS is required.

3. Conclusions

Based on the results of the site investigation discussed above, there are several corrections to the results of the Water Body Records Review (Hatch Ltd., 2010) required. Watercourses C and D were not identified during the records review but were confirmed on and within 120 m of the Project location during the site investigation.

Based on the results of the site investigation and the proposed Project components and boundaries, some components of the Project will be located between 30 and 120 m of Watercourses B, C and D. Therefore, an EIS will be required to assess the potential effects of the Project and the required mitigation measures to prevent or minimize adverse effects on these waterbodies.

Appendix K

Water Body
Environmental Impact Study
Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Waterbodies Environmental Impact Study

1. Introduction

As per Section 17 of the Renewable Energy Approvals Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Waterbodies Environmental Impact Study Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Sections 39 and 40 of the REA Regulation requires proponents of Class 3 solar projects to complete an Environmental Impact Study (EIS) is required for all waterbodies determined to be within a specified setback in order to obtain a REA. The EIS is required in order to determine i) any potential negative environmental effects on the natural features ii) identify mitigation measures iii) describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects and iv) describe how the Construction Plan Report addresses any negative environmental effects.

This EIS has been prepared to address these requirements for the construction of Project components between 30 and 120 m from the Watercourses B, C and D.

2. Results

The results of the EIS on the three watercourses are summarized in Table 2.1.

Table 2.1 Summary of Potential Negative Environmental Effects and Proposed Mitigation

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Surface Water Runoff		
Construction	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving waterbodies due to land grading and ditching, soil compaction, and vegetation removal.	Install flow dissipation measures near the 30 m setback from the waterbodies. Ditches will be vegetated with appropriate grass species to aid in flow dissipation and water uptake. Enhanced vegetation swales will be used in roadside ditches to promote ponding in order to decrease turbidity and increase water retention. Vegetated filter strips will be used where runoff enters agricultural lands or where the ditches discharge in close proximity to watercourses. Discing or other soil loosening methods will be used on compacted areas. Long-term ground cover will be planted.
Operations	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving waterbodies due to land grading and ditching, impervious and less pervious soils, and changes in vegetation.	Minor grading will occur and take into consideration current land grade to replicate present stormwater flow patterns. Long-term ground cover will be planted. Impervious and less pervious soils will allow runoff into ditches or localize points and discharge into vegetation to allow flow dissipation; therefore no appreciable impact to local drainage patterns.
Decommissioning	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving waterbodies if land grading and ditching are left in place after decommissioning.	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions.
Surface Water Quality		
Construction	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, soil compaction, and vegetation removal.	Erosion and Sediment Control plan to be created and implemented. Examples of key components of the plan are: minimize size of cleared and disturbed areas, phase construction to minimize time of exposed soils, adequate supply of erosion and sediment control, divert runoff through vegetated areas, install flow velocity control measures in drainage ditches, revegetate and stabilize exposed soils, grade stockpiles to stable angle, stockpiles placed in suitable areas away from the receiving water body.
Construction	Increase in soil erosion and sedimentation due to construction of access road and water crossing.	Construction will be in accordance with the *Environmental Guidelines for Access Roads and Water Crossings* (MNR, 1990) and sediment and erosion controls will be installed per the guidance in the *Erosion & Sediment Control Guideline for Urban*

