NORTHLAND POWER

Renewable Energy Approval Documents

North Burgess Solar Project

Executive Summary

August 25, 2011

August 25, 2011

Northland Power Inc.
North Burgess Solar Project

Executive Summary

Contents

1. Introduction 3

1.1 Project Location 4
1.2 Project Proponent 5
1.3 Project Benefits 5
1.4 Project Description 6

2. REA Process 6

2.1 Brief Summary of the North Burgess Solar Project REA Reports 7

3. Next Steps 8

Figure 1: Site Layout 9
Figure 2: Report Name and Purpose 11
Figure 3: Appendices of Project Report Summaries 12

1. Introduction

The North Burgess Solar Project (hereinafter referred to as the "Project") is a proposed 10-megawatt (MW) solar farm in the Township of Tay Valley, within the Lanark County. The Project is being developed by Northland Power Solar North Burgess 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

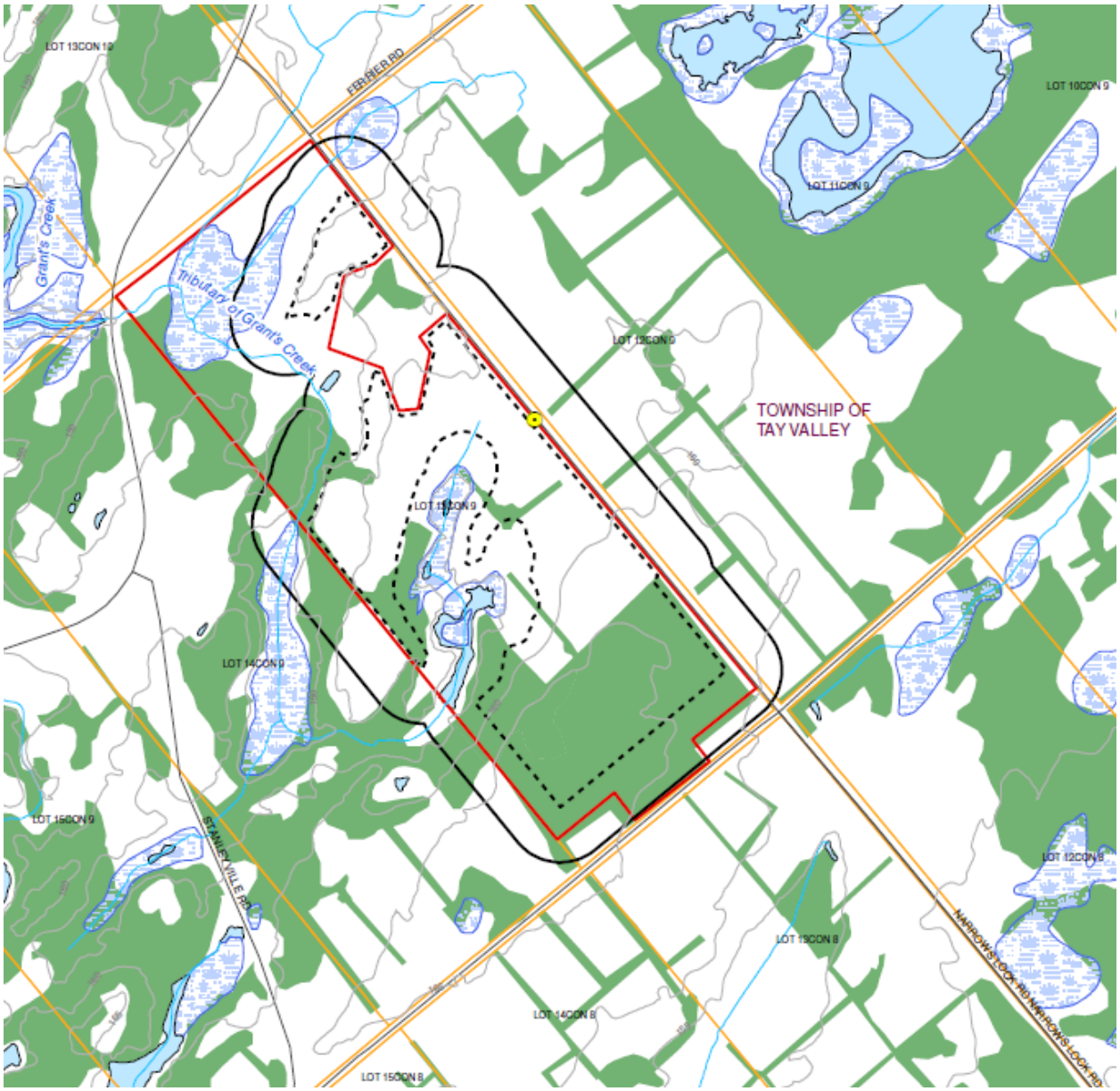
Northland has retained Hatch Ltd. (Hatch) to assist Northland in meeting the REA requirements. Contact information for Hatch is as follows:

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 southwest of the Town of Perth. The Project location is approximately 78 hectares (ha) in size and located on Narrow Locks 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 a member 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 and 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 3 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 direct current (DC) electricity. The DC electricity will be conveyed through underground cabling to an inverter which converts the DC electricity to alternating current (AC) 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 tie-in point is located on Narrow Locks road, east of the Project location of the Project. The construction period is estimated to be approximately 6 to 8 months in duration, with Project commissioning anticipated in Spring 2013.

