HATCH™

Axio Power Canada Inc./
SunEdison Canada

Executive Summary

For

Norfolk Bloomsburg TS Solar Energy Project

H335467
Rev. 0
November 25, 2011

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November 25, 2011

Axio Power Canada Inc./SunEdison Canada
Norfolk Bloomsburg TS - Solar Energy Project

Executive Summary

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List of Acronyms used in this Summary

AC: alternating current

ANSI: Areas of Natural and Scientific Interest

Axio/SunEdison: Axio Power Canada Inc./SunEdison Canada

CPR: Construction Plan Report

dBA: weighted decibels are abbreviated dBA

DOR: Design and Operation Report

DC: direct current

DPR: Decommissioning Plan Report

ECT: Economic Connections Test

FIT: Feed-in-Tariff

ha: hectare

Hatch: Hatch Ltd.

ISO: International Standard Association

kg: kilogram

km: kilometre

kV: kilovolt

kW: kilowatt

m: meter

MCL: Ontario Ministry of Culture

mm: millimetre

MNR: Ontario Ministry of Natural Resources

MOE: Ontario Ministry of the Environment

MTC: Ontario Ministry of Tourism and Culture

MVA: megavolt-ampere

MW: megawatt

NEMA: National Electrical Manufacturers Association

OBM: Ontario Base Map

OPA: Ontario Power Authority

O.Reg: Ontario Regulation

PDR: Project Description Report

POR: Points of Reception

Project: Norfolk Bloomsburg TS Solar Energy Project

PV: photovoltaic

REA: Renewable Energy Approval

REA Regulation: Ontario Regulation 359/09 – Renewable Energy Approvals

RESOP: Ontario Renewable Energy Standard Offer Program

W: watt

1. Introduction

1.1 General

Axio Power Canada Inc./SunEdison Canada ("Axio/SunEdison") is proposing to develop a 10 megawatt (MW) solar photovoltaic (PV) project titled Norfolk Bloomsburg TS Solar Energy Project (herein after called the "Project"). As required, Axio/SunEdison has completed the necessary requirements of the Renewable Energy Approval (REA) process as described in Ontario Regulation (O. Reg.) 359/09 under the *Environmental Protection Act* (herein referred to as the REA Regulation), as amended by O. Reg. 521/10, which came in effect as of January 1, 2011.

The Project Location[1] is situated on approximately 29 hectares (ha) of land on Part of Lots 3 and 4, Concession 12, Norfolk County (single tier municipality).

Axio/SunEdison is the proponent of the Project. The contact information is as follows:

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Director of Development
SunEdison Canada
945 Princess Street, Suite 252
Kingston, ON, K7L 3N6

Tel: 613-545-0215
Fax: 613-545-0692
Email: rmiller@sunedison.com

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

Bruce G. Bennett, M.Sc., P.Geo.
Project Manager
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON, L2E 7J7

Tel: 905-357-6988
Fax: 905-374-1157
Email: bbennett@hatch.ca

[1] "Project Location means, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposed to engage in the project" (O. Reg. 359/09, s. 1 (1)).

1.2 Renewable Energy Approval Legislative Requirements

O. Reg. 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, came into force on September 24, 2009 and identifies the REA requirements for green energy projects in Ontario. The REA Regulation has since been amended by O. Reg. 521/10, which came in effect as of January 1, 2011. In accordance with Part II, Section 4 of the REA Regulation, an REA is required for Class 3 ground-mounted solar facilities with a name plate capacity greater than 12 kilowatts (kW).

The REA Regulation details the required activities and reports to be completed and submitted to the Ontario Ministry of the Environment (MOE) in order to obtain the REA. These activities include Aboriginal, public, municipal and agency consultation in order to provide information on the Project to these groups and obtain feedback. All consultations and activities completed to date have been documented in the *Draft Consultation Report,* which will be submitted to the MOE as part of the REA application.

In accordance with the REA Regulation, the following reports have been prepared, including:

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

Pursuant to sections 16, 17 and 18 of the REA Regulation, these draft documents are to be respectively made available to the Aboriginal communities and to each local and upper-tier municipality greater than 60 days before the final Public Meeting and to the public at least 60 days before the final Public Meeting. Additionally, each local and upper-tier municipality must receive a copy of the MOE's Municipal Consultation Form at least 90 days before the final Public Meeting. A summary of each document must also be prepared and sent to the Aboriginal communities.

In addition, a Letter of Confirmation obtained from the Ontario Ministry of Natural Resources (MNR) based on their review of the *Natural Heritage Assessment Reports* and a Letter of Confirmation obtained from the Ontario Ministry of Tourism and Culture (MTC) based on their review of the *Stage 1 and 2 Archaeological Assessment Report* are included herein.

Also, as per sections 19 and 20 of the REA Regulation, a determination was made as to whether or not there are any protected properties (e.g. a property designated under *the Ontario Heritage Act*) or heritage resources located on the Project Location and whether a heritage assessment is required.

Although not strictly required under the REA Regulation, the following additional reports prepared by the Proponent have also been included with this submission:

- Geotechnical Investigation Report
- Storm Water Management Study Report
- Traffic Impact Study Report
- Reflectivity Study Report
- Phase I Environmental Site Assessment Report
- Groundwater Monitoring Scoping Report.

This Executive Summary Report and its supporting appendices have been prepared to meet the aforementioned requirements of the REA Regulation.

2. Project Information

2.1 Project Proponent

Axio was a privately held utility-scale solar PV project development company founded in 2007. Axio was awarded 90 MW of contracts for the delivery of solar power through the Ontario Power Authority (OPA) Feed-in-Tariff (FIT) Program in April 2010. Axio Power Canada Inc. was acquired by SunEdison Canada on June 1, 2011, and all project proponent references to Axio now include SunEdison. More information about Axio can be found at www.axiopower.ca.

SunEdison is a global provider of solar energy services. The company develops, finances, installs and operates distributed power plants using proven photovoltaic technologies, delivering fully managed solar energy services for its commercial, government and utility customers. SunEdison built and operates Canada's first utility scale solar farm, First Light 1, located in Stone Mills near Napanee, Ontario. SunEdison currently operates three other utility scale solar farms in Ontario and has more than 140 MW of future projects under development. In 2010, SunEdison deployed more than 160 MW of solar throughout the world. For more information about SunEdison, please visit www.sunedison.ca.

2.2 Project Description

The Project is proposed to be constructed on privately owned land consisting of agricultural crop lands. The Project itself is located on approximately 29 ha of land on Part of Lots 3 and 4, Concession 12, Norfolk County (single tier municipality).

The proposed Project is a renewable energy generation facility which will use solar PV technology to generate electricity. Electricity generated by solar PV panels will be converted from direct current (DC) to alternating current (AC) by inverters, and subsequently stepped-up (via pad-mounted transformers) to a voltage of 27.6 kilovolts (kV) prior to being connected to the existing local distribution line. In order to meet the OPA's FIT Program requirements, a specific percentage of equipment will be manufactured in Ontario.

The construction of the Project will begin once the REA has been obtained and a power purchase agreement is finalized with the OPA. The construction period is estimated to be approximately eight months. Operationally, the lifespan of the Project will be at least 20 years, which can be extended up to 30 years or more with proper maintenance, component replacement and repowering.

2.3 Project Components

A conceptualized depiction of the Project including the Project Location boundaries, existing local roads, topographic contours, existing transmission lines, land uses, significant natural features and waterbodies on and within 300 meters (m) of the Project Location is provided in Figure 2.1. Also depicted are the Project components including the construction laydown area, access roads, solar PV module arrays, inverter/transformer clusters, switch house yard, and the connecting transmission line. Setback distances from identified significant natural features and waterbodies are also shown.

The main components of the Project will be the following:

- Approximately 45,320 solar PV modules, each 265 to 295 watts (W). The module's dimensions are approximately 1980 mm long by 990 mm wide by 50 mm thick, and each weighs about 23 kilograms (kg).
- Twenty 500 kW AC inverters that will convert the direct current supplied by the PV modules to alternating current. Ten pad-mounted 1 Megavolt-ampere (MVA) three-phase, liquid-filled transformers that will 'step up' the voltage to 27.6 kV. Each inverter/transformer cluster will consist of a pair of 500 kW inverters and a single 1MVA transformer in one of ten building enclosures to protect the equipment from the weather and to reduce noise emissions.
- A gravel switch house yard that will house the switchgear, control and monitoring equipment and the communications tower.
- A paved site entrance road and several gravel interior access roads.
- A galvanized chain link fence around the perimeter of the Project Location and a gated entrance.
- A temporary laydown / staging area to be used for construction trailers, material and equipment storage and vehicle parking during construction of the Project.
- A surface water drainage system comprised of grassed swales, roadside ditches and culverts.