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		Construction (GGHACA, 2006). Sediment and erosion controls to be in place prior, during and following construction. Culvert installation will occur in dry conditions behind instream cofferdams. Access roads will be aligned 90 degrees to watercourse. Culvert installation during low flow periods. Limited heavy machinery use on the stream bed. Stabilize and revegetate exposed areas as soon as possible. Riprap should be placed on the upstream and downstream fill slope around the culvert inlet to prevent erosion of fill.
Construction/ Decommissioning	Heavy dust may impact surface water quality.	Use of dust suppressant, phased construction and decommissioning, stockpiles to be stabilized and/or covered, hard surfaces for access roads, and avoid earthworks during windy days.
Construction/ Operations/ Decommissioning	Accidental spills contaminating surface water.	Fuelling stations and hazardous materials storage to be located outside of the 1:100-yr flooding hazard. Emergency spill kit on site at all times and the spill kit will have adequate materials/equipment for spill response. Machinery arriving on site to be clean and free of leaks. Contractor to have spill response procedure and all workers will be properly trained on the procedure. No cement products to be placed into any watercourse. Concrete truck rinsing station at least 120 m away from any known watercourse. Cement storage to be raised and placed in a waterproof shelter.
Operations	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, and changes in vegetation.	Stormwater flow patterns will be replicated. Long-term ground cover will be planted. Impervious and less pervious soils will allow runoff into ditches or localize points and discharge into vegetation to allow flow dissipation; therefore no appreciable impact to local drainage patterns.
Decommissioning	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, and changes in vegetation.	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions. It is assumed that a re-instatement of row crops will occur.
Aquatic Biota and Habitat		
Construction/ Operation/ Decommissioning	Indirect effects to aquatic biota and habitat due to changes in surface water quality, surface water runoff rate and groundwater.	Proposed mitigation for surface water quality, surface water runoff and groundwater, as above, is anticipated to be sufficient.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Groundwater		
Construction	Recharge or seepage areas may be impacted by altered surface water runoff or excavations.	The amount and duration of dewatering for excavations will be minimized to the extent possible.
Construction/ Operations/ Decommissioning	Groundwater contamination due to accidental spills.	See mitigation measures above for accidental spills contaminating surface water.

Table 5.1 in the EIS summarizes the proposed monitoring plan.

As discussed in the Design and Operations Report, environmental effects monitoring is proposed in respect of any negative environmental effects that may result from engaging in the Project. The monitoring plan in the Design and Operations Report identifies: performance objectives in respect of the negative environmental effects; mitigation measures to assist in achieving the performance objectives; and, a program for monitoring negative environmental effects for the duration of the time the Project is engaged in, including a contingency plan to be implemented if any mitigation measures fail.

In addition, the Construction Plan Report for the Project details the construction and installation activities (including location and timing), any negative environmental effects that result from construction activities within 300 m of the Project and mitigation measures for the identified negative environmental effects.

3. Conclusions

The EIS has been prepared to identify potential negative environmental effects that all phases of the Project may have on the three watercourses. Mitigation measures have been proposed to prevent these effects from occurring or minimize the magnitude, extent, duration and frequency in the event that they do occur. The primary mitigation measure that will prevent adverse effects on the waterbodies is adherence to the 30 m setback requirement. Certain construction activities may have short-term minor impacts, but these would be temporary in nature. Operational activities are not anticipated to impact the waterbodies as the Project operated remotely and maintenance is only expected to occur infrequently throughout the year. Decommissioning activities will be similar to construction activities and as such they may cause short-term minor impacts yet once the Project site has been restored to its previous condition no long-term impacts are anticipated.

Overall, while the Project will result in some changes to the natural environment, no negative effects on the waterbodies are anticipated to occur following implementation of the mitigation and monitoring measures proposed.

Appendix L

Stage 1 and 2
Archaeological Assessment Report
Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Stage 1 and 2 Archaeological Assessment Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Archaeological Assessment Report, prepared by Archaeology Research Associates Ltd. for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled the Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

Section 22 of the REA Regulation requires proponents of Class 3 solar projects to undertake an Archaeological Assessment where there is a concern that an undertaking could impact archaeological resources. The purpose of the present assessment was to confirm the presence or absence of significant archaeological resources that could represent potential constraints for the proposed Crosby Solar Project. The assessment included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2 km radius of the Crosby Solar Project site. It also included a systematic 5-m interval Stage 2 archaeological survey of all of the Leased Lands in the property.

2. Results

The background study determined that no previous archaeological fieldwork or discoveries had been documented within the Crosby Solar Project site or in close proximity to it and no archaeological sites had been registered or otherwise recorded within a 2-km radius of the property. The background study also determined that the Project site has a potential for pre-Contact and Historic era archaeological sites. The survey resulted in the discovery of three findspots, all of which contained historic-era scatter. The three find spots are considered significant archaeological resources.

3. Conclusions

The office of the Ministry of Tourism and Culture has reviewed the Archaeological Assessment Report in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, and accepted its findings. The three findspots are considered provincially significant and do warrant further protection, namely by avoidance and buffering.