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 nameplate 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 has been 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 North Burgess Solar Project REA Reports

A brief summary of some of the North Burgess 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.

Environmental Impact Studies have been prepared to identify potential negative environmental effects that all phases of the Project may have on the significant natural features and waterbodies. 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.

A Confirmation Letter from the Ontario Ministry of Natural Resources is included in Appendix O that confirms that the Natural Heritage reports satisfy the REA Regulation criteria.

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

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 identifies mitigation measures the project will incorporate in order to meet MOE requirements.

3. Next Steps

A second Public Meeting will be held for the Project on Tuesday, October 25, 2011 from 5:30 pm to 7:30 pm at the Glen Tay Public School Auditorium, 155 Harper Road, Perth, Ontario. Everyone is welcome to attend this meeting and they are also welcome to ask questions about the Project during this 60-day comment period. 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

Once the comments have been received, a Consultation Report will be prepared to show how those comments have been addressed and included in the design of the Project.

After the second Public Meeting, all the Reports and a REA Application Form will be 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.

Figure 1: Site Layout

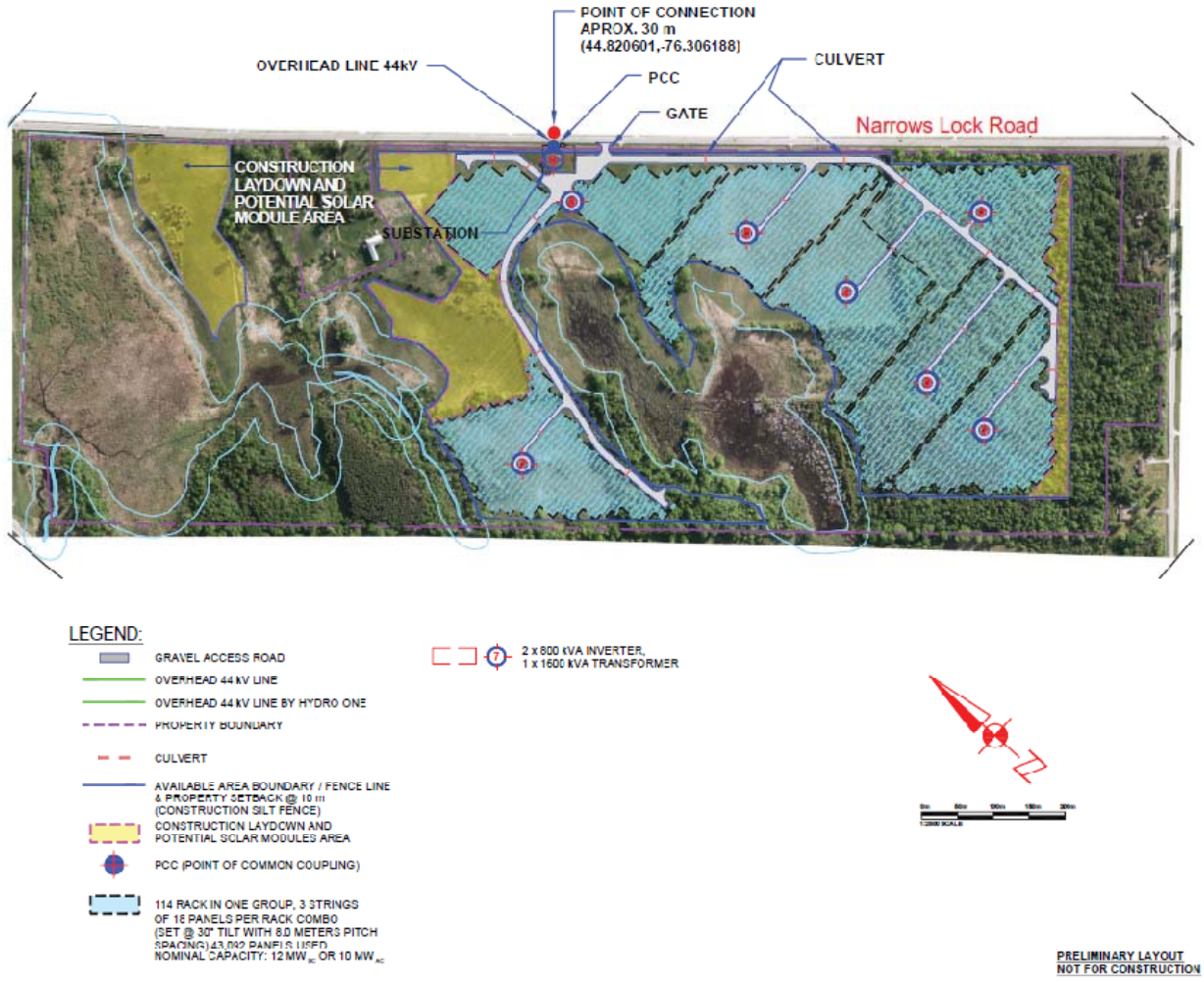


Figure 2: Report Name and Purpose

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 and 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: Letters of Confirmation – Ontario Ministry of Tourism and Culture

Appendix A

Project Description
Report Summary

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Inc. on behalf of Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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 Tay Valley Township. North Burgess Solar Project has entered into a lease agreement with the private landowner for a lease term of 30 years. North Burgess Solar Project 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 (every 2 to 3 months) through the year, with primary activities including inspection the structures, and interconnections. 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 site. The site primarily consists of agricultural land and several woodlands. Tributaries of Grants Creek run through the Project site.

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 woodlands on the Project site
- 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

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Inc. on behalf of Northland Power North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site is approximately 78 hectares (ha) in size and is located on Narrows Lock Road near the intersection with Scotch Line, within the Township of Tay Valley, within Lanark County.

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 7 arrays, each of 1.6 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 Narrows Lock Road, east of the Project location. The Project will connect to a distribution line that Hydro One will extend approximately 30 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 late summer of 2012 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 is forecasted to take place from August to October 2012.

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 is forecasted to take place from September 2012 to February 2013.

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 is forecasted to take place in February 2013.

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 is forecasted to take place in October 2012 and the remaining site restoration is forecasted to be completed in the spring of 2013.

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.	N/A
Vegetation	Removal of vegetation and trees from a 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. A compensation plan will be in place for removed trees.
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.
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, none of which were determined to be of significant interest.	N/A
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