2.4 Project Benefits

2.4.1 Green Energy Act & Feed-in-Tariff Program

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

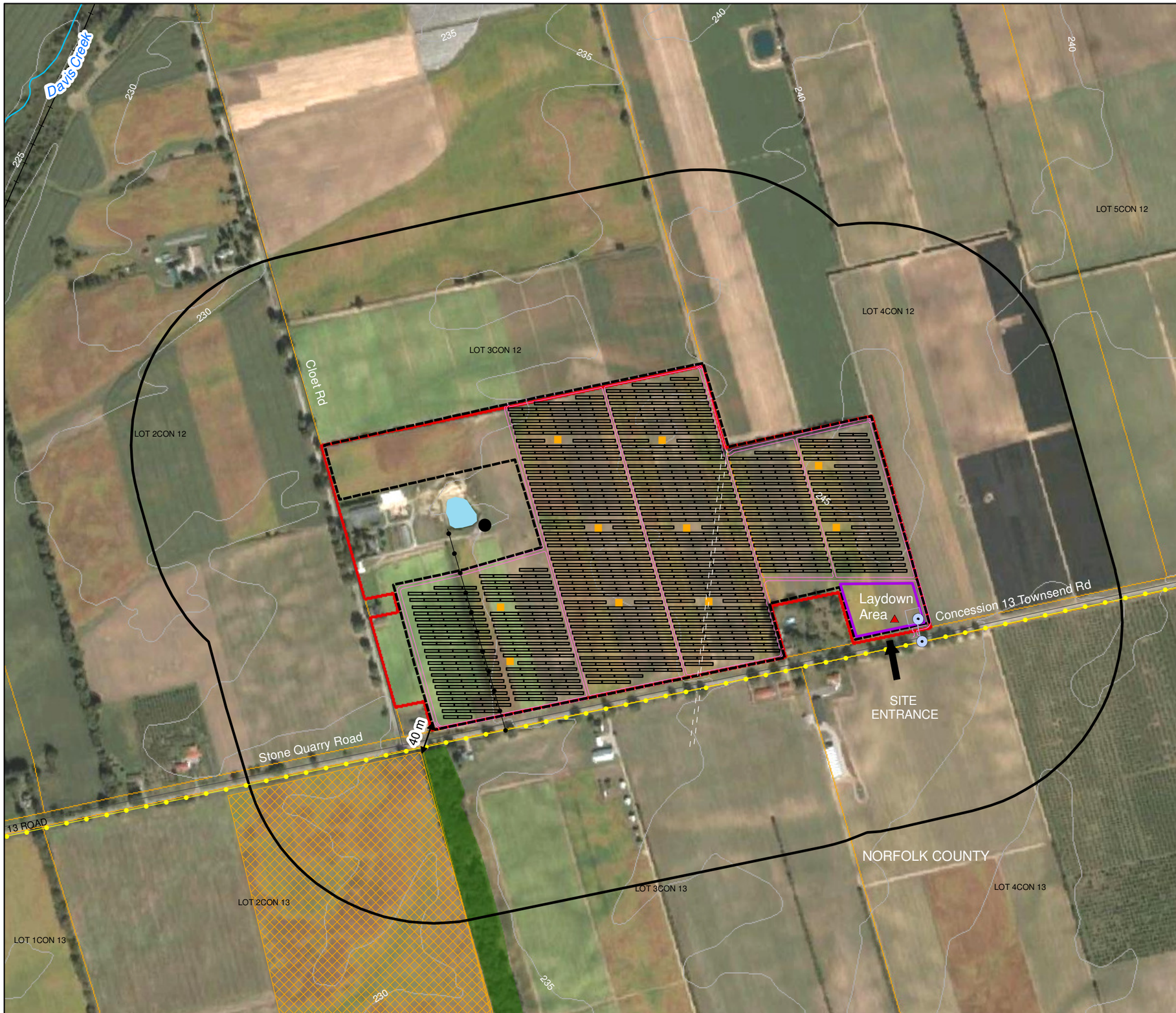
- Spark growth in clean and renewable sources of energy such as solar, wind, hydro, biomass and biogas in Ontario.
- Create the potential for savings and better managed household energy expenditures through a series of conservation measures.
- Create 50,000 jobs for Ontarians in its first three years.

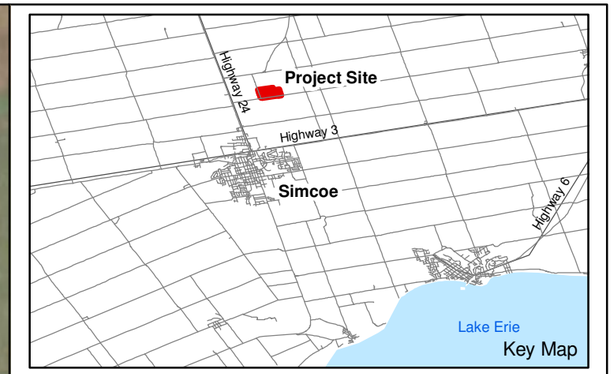
The enactment of the *Green Energy and Green Economy Act* enabled the creation of the FIT Program, which was launched on October 1, 2009. The FIT Program is implemented to encourage use of renewable energy sources, create new jobs, boost economic activity and further the development of renewable energy technology and expertise in Ontario, while helping to phase out coal-fired electricity generation by 2014. The OPA awarded 184 FIT contracts to renewable power developers in Ontario on April 8, 2010.

2.4.2 *Advantages of Solar Energy*

Solar power has a multitude of advantages compared to fossil fuel powered energy plants that include:

- ***Zero Emissions Energy*** – Solar energy is clean, zero emissions renewable energy resource that the Ontario Government is investing in to eliminate coal-fired generation and help mitigate climate change.
- ***Low Impact*** – Unlike many forms of traditional power generation, solar facilities have a minimal impact on the land because there are no permanent structures left on-site after decommissioning. Preferred sites are already disturbed or industrial lands, or agricultural lands with poor soil types. Further, soil conditions are not affected, and could improve over time. Drainage is managed on the site to maintain previous natural flows and minimize erosion.
- ***Renewable*** – Solar energy decreases Ontario's reliance on fossil fuels and foreign oil, and delivers a renewable and entirely locally-produced source of energy, promising a more sustainable future for future generations.
- ***Friendly Neighbour*** – Solar projects have a minimal visual impact as they have a low vertical profile, especially compared to other renewable energy sources such as wind. The visual impact of solar facilities can further be minimized by thick vegetative barriers. Existing vegetation on the site is preserved where possible and utilized as a visual barrier.
- ***Immediate Job Creation*** – For each 10 MW project developed, considerable benefits will be derived locally during the project construction, which typically extends between six to eight months. In response to aggressive domestic content regulations, the vast majority of materials, supplies, and labour will be sourced locally (i.e. mechanical, electrical, and civil contractors).
- ***Lasting Impact*** – When in service, one to two permanent jobs will be created for the 20 year operating period of the Project and it will contribute to municipal tax revenues. The many solar projects that are being developed because of Ontario's Innovative FIT Program have captured worldwide interest. They will contribute to Ontario's Renewable Energy Targets and create a market for solar energy products and services in Ontario that will continue to have a lasting economic impact on the province.





LEGEND

Existing Features

- Rogers Cell Tower (328 m)
- Road
- Topographic Contour (5 m interval)
- Transmission Line
- Non-operational Bell Cable (To be Removed)
- Hydro Line (To be Relocated)
- Watercourse
- Dugout Pond
- Parcel
- 300 m from Project Location
- Project Location
- Project Site

Significant Natural Features / Significant Wildlife Habitat

- Tallgrass Prairie / Significant Wildlife Habitat (Area-sensitive Grassland Bird Species / Species of Conservation Concern)
- Significant Woodland / Significant Wildlife Habitat (Forest Bird Species of Conservation Concern)

Proposed Project Components

- Communication Tower
- Inverter
- Switch House
- Connection Point
- Panel Layout
- Access Roads
- Fence
- Transmission Line
- Laydown Area

Notes:
1. OBM and NRVIS data downloaded from LIO, with permission.
2. Spatial Referencing UTM NAD 83, August 2010.
3. Satellite imagery from Google Earth Pro, April 2009.