Appendix M

Noise Assessment Study
Summary

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Summary

Noise Study Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Noise Assessment Study Report for the Crosby Solar Project.

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") has retained Hatch Ltd. (Hatch) to prepare a Noise Assessment Study for the Northland Power Crosby Solar-Photovoltaic facility (hereinafter referred to as the "Project"), with an installed capacity of 10 MW. The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville, Ontario.

This Noise Assessment Study has been prepared based on the document entitled "Basic Comprehensive Certificates of Approval (Air) – User Guide" by the Ontario Ministry of the Environment (MOE). The sound pressure levels at the points of reception (POR) have been estimated using ISO 9613-2, implemented in the CADNA-A computer code. The performance limits used for verification of compliance correspond to the values for rural areas (45 dBA for day time, 40 dBA for night time). The results presented in this report are based on the best available information at this time. It is the intention that, in the detailed engineering phase of the project, certified noise data based on final plans and designs will confirm the conclusions of this noise study.

2. Results

- The main sources of noise from the Project will be the step-up transformer, located at the substation, and eight inverter clusters which also include medium-voltage transformers.
- Presently inverters for the Project consist of the Sunny Central SC1250MV unit which comprises two 630HE inverters (630 kW), contained in an e-house or enclosure. The main sources of noise are the cooling/ventilation fans for the inverters, the electrical components on the inverters and the medium-voltage transformer.
- The Points of Reception (POR) used in this study have been taken from the Ontario Base Map for the surrounding area. Some additional receptors (residential buildings) were added based on satellite imagery from Google Earth Pro (2002). The total number of POR within a 1-km radius from the substation is 22.
- The sound pressure levels at the POR were predicted using procedures from ISO 9613-2, which is a widely used standard for evaluation of noise impact in environmental assessments. The

sound power levels were estimated from the National Electrical Manufacturers Association standards (NEMA) for the substation transformer.

3. Conclusion

Based on the results obtained in this study, we believe that the sound pressure levels at POR will not exceed MOE requirements for rural areas. Any noise issues that might arise during commissioning will be manageable and can be resolved by implementing typical remediation measures as described in this report. It is our intention to verify by field measurements taken on completion of installation and during commissioning that the noise levels at the POR are within the limits set by the MOE.

Appendix N

Protected Properties and Heritage Resource Information

Project Report

April 5, 2011

Northland Power Inc.
Crosby Solar Project

Heritage Resources and Protected Properties

Table of Contents

1. Introduction

1.1 Project Description

Northland Power Solar Crosby L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled the Crosby Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

1.2 REA Legislative Requirements

Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, (herein referred to as the REA Regulation) made under the *Environmental Protection Act* identifies the Renewable Energy Approval (REA) requirements for renewable energy projects in Ontario. As per Section 4 of the REA Regulation, ground mounted solar facilities with a name plate capacity greater than 10 kilowatts (kW) are classified as Class 3 solar facilities and do require an REA.

Section 19 of the REA Regulation requires proponents of Class 3 solar projects to determine whether the project location is on a property described in Column 1 of the Table to Section 19. Table 1.1 has been prepared to meet this requirement.

Section 23 of the REA requires that proponents of Class 3 solar projects, as a result of the consideration mentioned in subsection 20, determine whether engaging in the renewable energy project may have an impact on a heritage resource described in subsection 20 (1). Table 1.2: *The Ministry of Culture – Check Sheet for Environmental Assessments: Screening for Impacts to Built Heritage and Cultural Heritage Landscapes* has been completed to address the requirements described in Section 23.

2. Protected Properties

As discussed in Section 1.2, Table 1.1 below has been prepared to address Section 19 of the REA Regulation.

3. Heritage Assessment

As discussed in Section 1.2, Table 1.2 below has been prepared to address Section 23 of the REA Regulation.

4. Conclusion

Based on the information presented in Table 1.1 the proposed Project is not located on a Protected Property as described in Column 1 of the Table to section 19. In addition, research and agency consultation undertaken as described within Table 1.2 has not identified the need for a heritage impact assessment under Section 23 of the REA Regulation.