August 25, 2011

Northland Power Inc.
North Burgess Solar Project

Summary

Design and Operation Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario 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 Plan Report for the North Burgess Solar Project.

Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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 7 arrays, each of 1.6 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 Narrows Lock Road, east of the Project location.

2. Facility Components

Facility components 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 7 arrays of photovoltaic modules. Each array has a nominal capacity of 1.6 MW. 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 5.2 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 emergency response and communications procedures.

Appendix D

Decommissioning Plan
Report Summary

August 25, 2011

Northland Power Inc.
North Burgess Solar Project

Summary

Decommissioning Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario 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 North Burgess Solar Project.

Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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 7 arrays, each of 1.6 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 Narrows Lock Road, east of the Project 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 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

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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 site from Ministry of Natural Resources (MNR), federal government, Lanark County, Tay Valley Township and other relevant sources.

2. Results

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

- Tributaries of Grants Creek are present on the Project site.
- There are several woodlands located on and within 120 m of the Project site.
- There are unevaluated wetlands located near the Project Site, within the 120 m of the property boundary.
- There are no ANSIs or valleylands on or within 1 km of the Project Site
- Ranges of several species of conservation concern and area-sensitive species, including species of birds, amphibians, reptiles, and mammals, overlap the Project area and suitable habitat may be found.

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

Determination to be Made	Yes/No	Description
Is the Project in or within 120 m of a provincial park or conservation reserve?	No	The nearest such features are located more than 120 m away from the Project location.
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	There is not an ANSI within 50 m of the Project area.
Is the Project within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	There are wetlands and woodlands 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 site, 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

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Inc. on behalf of Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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 site 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 majority of the Project site is comprised of agricultural lands used for the production of hay. The agricultural fields occur on poorly drained soils and exposed bedrock at the surface was observed along the northern portion of the Project site. The vegetation communities on and within 120 m of the Project site include woodlands, wetlands, cultural hedgerows and plantations.

There were two different types of cultural hedgerow communities identified on the Project site. These included hedgerows commonly found on agricultural fields to separate one piece of land from another and hedgerows that were planted for ornamental purposes. The ornamental hedgerow areas were found near the homestead and agricultural structures along the northeast portion of the Project site.

There were four different woodland plantations identified on and within 120 m of the Project site, while 3 natural woodland communities were identified on and within 120 m of the Project site. the natural woodland communities are comprised primarily of deciduous forest communities, though one of the woodlands includes two areas of coniferous plantation.

There are several wetland communities identified within 120 m of the Project location. These include shallow marshes and thicket swamps

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.