0 50 100 200 300 Metres

NORTH

Scale 1:6,000

Figure 2.1

Axio Power Canada Inc./SunEdison Canada

Norfolk Bloomsburg TS
Site Layout Plan

HATCH™

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3. Brief Summary of the REA Reports

A list of the mandatory reports that have been prepared as part of the REA application for the Project is provided in Table 3.1. A brief summary of the REA reports is provided below and a more detailed summary of each respective report is provided in the appendices.

The *Project Description Report* (Appendix A) has been prepared to serve as a comprehensive overview document that summarizes all of the important information about the Project. The report describes the Project Location and facility components, the construction, operation and decommissioning activities, potential environmental effects and mitigation measures.

The *Construction Plan Report* (Appendix B), *Design and Operations Report* (Appendix C) and *Decommissioning Plan Report* (Appendix D) have been prepared to describe the proposed Project components (e.g. equipment and materials), activities, potential negative environmental effects and mitigation measures associated with the construction, operation and decommissioning phases of the Project. In addition, these reports provide a communications and an emergency response plan, and environmental effects monitoring plan.

The *Natural Heritage Assessment Reports* (Appendix E, F, G and H) have been prepared to identify potential negative environmental effects the Project may have on existing significant natural features (e.g. wetlands, woodlands, wildlife habitat) on and within 120 m of the Project Location. Where potential negative impacts have been identified, mitigation measures are proposed to prevent these effects from occurring, or in the event that they do occur, to minimize the magnitude, extent, duration and frequency to an acceptable level. These reports were submitted to the MNR Aylmer District Office and a Letter of Confirmation (Appendix N) has been obtained from the MNR confirming their agreement and acceptance of the findings and recommendations of the *Natural Heritage Assessment Reports*.

The *Water Body Assessment Reports* (Appendix I and J) have been prepared to identify potential negative environmental effects the Project may have on existing water body features (e.g. permanent streams, lakes, seepage areas) on or within proximity to the Project Location. Where potential negative impacts have been identified, mitigation measures are proposed to prevent these effects from occurring, or in the event that they do occur, to minimize the magnitude, extent, duration and frequency to an acceptable level.

The *Stage 1 and 2 Archaeological Assessment Report* (Appendix K) was completed by a licensed archaeologist and a report was submitted to the MTC. No archaeological resources were found as part of the Stage 1 and 2 archaeological assessments and the report concluded that the Project Location can be considered free of any archaeological concerns. A Letter of Confirmation (Appendix O) has been obtained from the MTC confirming their agreement and acceptance of the findings and recommendations of the Archaeological Assessments.

Information was obtained and reviewed which confirmed that the Project is not located on a protected property (e.g. cultural heritage property designated under the *Ontario Heritage Act*) as defined in Column 1 of the Table in section 19(1) of O. Reg. 359/09 (Appendix L). In addition, consultation with the municipality and completion of the MTC – *Check Sheet for Environmental Assessments: Screening for Impacts to Built Heritage and Cultural Heritage Landscapes* (Appendix L)

has determined that there is no need to conduct a heritage impact assessment for the Project under section 23 of O. Reg. 359/09.

A *Noise Study Report* (Appendix M) involving acoustical computer modeling simulations of the Project's operation was prepared to identify potential noise effects on nearby noise receptors (e.g., residential homes).

The study confirmed that the acceptable MOE noise level limits will not be exceeded at the locations of the nearest noise receptors.

Based on the findings of the various REA reports, no significant adverse residual environmental effects are expected to occur as a result of the Project construction, operation and decommissioning.

Table 3.1 Project Reports Prepared for REA

Appendix	Report Name	Purpose
A	Project Description Report	Summarizes the Project Location, construction and operational activities, potential environmental effects and mitigation, and social and environmental benefits.
B	Construction Plan Report	Provides details on the construction activities, timelines, materials, temporary uses of land, waste materials generated, potential environmental effects, mitigation and monitoring during construction.
C	Design and Operations Report	Provides the site layout plan, Project components, operations and maintenance activities, communications and emergency response plan, potential environmental effects, mitigation measures and a monitoring plan during operation.
D	Decommissioning Plan Report	Provides the activities to be undertaken during Project decommissioning and site restoration, potential environmental effects and mitigation, and a communications and emergency response plan.
E	Natural Heritage Assessment Records Review Report	Provides information from existing documentation on natural features on and within 120 m of the Project Location including: ANSIs (earth science and life science), valleylands, woodlands, wetlands and wildlife habitat.
F	Natural Heritage Assessment Site Investigation Report	Documents the results of the site investigations to identify and confirm natural features on and within 120 m of the Project Location.
G	Natural Heritage Assessment Evaluation of Significance Report	Evaluates the significance of any natural feature located on and within 120 m of the Project Location.
H	Natural Heritage Assessment Environmental Impact Study Report	Identifies potential negative environmental effects on natural features and proposes mitigation measures as well as monitoring programs to prevent or minimize adverse effects.
I	Water Body Records Review Report	Provides information from existing documentation on water body features on and within 120 m of the Project Location including lakes, permanent and intermittent streams, seepage areas and lake trout lakes (within 300 m of the Project Location).
J	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 Location.
K	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 physical site investigation confirming the archaeological potential.
L	Protected Properties and Heritage Resources Information Summary	Documents the assessment of potential effects on protected properties and heritage resources.
M	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.
N	MNR Letter of Confirmation (Natural Heritage Assessment Reports) – MNR	
O	MTC Letter of Confirmation (Stage 1 and 2 Archaeological Assessment Report) – MTC	

Appendix A

Project Description Report Summary

Appendix A – Project Description Report Summary

Introduction

Table 1 of the REA Regulation requires proponents of Class 3 solar projects to prepare a *Project Description Report* (PDR). The PDR is one of the first Project documents prepared once the REA process commences and serves to provide initial Project information to the public, Aboriginal groups, municipalities and other government agencies. As the REA process progressed, the PDR was updated based on information obtained from various studies and preliminary engineering of the Project. The final version of the PDR serves as a comprehensive overview document that summarizes all of the important information about the Project. This document is a summary of the *Project Description Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Project Overview

The proposed Project is a 10 MW renewable energy generation facility which will use solar PV technology to generate electricity. Electricity generated by solar PV panels will be converted from DC to AC by inverters, prior to being connected to the existing local distribution line.

Project construction will begin once the REA has been obtained and a power purchase agreement is finalized with the OPA. The construction period is estimated to be approximately eight months. Operationally, the lifespan of the Project will be at least 20 years, which can be extended up to 30 years or more with proper maintenance, component replacement and repowering.

The Project Location consists of former agricultural lands and other lands covered by successional vegetation. A significant woodland is present about 40 m southwest of the Project Location. Based on the findings of the various REA reports, there are no wetlands or waterbodies on or within 120 m of the Project Location. There are no protected properties, built heritage or cultural landscapes on or within 120 m of the Project Location. The Stage 1 & 2 Archaeological Assessment did not identify any archaeological resources on or within 120 m of the Project Location.

The Project will operate year-round, generating electricity when sufficient solar irradiation conditions exist. The Project will be operated remotely and does not require a permanent on-site operator. For general monitoring and site maintenance, two facility personnel would be dispatched from a central operations office as needed. Inspection and maintenance activities would be conducted periodically throughout the year, with primary activities including inspection of components and maintenance of ground cover vegetation.

There are no significant hazards involved in the operation of the Project, nor are hazardous materials used on the site, stored on the site or created by the Project during its operation. Project operation will not result in the discharge of contaminants or pollutants to the air, nor will the Project generate significant quantities of waste. The Project will not generate any wastewater (sewage) or discharge any liquid effluent from its operation.

The only noise emissions associated with Project operation will be from the inverters and intermediate transformers, which will only operate during daylight hours. As per the *Noise Study*

Report (Appendix M), noise emissions from Project operation will be within the acceptable MOE noise level limits at the locations of the nearest noise receptors.