Table 1.1: Protected Properties Table
Under the Renewable Energy Approval: O. Reg. 359/09 Section 19

19. (1) A person who proposes to engage in a renewable energy project shall determine whether the project location is on a property described in Column 1 of the Table to this Section.

Property: Northland Power Solar Crosby
Address: Longitude and Latitude Coordinates: 44.674382, -76.306805
Township and County: Township of Rideau Lakes within the United Counties of Leeds and Grenville

Item	Description of Property	Reference
1	A property that is subject of an agreement, covenant or easement entered into under clause 10(1)(b) of the *Ontario Heritage Act*.	See MCL Check Sheet Step 2, Item 4. The property is not designated under clause 10(1)(b) of the *Ontario Heritage Act*.
2	A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest has been given in accordance with section 29 of the *Ontario Heritage Act*.	Consultation with the municipality, as per MCL Check Sheet Step 2, Item 8 has not determined that a notice of intention to designate has been given. In addition, The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
3	A property designated by a municipal by-law made under section 29 of the *Ontario Heritage Act* as a property of cultural heritage value or interest.	Consultation with the municipality, as per MCL Check Sheet Step 2, Item 8 has not determined that the Project is located on a property designated by a municipal by-law. In addition, The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
4	A property designated by order of the Minister of Culture made under section 34.5 of the *Ontario Heritage Act* as a property of cultural heritage value or interest of provincial significance.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
5	A property in respect of which a notice of intention to designate the property as property of cultural heritage value or interest of provincial significance has been given in accordance with section 34.6 of the *Ontario Heritage Act*.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.

6	A property that is subject of an easement or a covenant entered into under section 37 of the *Ontario Heritage Act*.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
7	A property that is part of an area designated by a municipal by-law made under section 41 of the *Ontario Heritage Act* as a heritage conservation district.	The MCL Ontario Heritage Properties Database includes properties designated under Part V of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
8	A property designated as a historic site under Regulation 880 of the Revised Regulations of Ontario, 1990 (Historic Sites) made under the *Ontario Heritage Act*.	The property is not designated a historic site under Regulation 880.

Table 1.2: Ministry of Tourism and Culture – Check Sheet for Environmental Assessments
Screening for Impacts to Built Heritage and Cultural Heritage Landscapes

This checklist will help identify potential cultural heritage resources, determine how important they are and indicate whether a cultural heritage impact assessment is needed.

Property: Northland Power Solar Crosby
Address: Longitude and Latitude Coordinates: 44.674382, -76.306805
Township and County: Township of Rideau Lakes within the United Counties of Leeds and Grenville

Step 1 – Screening Potential Resources			
		Built heritage resources	**Reference**
Yes	**No**	Does the property contain any built structures, such as:	The following resources were assessed using Google Earth 5.1.3535.3218 on May 26, 2010. There are no buildings on the site, but there are several buildings just south of the site. The site for this project appears to be on land cultivated for agricultural use.
	√	Residential structures (e.g. house, apartment building, trap line shelter)	
	√	Agriculture (e.g. barns, outbuildings, silos, windmills)	
	√	Industrial (e.g. factories, complexes)	
	√	Engineering works (e.g. bridges, roads, water/sewer systems)	
		Cultural heritage landscapes	
Yes	**No**	Does the property contain landscapes such as:	
	√	Burial sites and/or cemeteries	
	√	Parks	
	√	Quarries or mining operations	
	√	Canals	
√		Other human-made alterations to the natural landscape	Land appears to be cultivated for agricultural use in the past.