Several candidate significant wildlife habitats were identified on and within 120 mo f the Project location, including:

- raptor winter feeding and roosting
- habitat for area sensitive species (Northern Harrier, American Bittern, White-breasted Nuthatch, Pileated Woodpecker, Veery, Black-and-white Warbler, Ovenbird, Magnolia Warbler and Savannah Sparrow)
- old growth or mature forest stands
- highly diverse areas
- forest providing a high diversity of habitat
- woodlands supporting amphibian breeding pond
- habitat for species of conservation concern (Eastern Wood-Pewee, Brown Thrasher, Savannah Sparrow, Eastern Meadowlark, Field Sparrow, Northern Flicker, Baltimore Oriole, Western Chorus Frog, Milksnake, Eastern Ribbonsnake, Northern Map Turtle, Snapping Turtle, Monarch)
- animal movement corridors

3. Conclusions

Therefore, some components of the Project are located within 120 m of a natural feature (i.e., wildlife habitat, wetlands 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

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Inc. on behalf of Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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:

- Woodlands
- Wetlands
- Wildlife habitat, including:
  - raptor winter feeding and roosting
  - habitat for area sensitive species (Northern Harrier, American Bittern, White-breasted Nuthatch, Pileated Woodpecker, Veery, Black-and-white Warbler, Ovenbird, Magnolia Warbler and Savannah Sparrow)
  - old growth or mature forest stands
  - highly diverse areas
  - forest providing a high diversity of habitat
  - woodlands supporting amphibian breeding pond
  - habitat for species of conservation concern (Eastern Wood-Pewee, Brown Thrasher, Savannah Sparrow, Eastern Meadowlark, Field Sparrow, Northern Flicker, Baltimore Oriole, Western Chorus Frog, Milksnake, Eastern Ribbonsnake, Northern Map Turtle, Snapping Turtle, Monarch)
  - animal movement corridors

2. Results

2.1 Wildlife Habitat

Raptor Winter Feeding and Roosting Habitat

Based on the low relative importance of this site and the abundance of this habitat type within the planning area, this feature was determined to be not significant.

Old Growth/Mature Forest

Therefore, given the presence of an area of old growth forest nearby, the lack of abundant characteristics of old growth forest, and the poor species diversity within the woodland, this mature woodland community is determined to not be significant.

Forest Providing a High Diversity of Habitat

This feature is considered significant as several criteria were met, including size, location, history of forest management, age and condition of trees on site, and provision of significant wildlife habitat.

Highly Diverse Areas

This feature is considered significant as several criteria were met, including natural community diversity, species diversity and size

Woodlands Supporting Amphibian Breeding Habitat

This feature is considered significant as several criteria were met, including degree of permanence, species diversity, size and number of ponds, presence of shrubs, adjacent forest habitat, water quality, and level of disturbance.

Habitat for Northern Harrier, an area-sensitive species

As none of the criteria are met, habitat for Northern Harrier, is not considered to be a significant wildlife feature.

Habitat for Savannah Sparrow, an area-sensitive species

Though one of the criteria is met for Savannah Sparrow, this criteria solely relates to the presence of the species. As suitable habitat is abundant within the area, these lands do not represent significant wildlife habitat for Savannah Sparrow.

Habitat for White-breasted Nuthatch, an area-sensitive species

Though some of the criteria are met, since White-breasted Nuthatch populations are not declining, and the woodland in which they were identified does not contain interior forest, this habitat is not considered to be significant.

Habitat for Pileated Woodpecker, an area-sensitive species

Though some of the criteria are met, since Pileated Woodpecker populations are not declining, and the woodland in which they were identified does not contain interior forest, this habitat is not considered to be significant.

Habitat for Blackburnian Warbler, an area-sensitive species

Though some of the criteria are met, since Blackburnian Warbler populations are not declining, and the woodland in which they were identified does not contain interior forest, this habitat is not considered to be significant.

Habitat for American Redstart/Veery/Ovenbird/Black-and-white Warbler/Magnolia Warbler, an area-sensitive species

Though some of the criteria were met, the woodland does not contain the minimum amount of interior forest for significant area-sensitive breeding bird habitat and therefore this feature is not significant.

Habitat for American Bittern, an area-sensitive species

Habitat for American Bittern is not considered to be a significant wildlife feature given that the species is not declining and suitable habitat is abundant in the area.

Habitat for Monarch, a Species of Conservation Concern

Based on the abundance of Milkweed within the province and local area, and presence of invasive species within the habitat, there is no significant habitat for Monarch found on or within 120 m of the Project location

Habitat for Northern Flicker, a Species of Conservation Concern

Given the small size of populations on or within 120 m of the Project location and the abundance of suitable breeding habitat within the region, this habitat type is not considered to meet the criteria for significance.