Potential Environmental Effects

Based on the findings of the various REA reports, a summary of the potential negative environmental effects associated with the construction, operation and decommissioning phases of the Project are as follows:

- Potential soil erosion and compaction and sedimentation due to construction activities.
- Temporary loss of vegetated lands due to facility installation and operation.
- Disturbances to nearby sensitive receptors (i.e., houses and institutions) due to noise emissions from the inverters and transformers during operation.
- Alteration of wildlife habitat and avoidance of the Project Location by wildlife during construction and decommissioning phases.
- Minor potential of incidental take of wildlife during construction, operation and decommissioning phases.
- Temporary, non-significant increase in local area traffic from construction vehicles and workforce commuters.
- Potential reductions in local air quality from airborne dust generated from construction activities and exhaust emissions from construction vehicles and equipment.
- Alteration to surface drainage conditions and runoff due to facility installation.
- Alteration to visual landscape due to facility installation.

Mitigation measures have been identified to prevent or eliminate the potential negative environmental effects as a result of the Project. Potential effects and mitigation measures were assessed in more detail in other Project reports.

Appendix B

Construction Plan Report Summary

Appendix B – Construction Plan Report Summary

Introduction

Table 1 of the REA Regulation requires proponents of Class 3 solar projects to prepare a *Construction Plan Report* (CPR). The CPR provides details on the construction activities, timelines, materials, temporary uses of land, waste materials generated, environmental effects, mitigation and monitoring during construction. This document is a summary of the *Construction Plan Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Construction

Project construction will begin once the REA has been obtained and a power purchase agreement is finalized with the OPA. The construction period is estimated to be approximately six months. Operationally, the lifespan of the Project will be at least 20 years, which can be extended up to 30 years or more with proper maintenance, component replacement and repowering.

The construction process of the Project consists of four phases:

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

Phase 1 - Site Preparation

Site preparation refers to all necessary activities prior to the construction of foundations, switch house, 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 expected to occur from January to March 2012.

Phase 2 - Construction and Installation

Construction and installation of the facility consists of building foundations, trenches for electrical cabling, structural supports for the solar PV module racks, installation of the solar PV modules on the racks, and installation of the inverters and transformers and associated electrical equipment. This includes the underground and above ground cabling installations within the Project Location and the overhead electrical transmission line from the Project switch house yard to the local distribution line.

The construction and installation is expected to occur from April to September 2012.

Phase 3 – Testing and Commissioning

Testing and commissioning will be performed on the installation prior to start-up and connection to the power grid. The 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 expected to occur in September 2012.

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. Re-vegetation will include planting of native plants and hydro-seeding where required.

The site restoration is expected to occur from September to October 2012.

Environmental Effects Monitoring Plan

Table 5.1 in the *Construction Plan Report* provides a detailed summary of the potential negative environmental effects and proposed mitigation measures to ensure that no significant adverse environmental impacts to the environment will occur as a result of construction of the Project.

Table 5.2 in the *Construction Plan Report* provides the details of the proposed *Environmental Effects Monitoring Plan* that will be implemented for construction 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.

Overall, no significant adverse impacts to the environment are anticipated to occur as a result of construction of the Project.

Appendix C

Design and Operations Report Summary

Appendix C – Design and Operations Report Summary

Introduction

Table 1 of the REA Regulation requires proponents of Class 3 solar projects to prepare a *Design and Operations Report* (DOR). The DOR provides the site layout plan, Project components, operations and maintenance activities, communications and emergency response plan, environmental effects, mitigation measures and a monitoring plan during operation. This document is a summary of the *Design and Operations Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Facility Components

The main components of the Project will include the following:

- Approximately 45,000 solar PV modules, each 265 to 295 watts (W). The module's dimensions are approximately 1980 mm long by 990 mm wide by 50 mm thick, and each weighs about 23 kilograms (kg).
- Twenty 500 kW AC inverters that will convert the direct current supplied by the PV modules to alternating current. Ten pad-mounted 1 Megavolt-ampere (MVA) three-phase, liquid-filled transformers will 'step up' the voltage to 27.6 kV. Each inverter/transformer cluster will consist of a pair of 500 kW inverters and a single 1MVA transformer in one of ten building enclosures to protect the equipment from the weather and to reduce noise emissions.
- A gravel switch house yard that will house the switchgear, control and monitoring equipment.
- A paved site entrance road and several gravel interior access roads.
- A galvanized chain link fence around the perimeter of the Project Location and a gated entrance.
- A temporary laydown / staging area to be used for construction trailers, material and equipment storage and vehicle parking during construction of the Project.
- A surface water drainage system comprised of grassed swales, roadside ditches and culverts.

Facility Operation Plan

The Project will operate year-round and generate electricity during daylight hours. The Project does not require a permanent on-site operator as it will be operated remotely. For general monitoring and maintenance purposes, two local personnel may be hired and will be dispatched from a central operations office as needed. A Project Facility Manager will be responsible for day-to-day management of all Project facilities. Any damage or faults with the PV modules or 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.

There are no significant hazards involved in the operation of the Project, nor are hazardous materials used on the site, stored on the site or created by the Project during its operation. The Project will not generate significant quantities of waste from its operation nor will the Project generate any

wastewater (sewage) or discharge any liquid effluent from its operation. Project operation will not result in the discharge of contaminants or pollutants to the air.

The only noise emissions associated with Project operation will be from the inverters and intermediate transformers, which will only operate during daylight hours. A detailed *Noise Study Report* has confirmed that the acceptable MOE noise level limits will not be exceeded at the locations of the nearest noise receptors.

Inspection and Maintenance

The Project Location grounds including vegetative cover, drainage systems and trees will be monitored and maintained regularly. Vegetation abatement such as grass cutting may be required several times throughout the summer months. No hazardous chemicals would be used for this vegetation control. Any constructed drainage features (e.g. grassed swales, culverts) and any erosion and sediment control measures (e.g. rip rap protection, rock flow checks) will be visually inspected for any signs of erosion or sedimentation and recorded in a log book.

The need to clean the solar PV modules will be determined according to local weather conditions, such as the quantity and frequency of rain and snow at the Project Location. At the very most, it is expected that the modules will require cleaning quarterly, but it is possible that 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 will be used for the cleaning of the modules.

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 stored on site or in the maintenance trucks in the case of a leak.

During winter, Project access roads will be ploughed to clear snow to maintain access of personnel to Project facilities within the site. Under most winter conditions, snow is expected to melt due to the module heating and the tilt of the module. Under some conditions, manual snow removal may be performed by maintenance personnel.

Environmental Effects Monitoring Plan

Table 5.1 in the *Design and Operations Report* provides a detailed summary of the potential negative environmental effects and proposed mitigation measures to ensure that no significant adverse environmental impacts to the environment will occur as a result of operation of the Project.

Table 5.2 in the *Design and Operations Report* provides the details of the proposed *Environmental Effects Monitoring Plan* that will be implemented for operation 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.

Emergency Response Plan

The Project Emergency Response and Communications Plan will be implemented throughout 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 potential emergency scenarios that include fire, personal injury and spills.

All Project personnel will be properly trained in the emergency response and communications procedures set out in the Plan.

Conclusions

No significant adverse impacts to the environment are anticipated to occur as a result of operation of the Project.

Appendix D

Decommissioning Plan Report Summary

Appendix D – Decommissioning Plan Report Summary

Introduction

Table 1 of the REA Regulation requires proponents of Class 3 solar projects to prepare a *Decommissioning Plan Report* (DPR). The DPR describes the activities to be undertaken during Project decommissioning and site restoration, environmental effects and mitigation, and a communications and emergency response plan. This document is a summary of the *Decommissioning Plan Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Two scenarios were taken into consideration for the DPR 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, but are expected to be similar to the former scenario.

Decommissioning Activities

Equipment Dismantling and Removal

All decommissioning of electrical devices, equipment, and wiring/cabling will be in accordance with the standards and guidelines established by local, municipal, provincial and federal agencies. Any electrical decommissioning will include obtaining the required permits and following lockout/tag out procedures before de-energizing, isolating, and disconnecting electrical devices and equipment.

Decommissioning will require dismantling and removing the electrical equipment, including inverters, transformers, underground cables and overhead lines, the prefabricated inverter enclosures and switch house electrical equipment. Prior to removal of the transformers, the oil will be pumped into a separate industry approved disposal container and sealed to prevent any spill during storage and/or transportation. Equipment and material may be salvaged for resale or scrap value depending on market conditions.