Step 2 – Screening Potential Significance			
Yes	**No**	**A property's heritage significance may be identified through the following:**	**Reference**
	√	1. Is it designated or adjacent to a property designated under the Ontario Heritage Act?	According to the Ontario Heritage Properties Database, there are no properties designated under the Ontario Heritage act on or adjacent to the site. The Rideau Lakes Township contains 25 heritage sites, but none are located in the vicinity of the site. (Website search: May 26, 2010)
	√	2. Is it listed on the municipal heritage register or provincial register (e.g. Ontario Heritage Bridge List)?	As above.
	√	3. Is it within or adjacent to a Heritage Conservation District?	None of Ontario's Heritage Conservation Districts are located within the Municipality according to the MCL's current list. (Research completed May 26, 2010 http://www.culture.gov.on.ca/english/heritage/conservation/conservation_list.htm)
	√	4. Does it have an Ontario Heritage Trust easement or is it adjacent to such a property?	According to the Ontario Heritage Trust website (www.heritagefdn.on.ca) no easement properties are located in the vicinity of the property. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed May 26, 2010)
	√	5. Is there a provincial or federal plaque?	There are no provincial plaques located in the vicinity of the Project location (Research competed 26May10 http://www.ontarioplaques.com/index.html). Federal plaques appear at National Historical Sites of Canada, none of which exist within the vicinity of the Project (See Item 6 below).
	√	6. Is it a National Historic Site?	National Historic Sites are included within the Ontario Heritage Properties Database (Research completed 26 May10) In addition, no sites within the vicinity of the Project are listed on the Canadian Register of Historic Places (Research completed May 26, 2010 www.historicplaces.ca).
	√	7. Does documentation exist to suggest built heritage or cultural heritage landscape potential? (e.g. research studies, heritage impact assessment reports, etc.)	
√		8. Was the municipality contacted regarding potential cultural heritage value?	Doug Bond, Chair of the Rideau Lakes Township MHAC was contacted on May 26, 2010. As of May 31, 2010 there are no heritage structures on the location or within the 300 m perimeter of the location.
	√	Were any concerns expressed?	
	√	9. What are the dates of construction?	N/A
	√	Are the buildings and/or structures over 40 years old?	There are no buildings or structures on the property.

√		Is it within a Canadian Heritage River watershed?	The site is located within the watershed of the Rideau Waterway which is considered a Canadian Heritage River. Consultation with Park's Canada, the authority responsible for the Rideau Waterway, determined that there would be no impact on the cultural heritage value or viewscape of the Rideau Canal.
	√	10. Is a renowned architect or builder associated with the property?	N/A

Note: If you answer "yes" to any of the questions in Step 2, a heritage impact assessment is required.

Step 3 – Screening for Potential Impacts			
Yes	**No**		**Reference**
	✓	Destruction of any, or part of any, significant heritage attribute or feature.	
	✓	Alteration that is not sympathetic, or is incompatible, with the historic fabric or appearance.	
	✓	Shadows created that alter the appearance of a heritage attribute or change the visibility of a natural feature or plantings, such as a garden.	
	✓	Isolation of a heritage attribute from its surrounding environment, context or a significant relationship.	
	✓	Direct or indirect obstruction of significant views or vistas from, within, or to a built and natural feature.	
	✓	A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces.	
	✓	Land disturbances such as a change in grade that alters soils and drainage patterns that adversely affect an archaeological resource.	

Contents of a Heritage Impact Assessment

As a minimum, the following should be included in a heritage impact assessment:

1. Historical research, site analysis and evaluation
2. Identification of the significance and heritage attributes of the property
3. Description of the proposed development/ site alteration
4. Measurement of impacts
5. Consideration of alternatives, mitigation and conservation methods
6. Implementation and monitoring schedules
7. Summary statement and conservation recommendations

For more information, refer to Ministry of *Culture Info Sheet#5: Heritage Impact Assessments and Conservation Plans* as part of the Ontario Heritage Tool Kit, which is available on the Ministry's website www.culture.gov.on.ca.

Appendix O

Letter of Confirmation –
Ontario Ministry of Natural Resources

Ministry of Natural Resources

Ministère des Richesses naturelles

Ontario

Kemptville District
10 Campus Dr.
Kemptville, ON
K0G 1J0

December 20, 2010

Sean Male
Hatch
Environmental Assessment & Management
Niagara Falls, Ontario

Dear Mr. Male,

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals (REA) Regulation (O.Reg.359/09), the Ministry of Natural Resources (MNR) has reviewed the natural heritage assessment and environmental impact study for the Crosby Solar Project in the township of Rideau Lakes in the United Counties of Leeds and Grenville submitted by Northland Power Solar Crosby L.P.