Habitat for Baltimore Oriole, a Species of Conservation Concern

Given the small size of populations on or within 120 m of the Project location and the abundance of suitable breeding habitat within the region, this habitat type is not considered to meet the criteria for significance.

Habitat for Eastern Wood Pewee, a Species of Conservation Concern

Given that the species is not a rare species, that the site represents a small portion of the available habitat, and that a small number of individuals were recorded, this is determined to not be significant habitat.

Habitat for Brown Thrasher, a Species of Conservation Concern

Given that the species is common, the small amount of habitat present, and only one individual being observed, this is determined to not be significant habitat.

Habitat for Eastern Meadowlark, a Species of Conservation Concern

Given that the species is common, that the site represents a small portion of the available habitat and that habitat on the Project location at present is poor, this is determined to not be significant habitat.

Habitat for Field Sparrow, a Species of Conservation Concern

Given that the species is common, that the site represents a small portion of the available habitat and that habitat on the Project location at present is poor, this is determined to not be significant habitat.

Habitat for Savannah Sparrow, a Species of Conservation Concern

Given that the species is common, that the site represents a small portion of the available habitat and that habitat on the Project location at present is poor, this is determined to not be significant habitat.

Habitat for Western Chorus Frog, a Species of Conservation Concern

Given the documented use of the habitat and declines in the species, the wetland communities are considered to be significant breeding habitat.

Habitat for Milksnake, a Species of Conservation Concern

Given that Milksnake are habitat generalists, the entire Project site 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 Eastern Ribbonsnake/Northern Map Turtle/Snapping Turtle, Species of Conservation Concern

Suitable habitat was noted within the wetlands located within 120 m of the Project site. While no occurrences of these species was recorded during the site investigations, as these species are identified as Special Concern species, the wetlands will be treated as significant wildlife habitat.

Animal Movement Corridors

Significant animal movement corridors were determined to be present in both the woodland communities and wetland/watercourse communities.

2.2 Wetlands

Natural Resources Solutions Inc. (NRSI) completed the wetland evaluations on the unevaluated wetlands on and within 120 m of the Project site. The results of the evaluation determined that the wetland communities are assumed to be provincially significant.

2.3 Woodlands

The evaluation of the woodlands on the Project location determined that Woodland 3 is significant for water protection, linkages and portions of old-growth forest.

3. Conclusions

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

Therefore, of the natural heritage features evaluated, the wildlife habitat features, woodlands and wetlands will require an Environmental Impact Study as per Section 38 of the REA Regulation.

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

Natural Feature		Project Site	Adjacent Lands (within 120 m)	Notes
SIGNIFICANT	Wildlife Habitat	Yes	Yes	The agricultural land and wetlandss on the Project site is identified as significant wildlife habitat features. The watercourses crossing the Project site are identified as a significant animal movement corridor.
	Valleyland	No	No	
	Woodland	Yes	Yes	
PROVINCIALLY SIGNIFICANT	Wetland	No	Yes (assumed)	
	Earth Science ANSI	No	No	
	Life Science ANSI	No	No	

Appendix H

Natural Heritage Environmental Impact Study Summary

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Inc. on behalf of Northland Power North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site is approximately 78 hectares (ha) in size and is located on Narrows Lock Road near the intersection with Scotch Line, within the Township of Tay Valley, within Lanark County.

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 were classified as significant are significant wildlife habitat that included

- all lands on and within 120 m of the Project location as significant habitat for Milksnake, a species of conservation concern, and as highly diverse areas
- wetlands/watercourse within 120 m of the Project location as a significant animal movement corridor and significant habitat for Western Chorus Frog, Eastern Ribbonsnake, Northern Map Turtle, and Snapping Turtle (species of conservation concern)
- wetland complexes within 120 m of the Project location as significant amphibian breeding habitat
- woodland on and within 120 m of the Project location as forest providing a high diversity of habitat
- all woodlands on the western and southern portion of the Project location, in conjunction with woodlands west of the Project location, as a significant animal movement corridor and significant woodland

- wetland areas are assumed to be provincially significant wetlands.

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 woodland	Work areas will be clearly flagged and trees will be felled into cleared areas. No woodland clearing will occur within 30 m of the high water mark of watercourses or wetland communities, and an animal movement corridor will be maintained around the site. Compensation planting will occur, and a shelter belt will be planted. The remnant woodland will maintain significant characteristics. There will be no construction within 5m of the wetland areas within agricultural areas.
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 storm water flow pattern. Discing or other soil loosening methods will be used on compacted areas. Long-term ground cover will be planted
Operations	Vegetation management within 30 m of watercourses/wetlands may impact wildlife species	Vegetation management within 30 m of watercourses/wetlands to occur in late fall to minimize impacts on wildlife species
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 storm water 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/ Operations/	Potential for incidental take of wildlife species	No clearing within bird breeding season wherever possible. Speeds on access roads to

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Decommissioning		be restricted. Daily visual monitoring of work areas for wildlife species; any wildlife species to be removed in accordance with protocols.
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; therefore, no mitigation required

Table 4.1 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

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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, Lanark County, Tay Valley Township and other relevant sources.