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.

Site Restoration

Subject to environmental requirements and in consultation with the landowner, the following site restoration activities will be undertaken:

- Site cleanup followed by general surface grading and, if necessary, restoration of surface drainage swales and ditches. Any damage to tile drains (if present) will be repaired/restored.
- Any excavation and/or trench caused by the removal of building or equipment foundations, rack supports and underground electrical cables will be backfilled with the appropriate material and levelled to match the ground surface.
- The roads, parking areas and switch house yard will be removed completely, filled with suitable sub-grade material and levelled.
- Any compacted ground will be tilled, mixed with suitable sub-grade materials and levelled.
- Prepared soil, with all the nutrients required for vegetation to grow will be spread as necessary.
- Native vegetation will be planted as appropriate to provide a rapid return of nutrients and soil structure, and protect against erosion.

Emergency Response and Communications Plan

The Project Emergency Response and Communications Plan will be implemented throughout the decommissioning 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. The Plan provides the emergency response and communications procedures to be used in response to potential emergency scenarios that include fire, personal injury and spills. All Project personnel will be properly trained in the emergency response and communications procedures set out in the Plan.

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, the Proponent is committed to restoring the site as close to its pre-construction state as feasible. This would be subject to environmental requirements and in consultation with the landowner.

Conclusions

During decommissioning, mitigation measures similar to those used for a construction site (e.g. sediment and erosion controls) will be implemented and maintained by the Contractor and inspected by the Contractor's Environmental Site Inspector. The Contractor will be responsible for preparing and submitting environmental monitoring reports to the Proponent's Project Manager to ensure conformance with applicable regulatory requirements.

Overall, no significant adverse impacts to the environment are anticipated to occur as a result of decommissioning the Project.

Appendix E

Natural Heritage Assessment Records Review Report Summary

Appendix E – Natural Heritage Assessment Records Review Report Summary

Introduction

Proponents of renewable energy projects are required to complete a *Natural Heritage Assessment* under Part IV, section 24 of the REA Regulation. The *Natural Heritage Assessment Records Review Report* is the first stage of the *Natural Heritage Assessment,* as required under section 25 of the REA Regulation. The purpose of the records review is to gather information about the area in which the Project Location is proposed, identify natural features (including confirmed significant wildlife habitat[1]), and make preliminary determinations about site feasibility. This document summarizes the results of the *Natural Heritage Assessment Records Review Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Summary of Report

The presence / absence of natural features identified on or within 120 m of the Project Location based on the information sources reviewed in the *Natural Heritage Assessment Records Review Report* are summarized below.

- **ANSI (Earth Science and Life Science)** – The information sources reviewed in the *Natural Heritage Assessment Records Review Report* did not identify any confirmed significant or potential ANSIs on or within 120 m of the Project Location.
- **Valleyland** – The information sources reviewed in the *Natural Heritage Assessment Records Review Report* did not identify any confirmed significant or potential valleylands on or within 120 m of the Project Location.
- **Wetland** – The information sources reviewed in the *Natural Heritage Assessment Records Review Report* did not identify any confirmed significant or potential wetlands on or within 120 m of the Project Location.
- **Woodland** – The information sources reviewed in the *Natural Heritage Assessment Records Review Report* identified a potential woodland within 120 m of the Project Location, along the southwest boundary. The presence/absence of this woodland is discussed in the *Natural Heritage Assessment Site Investigation Report*.
- **Wildlife Habitat** – The *Natural Heritage Assessment Records Review Report* identified potential wildlife habitat on and within 120 m of the Project Location. The results of the *Natural Heritage Assessment Records Review Report* are summarized for the following wildlife habitat types:
    - Habitats of Seasonal Concentrations of Animals: The *Natural Heritage Assessment Records Review Report* identified potential habitats of seasonal concentrations of animals on and

[1] "Confirmed Significant Wildlife Habitat" means an area of significant wildlife habitat verified using procedures established or accepted by MNR (Natural Heritage Assessment Guide – MNR, 2010) and consists of areas identified in existing planning documents such as official plan schedules (Natural Heritage Reference Manual - MNR, 2010).

within 120 m of the Project Location based on the species with ranges that overlap the Project.

- Rare Vegetation Communities: Potential rare vegetation communities were not identified on or within 120 m of the Project Location from the information sources reviewed in the *Natural Heritage Assessment Records Review Report*.
- Specialized Habitats for Wildlife: The *Natural Heritage Assessment Records Review Report* identified potential specialized habitats for wildlife on and within 120 m of the Project Location based on the species with ranges that overlap the Project.
- Habitats of Species of Conservation Concern: The *Natural Heritage Assessment Records Review Report* identified potential habitat for species of conservation concern on and within 120 m of the Project Location based on the species with ranges that overlap the Project.
- Animal Movement Corridors: The *Natural Heritage Assessment Records Review Report* identified potential animal movement corridors on and within 120 m of the Project Location.

The following table (Table E1) provides a summary of the determinations made with respect to the presence / absence of a provincial park, conservation reserve and natural features on and within 120 m of the Project Location as a result of the information sources reviewed in the *Natural Heritage Assessment Records Review Report*.

Table E1 Summary of Determinations Made as a Result of the Information Reviewed in the *Natural Heritage Assessment Records Review Report*.

Determination to be Made	Yes/No	Description
Is the Project Location in or within 120 m of a provincial park or conservation reserve?	No	There are no provincial parks or conservation reserves within 120 m of the Project Location.
Is the Project Location in a natural feature?	Yes	There is potential wildlife habitat for seasonal concentrations of animals, specialized habitats for wildlife, habitats of species of conservation concern and animal movement corridors on the Project Location based on species with ranges that overlap the Project. Potential rare vegetation communities were not identified on the Project Location.
Is the Project Location within 50 m of an ANSI (earth science)?	No	The nearest earth science ANSI is located several kilometres from the Project Location.
Is the Project Location within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	There is potential wildlife habitat for seasonal concentrations of animals, specialized habitats for wildlife, habitats of species of conservation concern and animal movement corridors on and within 120 m of the Project Location based on species with ranges that overlap the Project. There is also a woodland within 120 m of the Project Location, along the southwest boundary.

Conclusions

The *Natural Heritage Assessment Records Review Report* identified potential natural features on and within 120 m of the Project Location. These include potential wildlife habitat on and within 120 m of the Project Location and a woodland along the southwest boundary of the Project Location, within the 120 m setback. As a result, site investigations were completed to verify the presence/absence of these natural features and any additional natural features not identified from the information sources reviewed in the *Natural Heritage Assessment Records Review Report*. The results of the site investigations are provided in the *Natural Heritage Assessment Site Investigation Report*.

Appendix F

Natural Heritage Assessment Site Investigation Report Summary

Appendix F – Natural Heritage Assessment Site Investigation Report Summary

Introduction

Proponents of renewable energy projects are required to complete a *Natural Heritage Assessment* under Part IV, section 24 of the REA Regulation. The *Natural Heritage Assessment Site Investigation Report* is the second stage of the *Natural Heritage Assessment,* as required under section 26 of the REA Regulation. The purpose of the *Natural Heritage Assessment Site Investigation Report* is to confirm the presence and boundaries of natural features on or within 120 m of the Project Location, verify the accuracy of the information reviewed in the *Natural Heritage Assessment Records Review Report*, identify any additional natural features and determine the presence of candidate significant natural features. This document summarizes the results of the *Natural Heritage Assessment Site Investigation Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Summary of Report

Site investigations were completed in the summer and fall of 2010 to verify the presence/absence of natural features identified in the *Natural Heritage Assessment Records Review Report* and document additional natural features not previously identified on or within 120 m of the Project Location. Information documented during the site investigations included: type, characteristics and attributes of natural features, wildlife observations, vegetation and habitat communities and wildlife habitat types on and within 120 m of the Project Location.

The presence/absence and candidate significant natural features identified on or within 120 m of the Project Location based on observations made during the site investigations are summarized below.