In accordance with Section 28(2) and 38(2)(b) of the REA regulation, MNR provides the following confirmations following review of the natural heritage assessment:

1. The MNR confirms that the determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established or accepted by MNR.
2. The MNR confirms that the site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNR, if no natural features were identified.
3. The MNR confirms that the evaluation of the significance or provincial significance of the natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNR.
4. The MNR confirms that the project location is not in a provincial park or conservation reserve.
5. The MNR confirms that the environmental impact assessment report has been prepared in accordance with procedures established by the MNR.

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study, including those sections describing the Environmental Effects Monitoring Plan and Construction Plan Report. Should any changes be made to the proposed project that would alter the NHA, MNR may need to undertake additional review of the NHA.

Where specific commitments have been made by the applicant in the NHA with respect to project design, construction, rehabilitation, operation, mitigation, or monitoring, MNR expects that these commitments will be considered in MOE's Renewable Energy Approval decision and, if approved, be implemented by the applicant.

In accordance with S.12 (1) of the Renewable Energy Approvals Regulation, this letter must be included as part of your application submitted to the MOE for a Renewable Energy Approval.

If you wish to discuss any part of this confirmation or additional comments provided, please contact Heather Zurbrigg at 613-258-8366 or at Heather.Zurbrigg@ontario.ca

Sincerely,

Ken Durst
District Manager
Kemptville District MNR

cc. Jim Beal, Renewable Energy Provincial Field Program Coordinator, Regional Operations Division, MNR
Narren Santos, Environmental Assessment and Approvals Branch, MOE

Appendix P

Letter of Confirmation –
Ontario Ministry of Tourism and Culture

Ministry of Tourism and Culture

Culture Programs Unit
Programs and Services Branch
401 Bay Street, Suite 1700
Toronto, ON M7A 0A7
Telephone: (416)-314-7691
Facsimile: (416)-314-7175
Email : Ian.Hember@ontario.ca

Ministère du Tourisme et de la Culture

Unité des programmes culturels
Direction des programmes et des services
401 Rue Bay, Suite 1700
Toronto, ON M7A 0A7
Téléphone: (416)-314-7691
Télécopieur: 416- 314-7175
Email : Ian.Hember@ontario.ca

Ontario

January 6, 2011

Tom Hockin
Northland Power Inc.
30 St. Clair Avenue West
17th Floor
Toronto, Ontario,
Canada
M4V 3A1

RE: **Crosby Solar Generation Facility, Lot 2, Concession 3, Geographic Township of North Crosby, Township of Rideau Lakes, United Counties of Leeds and Grenville, Ontario, FIT-FFPBQ42, MTC File no. HD00513, PIF No. P007-253-2010.**

Dear Proponent:

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report(s) you have submitted for this project, the Ministry believes the archaeological assessment complies with the *Ontario Heritage Act's* licensing requirements, including the licence terms and conditions and the Ministry's 1993 Archaeological Assessment Technical Guidelines. Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the Report(s).*

The report(s) recommends the following [quote the recommendations from the report]:

In sum, Findspots 1-3 have the potential to be archaeologically significant. However, each of the sites lies well away from lands to be impacted by project activities. Accordingly, and in consultation with the proponent and MTC, it was agreed that the findspots could be protected by a combination of avoidance and a project buffer of 20m (see Appendix A). As a result, it is recommended that the project be allowed to proceed without further heritage concerns.

This report is filed with the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18. The report will be reviewed to ensure that the licenced consultant archaeologist has met the terms and conditions of their archaeological licence, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The

proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licenced consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the Ontario Heritage Act. This condition provides for the potential for deeply buried or enigmatic local site areas not typically identified in evaluations of potential.

The Cemeteries Act requires that any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Small Business and Consumer Services. All work in the vicinity of the discovery will be suspended immediately. Other government staff may be contacted as appropriate; however, media contact should not be made in regard to the discovery.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the Ontario Heritage Act, and may not be altered, or have artifacts removed, except by a person holding an archaeological licence.

The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the Ontario *Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,

Ian Hember
Archaeology Review Officer

c. Paul Racher, Archaeological Research Associates

*In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the

Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.