2. Results

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

- four watercourses are identified within 120 m of the Project location
- all form the drainage network for one main tributary of Grant's Creek, draining into Grant's Creek approximately 350 m downstream (i.e., north) of the Project location
- Tributary B, flows south before draining into the tributary of Grant's Creek (Tributary A) approximately 300 m west of the Project
- Two of the tributaries of Grant's Creek (Tributaries C and D) drain into Tributary A within 120 m of the Project site
- Rideau Valley Conservation Authority (RVCA) did not identify any Regulated Areas (e.g., Flood or Erosion Hazard zones) within the Project site

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 will not be situated within 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 lakes are present within 120 m of the Project site.
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 at or above development capacity are present within 300 m of the Project site.
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	There are watercourses on and within 120 m of the Project site.
Is the Project within 120 m of a seepage area?	No	No seepage areas are present within the Project area.

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 in the Project area, (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

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Inc. on behalf of Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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 site 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 site. They are described as follows:

Tributary A

- tributaries B, C and D all drain into it
- flows in a north easterly direction through the northwest corner of the Project site, before draining into Grant's Creek approximately 350 m downstream from the Project site boundary
- tributary A runs through several wooded areas and a large open wetland immediately adjacent to the western Project boundary
- enters a wooded area on the Project site and flows for approximately 300 m before emerging into an open wetland with a large online pond, created by a beaver dam across the tributary
- flowing out of the pond, Tributary A flows into an expansive marsh
- tributary A flows for approximately 150 m, crossing Scotch Line and discharging into the low-lying wetland areas around its mouth on Grant's Creek

- confirmed that Tributary A is a permanent stream, comprised predominantly of wetlands on the Project site, therefore an Environmental Impact Study (EIS) will be required to assess the potential for adverse effects and mitigation measures required to prevent/minimize these adverse effects

Tributary B

- originates in the mid-portion of the Project site and flows in a southerly direction for approximately 500 m before flowing off the Project site
- turns west and flows through a wooded area before draining into Tributary A, approximately 360 m west of the Project boundary
- originates the open fields on the Project site
- upstream-most approximately 100 m of the tributary are identified as a grassed waterway
- grassed waterway discharges to a relatively open wetland, consisting of a series of open water ponds, joined by short reaches through wet meadow and shrub thicket wetlands
- tributary B is likely a permanent watercourse, therefore an EIS will be required to assess the potential for adverse effects and mitigation measures required to prevent/minimize these adverse effects

Tributary C

- approximately 450 m east of the northern portion of the Project site
- through the adjacent agricultural fields and narrow wooded corridors, beneath Narrows Lock Road and onto the northeastern corner of the Project site, where it enters the shrub thicket and cattail marsh wetland adjacent to Tributary A
- tributary C appears to be an intermittent watercourse, therefore an EIS will be required to assess the potential for adverse effects and mitigation measures required to prevent/minimize these adverse effects

Tributary D

- originates in a series of wetlands >2 km west of the Project site and flows in a general westerly direction before entering the northern-most portion of the Project site to drain into the cattail marsh surrounding Tributary A
- due to the distance from the Project boundary an EIS is not required, however, mitigation for Tributary A and C will also protect Tributary D

3. Conclusions

Based on the results of the site investigation discussed above, there are no corrections to the results of the Water Body Records Review.

Based on the results of the site investigation and the proposed Project footprint, some components of the facility will be located between 30 and 120 m of Tributaries A, B and C. Therefore, an EIS will be required.

Appendix K

Water Body
Environmental Impact Study
Summary

August 25, 2011

Northland Power Inc.
North Burgess 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 North Burgess Solar Project.

Northland Power Inc. on behalf of Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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 three tributaries of Grant's Creek.

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 storm water 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	Storm water 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
Groundwater		

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
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

August 25, 2011

Northland Power Inc.
North Burgess 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 Archaeological Research Associates for the North Burgess Solar Project.

Northland Power Inc. on behalf of Northland Power North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site is approximately 78 hectares (ha) in size and is located on Narrows Lock Road near the intersection with Scotch Line, within the Township of Tay Valley, within Lanark County.

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 North Burgess 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 North Burgess 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 North Burgess 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 previously landowner contacted Hatch Ltd. to inform them of an unregistered burial location on the Project site. A potential grave mark was found, and the information and photographs were sent to the previous landowner for verification. The Registrar of Cemeteries has been notified and is working with the client to ensure that the burial is surveyed and receives the appropriate buffer and is officially registered as a cemetery. Three findspots were also identified on the Project site, two of which warranted additional study which determined that these findspots were not significant archaeological resources and warranted no further investigations.