- **ANSI (Earth Science and Life Science)** – The site investigations confirmed that there are no ANSIs on or within 120 m of the Project Location.
- **Valleyland** – The site investigations confirmed that there are no valleylands on or within 120 m of the Project Location.
- **Wetland** – The site investigations confirmed that there are no wetlands on or within 120 m of the Project Location.
- **Candidate Significant Woodland** – The site investigations identified a candidate significant woodland within 120 m of the Project Location. The significance of the woodland is discussed in the *Natural Heritage Assessment Evaluation of Significance Report*.
- **Wildlife Habitat** – The site investigations confirmed the presence/absence of the following wildlife habitat types on and within 120 m of the Project Location:
    - Candidate Significant Habitats of Seasonal Concentrations of Animals: The site investigations identified candidate significant *amphibian breeding habitat (wetland)* within 120 m of the Project Location, within a dugout pond located along the western boundary.

- Candidate Significant Rare Vegetation Communities: The site investigations identified a candidate significant *tallgrass prairie* within 120 m of the Project Location, located along the southwest boundary and south of Concession 3 Townsend Road.
- Candidate Significant Specialized Habitats for Wildlife: The site investigations identified candidate significant wildlife habitat within 120 m of the Project Location for *area-sensitive grassland bird species* (Eastern Meadowlark Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl and Upland Sandpiper) within the tallgrass prairie vegetation community.
- Candidate Significant Habitats of Species of Conservation Concern: The site investigations identified candidate significant wildlife habitat within 120 m of the Project Location for *forest species of conservation concern* (Red-headed Woodpecker) within the woodland and habitat for *grassland species of conservation concern* (American Kestrel, Eastern Kingbird, Eastern Meadowlark, Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl and Upland Sandpiper) within the tallgrass prairie vegetation community.
- Animal Movement Corridors: The site investigations determined that there are no *animal movement corridors* on or within 120 m of the Project Location.

The following table (Table F1) provides a summary of the determinations made with respect to the presence/absence of a provincial park, conservation reserve and natural features on and within 120 m of the Project Location as a result of the site investigations. A summary of any corrections required to the *Natural Heritage Assessment Records Review Report* as a result of conducting the site investigations is also provided in the following table.

Table F1 Summary of Determinations Made as a Result of the Site Investigations and Corrections Required to the *Natural Heritage Assessment Records Review Report*.

Determination to be Made as a Result of Conducting the Site Investigation	Yes/No	Determination on Whether Corrections are Required to the Natural Heritage Assessment Records Review Report
Is the Project Location in or within 120 m of a provincial park or conservation reserve?	No	There are no corrections required to the *Natural Heritage Assessment Records Review Report* for this feature.
Is the Project Location in a natural feature?	No	The site investigations determined that there is no wildlife habitat or any other natural feature on the Project Location. As a result, corrections are required to the *Natural Heritage Assessment Records Review Report* with respect to wildlife habitat.
Is the Project Location within 50 m of an ANSI (earth science)?	No	There are no corrections required to the *Natural Heritage Assessment Records Review Report* for this feature.
Is the Project Location within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	The site investigations identified a candidate significant woodland and candidate significant wildlife habitat for seasonal concentrations of animals (amphibian breeding habitat (wetland)), rare vegetation communities (tallgrass prairie), specialized habitats for wildlife (area-sensitive grassland bird species) and habitats of species of conservation concern (forest and grassland bird species of conservation concern) within 120 m of the Project Location. There are no animal movement corridors on or within 120 m of the Project Location. As a result, corrections are required to the *Natural Heritage Assessment Records Review Report* with respect to the following wildlife habitat types: rare vegetation communities (tallgrass prairie) and animal movement corridors.

Conclusions

The *Natural Heritage Assessment Site Investigation Report* determined that there are no candidate significant natural features on the Project Location. However, there is a candidate significant woodland and candidate significant wildlife habitat within 120 m of the Project Location. These candidate significant natural features are discussed further in the *Natural Heritage Assessment Evaluation of Significance Report*.

Appendix G

Natural Heritage Assessment Evaluation of Significance Report Summary

Appendix G – Natural Heritage Assessment Evaluation of Significance Report Summary

Introduction

Proponents of renewable energy projects are required to complete a *Natural Heritage Assessment* under Part IV, section 24 of the REA Regulation. The *Natural Heritage Evaluation of Significance Report* is required under section 27 of the REA Regulation to determine the significance of natural features on and within 120 m of the Project Location that were identified in the *Natural Heritage Assessment Site Investigation Report*. The purpose of the *Natural Heritage Evaluation of Significance Report* is to determine whether a natural feature is significant (i.e. valleyland, woodland or wildlife habitat) or provincially significant (ANSI (earth science or life science) or wetland), establish whether development prohibitions and setbacks apply, and whether a *Natural Heritage Assessment Environmental Impact Study Report* is required to address potential negative environmental effects associated with the proposed development. This document summarizes the results of the *Natural Heritage Assessment Evaluation of Significance Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Summary of Report

The following candidate significant natural features were evaluated in the *Natural Heritage Assessment Evaluation of Significance Report*. The results of the evaluation and a determination whether the natural features are significant are summarized below.

- **Woodland** – The *Natural Heritage Assessment Evaluation of Significance Report* determined that the woodland located southwest of the Project Location and within the 120 m setback is significant.
- **Wildlife Habitat** – The *Natural Heritage Assessment Evaluation of Significance Report* evaluated the following wildlife habitat types to determine if they are significant. The results of the evaluation are discussed for each of the following wildlife habitat types:
  - Habitats of Seasonal Concentrations of Animals: The a*mphibian breeding habitat (wetland)* within the dugout pond located along the western boundary and within the 120 m setback has been evaluated as not significant. The dugout pond is used for the temporary storage of irrigation water and does not contain wetland or aquatic vegetation which is necessary to function as suitable habitat.
  - Significant Rare Vegetation Communities: The t*allgrass prairie* vegetation community located southwest of the Project Location and within the 120 m setback, has been evaluated as significant.
  - Significant Specialized Habitats for Wildlife: The habitat for *area-sensitive grassland bird species* (Eastern Meadowlark Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl and Upland Sandpiper) within the *tallgrass prairie* vegetation community located southwest of the Project Location and within the 120 m setback, has been evaluated as significant.

- Significant Habitats of Species of Conservation Concern: The habitat for *forest species of conservation concern* (Red-headed Woodpecker) within the woodland located southwest of the Project Location and within the 120 m setback, has been evaluated as significant. The habitat for *grassland species of conservation concern* (American Kestrel, Eastern Kingbird, Eastern Meadowlark, Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl and Upland Sandpiper) within the *tallgrass prairie* vegetation community located southwest of the Project Location and within the 120 m setback has also been evaluated as significant.

Conclusions

The *Natural Heritage Assessment Evaluation of Significance Report* identified a significant woodland and significant wildlife habitat types including significant rare vegetation communities (*tallgrass prairie*), significant specialized habitats for wildlife (habitat for *area-sensitive grassland species* within the tallgrass prairie vegetation community), significant habitats of forest species of conservation concern (habitat for the *Red-headed Woodpecker* within the woodland) and significant habitats of grassland species of conservation concern (habitat for the *American Kestrel, Eastern Kingbird, Eastern Meadowlark, Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl and Upland Sandpiper* within the tallgrass prairie vegetation community).

A *Natural Heritage Assessment Environmental Impact Study Report* has been prepared to 1) assess the potential negative environmental effects on each significant natural feature that may result from the proposed solar energy project and 2) identify how the potential effects will be addressed through mitigation and monitoring.

Appendix H

Natural Heritage Assessment Environmental Impact Study Report Summary

Appendix H – Natural Heritage Assessment Environmental Impact Study Report Summary

Introduction

Proponents of renewable energy projects that are proposing to construct, install or expand a renewable energy generation facility (such as a Class 3 solar PV facility), in or within 120 m of a provincial park, conservation reserve or significant natural feature are required to complete a *Natural Heritage Assessment Environmental Impact Study Report* under Part V, section 38 of the REA Regulation. The purpose of the *Natural Heritage Assessment Environmental Impact Study Report* is to identify and assess any negative environmental effects of the Project on a provincial park, conservation reserve or significant natural feature if development is proposed in or within 120 m of these features; identify mitigation measures and describe how the Environmental Effects Monitoring Plan and Construction Plan Report addresses any negative environmental effects. This document summarizes the results of the *Natural Heritage Assessment Environmental Impact Study Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Summary of Report

The following significant natural features were identified in the *Natural Heritage Assessment Evaluation of Significance Report*. A summary of the potential negative environmental effects and recommended mitigation measures for each of these significant natural features is provided below.

- **Significant Woodland** – There will be no direct impacts to the significant woodland as a result of the Project. However, there are potential indirect impacts associated with the habitat function of the significant woodland for wildlife species.
  - Potential Impacts – Increased noise disturbance, traffic volumes and avoidance of habitat by wildlife species during site preparation, construction and decommissioning phases may occur.
  - Recommended / Implemented Mitigation Measures – Timing restrictions will be implemented to ensure that site preparation, construction and decommission phases of the Project do not occur during peak hours in the breeding bird season.
- **Significant Rare Vegetation Community (Tallgrass Prairie)** – There will be no direct impacts to the tallgrass prairie as a result of the Project. However, there are potential indirect impacts associated with the habitat function of the tallgrass prairie for wildlife species.
  - Potential Impacts – Increased noise disturbance, traffic volumes and avoidance of habitat by wildlife species during site preparation, construction and decommissioning phases may occur.
  - Recommended / Implemented Mitigation Measures – Timing restrictions will be implemented to ensure that site preparation, construction and decommission phases of the Project do not occur during peak hours in the breeding bird season.

- **Significant Specialized Habitats for Wildlife (Habitat for Area-sensitive Grassland Bird Species)** – There will be no direct impacts to the habitat for area-sensitive grassland bird species within the tallgrass prairie as a result of the Project. However, there are potential indirect impacts associated with the habitat function.
  - Potential Impacts – Increased noise disturbance, traffic volumes and avoidance of habitat by wildlife species during site preparation, construction and decommissioning phases may occur.
  - Recommended / Implemented Mitigation Measures – Timing restrictions will be implemented to ensure that site preparation, construction and decommission phases of the Project do not occur during peak hours in the breeding bird season.
- **Significant Habitats of Forest and Grassland Species of Conservation Concern** – There will be no direct impacts to the habitat of forest and grassland species of conservation concern within the woodland and tallgrass prairie as a result of the Project. However, there are potential indirect impacts associated with the habitat function.
  - Potential Impacts – Increased noise disturbance, traffic volumes and avoidance of habitat by wildlife species during site preparation, construction and decommissioning phases may occur.
  - Recommended / Implemented Mitigation Measures – Timing restrictions will be implemented to ensure that site preparation, construction and decommission phases of the Project do not occur during peak hours in the breeding bird season.

Conclusions

The *Natural Heritage Assessment Environmental Impact Study Report* determined that there will be no direct impacts to any of the significant natural features as a result of the proposed solar PV Project. There are potential indirect negative environmental effects on the significant natural features, although these impacts are expected to be negligible. 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. An *Environmental Effects Monitoring Plan Report* and *Construction Plan Report* have been prepared and include details on how the potential negative environmental effects will be addressed through monitoring and mitigated during the construction phases of the Project.

Appendix I

Water Body Records Review Report Summary

Appendix I – Water Body Records Review Report Summary

Introduction

Proponents of renewable energy projects are required to complete a *Water Body Assessment* under Part IV, section 29 of the REA Regulation. The *Water Body Records Review Report* is the first stage of the *Water Body Assessment,* as required under section 30 of the REA Regulation. The purpose of the *Water Body Records Review Report* is to review published and unpublished records from a variety of information sources to determine whether the Project Location is on or within 120 m of a water body, or within 300 m of a lake trout lake. Records were searched from the MOE, MNR, Ontario Ministry of Agriculture, Food and Rural Affairs, federal and municipal government (i.e. County of Norfolk) and other relevant sources. This document summarizes the results of the *Water Body Records Review Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Summary of Report

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

- Davis Creek about 620 m northwest of the Project Location.
- A tributary of Davis Creek about 920 m south of the Project Location.
- A tributary to Davis Creek within 120 m of the Project Location near the southern boundary was identified from the NRCAN topographic mapping.
- The Norfolk County Official Plan (2006) Schedule B-6 (Land Use) (http://www.norfolkofficialplan.ca) identified Davis Creek west of the Project Location and a tributary south of the Project Location similar to that depicted on the OBM maps.

The following table (Table I1) summarizes the results and determinations made as a result of the records reviewed in the *Water Body Records Review Report*.

Table I1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project Location in a water body?	No	No part of the Project will be constructed within a water body.
Is the Project Location 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?	Yes	The OBM mapping identified a pond approximately 70 m west of the Project Location. No other lakes are present in the on or within 120 m of the Project Location.
Is the Project Location 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 were identified within the vicinity of the Project Location.
Is the Project Location within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	A tributary of Davis Creek south of the Project Location and within the 120 m setback was identified on the NRCAN topographic mapping. This drainage feature appears to be an intermittent stream; however, this was not identified on the OBM mapping.
Is the Project Location within 120 m of a seepage area?	No	No seepage areas were identified from the records reviewed in the *Water Body Records Review Report*.

Conclusions

The *Water Body Records Review Report* determined that there are potential water body features on and within 120 m of the Project Location. Site investigations, as required in Section 31 of the REA Regulation were completed to i) confirm the presence / absence of the water body features identified in the *Water Body Records Review Report* and any additional water body features not previously identified, ii) determine if any corrections are required to the *Water Body Records Review Report* as a result of the site investigations and iii) confirm the boundaries and distances of any water body feature to the Project Location. The results of the site investigations are provided in the *Water Body Site Investigation Report*.

Appendix J

Water Body Site Investigation Report Summary

Appendix J – Water Body Site Investigation Report Summary

Introduction

Proponents of renewable energy projects are required to complete a *Water Body Assessment* under Part IV, section 29 of the REA Regulation. The *Water Body Site Investigation Report* is the second stage of the *Water Body Assessment,* as required under section 31 of the REA Regulation. The purpose of the *Water Body Site Investigation Report* is to confirm the presence and boundaries of water body features on and within 120 m of the Project Location, verify the accuracy of the information reviewed in the *Water Body Records Review Report* and identify any additional water body features. This document summarizes the results of the *Water Body Site Investigation Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Summary of Report

Site investigations were completed in the summer and fall of 2010 to verify the presence / absence of water body features identified in the *Water Body Records Review Report* and document additional water body features not previously identified on and within 120 m of the Project Location. The results of the site investigations are summarized below.

- **Lake Trout Lake** – The site investigations did not identify any lake trout lakes on or within 300 m of the Project Location.
- **Lakes** – The site investigations identified a dugout pond located west of the Project Location, within the 120 m setback. Dugout ponds are not considered a water body as defined in subsection 1 (1) of the REA Regulation. There are no lakes on or within 120 m of the Project Location.
- **Permanent Stream** – The site investigations did not identify any permanent streams on or within 120 m of the Project Location.
- **Intermittent Stream** – The site investigations did not identify any intermittent streams on or within 120 m of the Project Location.
- **Seepage Areas** – The site investigations did not identify any seepage areas on or within 120 m of the Project Location.

The following table (Table J1) provides a summary of the determinations made with respect to the presence / absence of a water body on and within 120 m of the Project Location as a result of the site investigations. A summary of any corrections required to the *Water Body Records Review Report* as a result of conducting the site investigations is also provided in the following table.

Table J1 Summary of Determinations Made as a Result of the Site Investigations and Corrections Required to the *Water Body Records Review Report*.

Determination to be Made	Yes/No	Corrections Required?
Is the Project Location in a water body?	No	The results of the site investigations determined that there are no water body features on the Project Location and no corrections required to the *Water Body Records Review Report*.
Is the Project Location 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	The results of the site investigations determined that there are no lakes within 120 m of the Project Location. As a result, the following corrections are required to the *Water Body Records Review Report*: the pond identified along the western boundary of the Project Location and within the 120 m setback, is described as a dugout pond and does not meet the definition of a water body according to the REA Regulation.
Is the Project Location within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity?	No	The results of the site investigations determined that there are no lake trout lakes within 300 m of the Project Location and no corrections required to the *Water Body Records Review Report*.
Is the Project Location within 120 m of the average annual high water mark of a permanent or intermittent stream?	No	The results of the site investigations determined that there are no permanent or intermittent streams within 120 m of the Project Location. As a result, the following corrections are required to the *Water Body Records Review Report*: the drainage feature shown on the NRCAN mapping does not exist.
Is the Project Location within 120 m of a seepage area?	No	The results of the site investigations determined that there are no seepage areas within 120 m of the Project Location and no corrections required to the *Water Body Records Review Report*.