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. Discussion with the Registrar of Cemeteries is currently underway with regards to the unregistered burial location.

Appendix M

Noise Study Report
Summary

August 25, 2011

Northland Power Inc

North Burgess Solar Project

Summary

Noise Assessment Report

1. Introduction

This report presents the results of the noise assessment study for the North Burgess Solar Project, required under Regulation 359/09 as part of the Renewable Energy Approval Process (REA).

Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

This Noise Impact Assessment has been prepared based on the document entitled "Basic Comprehensive Certificates of Approval (Air) – User Guide" by the Ontario Ministry of the Environment (MOE), which requires that the sound pressure levels at the points of reception (POR) are estimated using ISO 9613-2. The performance limits used for verification of compliance correspond to the values for Class 3 areas (45 dBA for day time, 40 dBA for night time) as established by MOE.

2. Results

- The main sources of noise from the Project will be seven inverter clusters, each one containing two inverters and one medium-voltage transformer, and a substation containing the main step-up transformer.
- The Project will be located in a Class 3 Area. Class 3 area means a rural area with an acoustical environment that is dominated by natural sounds, having little or no traffic, such as an agricultural area.
- Seven inverter clusters will be installed as part of the Project. Each cluster comprises of two SMA Sunny Central 800CP inverters and one medium voltage transformer. A 1.6-MVA transformer used to step-up the 360-V power from the inverters to 27.6-kV will be located in proximity to the inverters. One 10-MVA/44-kV substation transformer will step-up the 27.6kV power collected from the inverter clusters to 44-kV prior to being sent to the existing local distribution line. Since the transformer make and model have not been selected at this point, the sound power levels resulting from the operation of the transformer were evaluated using data from NEMA TR 1-1993

- At night time the facility will not operate. Under these conditions the inverters do not produce noise. The transformers (at the substation and clusters) are energized and make some magnetostrictive noise at a reduced level, but no cooling fans are in operation.
- The sound pressure levels at the points of reception have been estimated using the CADNA-A model, based on ISO 9613-2. The performance limits used for comparison correspond to Class 3 areas, with 45-dBA during day time (7:00 a.m. to 7:00 p.m.) and 40-dBA during night time. It has been determined that no mitigation measures are needed for the Project operation.

3. Conclusions

Based on the results obtained in this study, it is concluded that the sound pressure levels at the POR, will be below MOE requirements for Class 3 areas at night time (40 dBA), and well below the limits at day time (45 dBA).

Appendix N

Protected Properties and Heritage Resource Information

Project Report

August 25, 2011

Northland Power Solar North Burgess L.P.
North Burgess Solar Project

Protected Properties and Heritage Resources

Table of Contents

1. Introduction 3

1.1 Project Description 3
1.2 REA Legislative Requirements 3

2. Protected Properties 4

3. Heritage Assessment 7

4. Conclusion 11

1. Introduction

1.1 Project Description

Northland Power Solar North Burgess L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled North Burgess Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 85 hectares (ha) of land, located in Tay Valley Township, within Lanark County.

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.

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: North Burgess
Address: longitude & latitude: 44.825956 & -76.312777
Township and County: Township of Tay Valley, within Lanark County

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	The MCL Ontario Heritage Properties Database includes properties designated under Part IV

	entered into under section 37 of the *Ontario Heritage Act*.	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.

3. Heritage Assessment

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

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: North Burgess
Address: longitude & latitude: 44.825956 & -76.312777
Township and County: Township of Tay Valley, within Lanark County

Step 1 – Screening Potential Resources			
		Built heritage resources	**Comments**
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.
	√	Residential structures (e.g. house, apartment building, trap line shelter)	Several residences located within 300m of Project Property.
	√	Agriculture (e.g. barns, outbuildings, silos, windmills)	Barns located within 300m East, Northeast and Southeast of Project Property.
	√	Industrial (e.g. factories, complexes)	
	√	Engineering works (e.g. bridges, roads, water/sewer systems)	Project Property is bordered by Ferrier Rd. (N), Narrows Lock Rd. (E), and Stanley Rd. (S), and Scotch Ln. runs through 300m border.
	√	**Cultural heritage landscapes**	
Yes	**No**	Does the property contain landscapes such as:	
√		Burial sites and/or cemeteries	An unregistered burial site for past landowner was found on the Project Property, outside of the Project location. This location is being registered and will be protected from present and future development.
	√	Parks	
	√	Quarries or mining operations	
	√	Canals	Project Property includes wetland areas and watercourses; these features are not on the Project location.
	√	Other human-made alterations to the natural landscape	

Step 2 – Screening Potential Significance			
Yes	**No**	**A property's heritage significance may be identified**	**Reference**

		through the following:	According to the MCL Ontario Heritage Properties Database there are no heritage properties located within or in the vicinity of the Project Property. (Website search: 26May10)
	√	1. Is it designated or adjacent to a property designated under the Ontario Heritage Act?	See general comment above.
	√	2. Is it listed on the municipal heritage register or provincial register (e.g. Ontario Heritage Bridge List)?	See general comment 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 26May10 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. (or within the Township of Tay Valley) In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 26May10)
	√	5. Is there a provincial or federal plaque?	There are no provincial plaques located in the Township of Tay Valley, or in the vicinity of the Project property. (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 26May10) In addition, no sites within the vicinity of the Project, or within the Township of Tay Valley are listed on the Canadian Register of Historic Places (Research completed 26May10 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?	
	√	Were any concerns expressed?	
		9. What are the dates of construction?	N/A
	√	Are the buildings and/or structures over 40 years old?	
	√	Is it within a Canadian Heritage River watershed?	
		10. Is a renowned architect or builder associated with the property?	

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.	Though there are no known archaeological resources, there may be a reduction in soil quality/loss of soils as a result of accidental spills, erosion, soil compaction during construction. Also, surface water quality of two tributaries of Grants Creek could be impaired due to contamination from accidental spills or increased turbidity due to erosion during construction. Excavations may result in a decrease in the local availability of groundwater due to dewatering. In addition, groundwater may also be impaired by contamination due to accidental spills, or changes in ground water recharge.

Contents of a Heritage Impact Assessment

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

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.

Appendix O

Letter of Confirmation –
Ontario Ministry of Natural Resources

Ministry of Natural Resources

Kemptville District

10 Campus Drive
Postal Bag 2002
Kemptville, ON K0G 1J0
Tel: 613-258-8204
Fax: 613-258-3920

Ministère des Richesses naturelles

District de Kemptville

10 Dr. Campus
Sac Postal, 2002
Kemptville, ON K0G 1J0
Tél.: 613-258-8204
Téléc.: 613-258-3920

Ontario

August 19, 2011

Sean Male
Hatch
Environmental Assessment & Management
Niagara Falls, Ontario

To 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 North Burgess Solar Project in the Township of Tay Valley submitted by Northland Power Inc.

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 (if required).
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.

In accordance with Section 28(3)(c) and 38(2)(c), MNR also offers the following comments in respect of the project:

- The MNR understands that the County of Lanark has a municipal tree cutting by-law which is applicable to your project. The woodland clearing and associated mitigation and compensation measures proposed in the Environmental Impact Study of the NHA is contingent upon these approvals being granted from the municipality. If you are unable to obtain approval from the municipality under their tree cutting by-law and revise your

project location and/or Environmental Impact Study, you may require further correspondence with 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.

Please be aware that your project may be subject to additional legislative approvals as outlined in the Ministry of Natural Resources' *Approvals and Permitting Requirements Document.* These approvals are required prior to the construction of your renewable energy facility.

If you wish to discuss any part of this confirmation or additional comments provided, please contact Heather Zurbrigg, Renewable Energy Planning Ecologist at heather.zurbrigg@ontario.ca or at (613)-258-8366.

Sincerely,

Jim Fraser
for
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, Bureau 1700
Toronto, ON M7A 0A7
Téléphone: (416)-314-7691
Télécopieur: 416- 314-7175
Email : Ian.Hember@ontario.ca

Ontario

February 1, 2011

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

RE: North Burgess Solar Project, Part Lot 13, Concession 9, Township of North Burgess, Lanark County, FIT-F0HJPWL, MTC File HD00522, PIF P007-244-2010

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 recommends the following:

The Stage 2 archaeological assessment of the study area identified three findspots yielding archaeological materials, along with the probable location of an unregistered burial. The latter is being dealt with according to the provisions of the Ontario Cemeteries Act. It will be registered as a cemetery, buffered, and protected from impacts in accordance with the terms of the Act.

Of the archaeological sites, only Findspot 1 and 2 were initially found to have potential CHVI (cultural heritage value or interest). After consultation with the Ministry of Tourism and Culture and the Proponent, ARA carried out additional investigations at these findspots. At each location, no materials indicating CHVI for the findspot were recovered. Findspot 3, a capped stone well, appears to be associated with a historic site that lies outside of the project lands. It yielded no artifacts and appears to be of limited CHVI.

Based on the results of this Stage 1 and 2 archaeological assessment, Archaeological Research Associates Ltd. feels that no further archaeological study of the subject lands would be productive. It is recommended that the project, excluding the cemetery and its buffer, be released from further heritage concerns. A Letter of Concurrence with these recommendations is requested.

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 Licensing 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.