Conclusions

The *Water Body Site Investigation Report* determined that there are no water body features on or within 120 m of the Project Location. As a result, a *Water Body Environmental Impact Study Report* is not required.

Appendix K

Stage 1 and 2 Archaeological Assessment Report Summary

Appendix K – Stage 1 and 2 Archaeological Assessment Report Summary

Introduction

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 assessment was to confirm the presence or absence of significant archaeological resources that could represent potential constraints for the proposed Norfolk Bloomsburg TS Solar Energy Project. The assessment included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2 kilometre (km) radius of the Norfolk Bloomsburg TS Solar Energy Project. A Stage 2 archaeological assessment was also conducted. This document summarizes the results of the *Stage 1 and 2 Archaeological Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Summary of Report

The *Stage 1 and 2 Archaeological Assessment Report* indicated that the physiographic setting of the Project Location demonstrates a potential for recovery of historical archaeological remains within the area. The Project Location lies within the Norfolk Sand Plain physiographic region, which is known for its abundant well water. The Project Location is situated south of Bloomsburg. While no water body features traverse the study area, several wetland complexes are present to its south. Davis Creek flows approximately 500 m to the northwest of the study area. Given the location of Davis Creek and the wetland areas in vicinity of the Project Location, the Project Location exhibits moderate to high archaeological potential.

A Stage 2 Archaeological Assessment was conducted and no archaeological resources were identified within the Project Location.

Conclusions

The office of the MTC has reviewed the *Stage 1 and Stage 2 Archaeological Assessment Report* in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, and accepted its findings.

Appendix L

Protected Properties and Heritage Resource Information Summary

Appendix L – Protected Properties and Heritage Resource Information Summary

Introduction

Proponents of Class 3 solar projects are required to determine whether the Project Location is on a property described in Column 1 of the Table in section 19 of the REA Regulation. Section 23 of the REA Regulation requires proponents of Class 3 solar projects, as a result of the consideration mentioned in subsection 20, to determine whether engaging in the renewable energy project may have an impact on a heritage resource described in subsection 20 (1). This document is a summary of the *Protected Properties and Heritage Resource Information* obtained for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Protected Properties

The table (Table L1) following the conclusion of this summary has been prepared to determine whether the Project Location is on a property described in Column 1 of the Table in section 19 (1) of the REA Regulation.

Heritage Assessment

The check sheet provided in the table (Table L2) following the conclusion of this summary was used to help identify potential cultural heritage resources, determine how important they are and indicate whether a cultural heritage impact assessment is needed in accordance with section 23 of the REA Regulation.

Conclusions

Based on the information presented in the following table (Table L1), the Project is not located on a Protected Property as described in Column 1 of the Table in section 19 of the REA Regulation. In addition, research and agency consultation undertaken as described within Table L2 has not identified the need for a heritage impact assessment under section 23 of the REA Regulation.

Property: Norfolk Bloomsburg TS Solar Energy Project
Address: Latitude 42º 52′ 30.26″ Longitude 80º 17′ 50.97″; on Part of Lots 3 and 4, Concession 12
Township and County: Norfolk County

Table L1 Protected Properties Table Under Section 19 (1) of the REA Regulation

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 the Ministry of Culture (MCL) Check Sheet Step 2, Item 4. The property is not designated under clause 10(1)(b) of the *Ontario Heritage Act*.
2	A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest has been given in accordance with section 29 of the *Ontario Heritage Act*.	Consultation with the municipality, as per MCL Check Sheet Step 2, Item 8 has not determined that a notice of intention to designate has been given. In addition, The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
3	A property designated by a municipal by-law made under section 29 of the *Ontario Heritage Act* as a property of cultural heritage value or interest.	Consultation with the municipality, as per MCL Check Sheet Step 2, Item 8 has not determined that the Project is located on a property designated by a municipal by-law. In addition, The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
4	A property designated by order of the Minister of Culture made under section 34.5 of the *Ontario Heritage Act* as a property of cultural heritage value or interest of provincial significance.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
5	A property in respect of which a notice of intention to designate the property as property of cultural heritage value or interest of provincial significance has been given in accordance with section 34.6 of the *Ontario Heritage Act*.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
6	A property that is subject of an easement or a covenant entered into under section 37 of the *Ontario Heritage Act*.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
7	A property that is part of an area designated by a municipal by-law made under section 41 of the *Ontario Heritage Act* as a heritage conservation district.	The MCL Ontario Heritage Properties Database includes properties designated under Part V of the *Ontario Heritage Act*. The Project is not proposed to be located on or adjacent to such a property.
8	A property designated as a historic site under Regulation 880 of the Revised Regulations of Ontario, 1990 (Historic Sites) made under the *Ontario Heritage Act*.	The property is not designated a historic site under Regulation 880.

Property: Norfolk Bloomsburg TS Solar Energy Project
Address: Latitude 42° 52′ 30.26″ Longitude 80° 17′ 50.97″; on Part of Lots 3 and 4, Concession 12
Township and County: Norfolk County

Table L2 MTC Checklist Sheet for Environmental Assessments Screening for Impacts to Built Heritage and Cultural Heritage Landscapes

Step 1 – Screening Potential Resources			
		Built heritage resources	**Reference**
Yes	**No**	Does the property contain any built structures, such as:	The following resources were assessed using Google Earth 5.2.1.1329 (beta) on July 7, 2010 supplemented by topographic survey data prepared by the Proponent. All lands for the Project Location are on land cultivated for agricultural use. An existing overhead hydro line passes through the southwest portion of the Project Location and an underground Bell cable(s) passes through the east portion of the Project Location.
	√	Residential structures (e.g. house, apartment building, trap line shelter)	There are no buildings in the Project Location but there a few houses directly outside the Project Location.
	√	Agriculture (e.g. barns, outbuildings, silos, windmills)	N/A
	√	Industrial (e.g. factories, complexes)	N/A
	√	Engineering works (e.g. bridges, roads, water/sewer systems)	There is a railway line nearby. The Project Location is bordered by Cloet Road to the west and Stone Quarry Road (Concession 13 Townsend Road) to the south.
		Cultural heritage landscapes	
Yes	**No**	Does the property contain landscapes such as:	N/A
	√	Burial sites and/or cemeteries	N/A
	√	Parks	N/A
	√	Quarries or mining operations	N/A
	√	Canals	Davis Creek is approximately 600 m northwest of the Project Location.
√		Other human-made alterations to the natural landscape	Land has been cultivated for agricultural use.

Step 2 – Screening Potential Significance			
Yes	**No**	A property's heritage significance may be identified through the following:	According to the MCL Ontario Heritage Properties Database there are heritage properties located within Norfolk County; however, they are not within the vicinity of the Project Location. (Website search: 07Jul10)
	√	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 07Jul10 http://www.culture.gov.on.ca/english/heritage/conservation/conservation_list.htm)
	√	4. Does it have an Ontario Heritage Trust easement or is it adjacent to such a property?	According to the Ontario Heritage Trust website (www.heritagefdn.on.ca) no easement properties are located in the vicinity of the property. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 07Jul10)
	√	5. Is there a provincial or federal plaque?	There are no provincial plaques located in the vicinity of the Project location (Research competed 07Jul10 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 07Jul10) In addition, no sites within the vicinity of the Project are listed on the Canadian Register of Historic Places (Research completed 07Jul10 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.)?	The Chair of Norfolk Heritage Committee (Tap Mannonen, ingridandtap@sympatico.ca) was contacted on July 9 2010. It has been confirmed that there is no documented built heritage resources on the Project Location or within the immediate area. There are no cultural heritage landscapes on the Project Location.
√		8. Was the municipality contacted regarding potential cultural heritage value?	
	√	Were any concerns expressed?	
		9. What are the dates of construction?	Anticipated to be January to October 2012.
	√	Are the buildings and/or structures over 40 years old?	There are no buildings in the Project Location.
	√	Is it within a Canadian Heritage River watershed?	The Project Location is not situated within a Canadian Heritage River watershed.
	√	10. Is a renowned architect or builder associated with the property?	N/A

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

Step 3 – Screening for Potential Impacts			
Yes	**No**		**Reference**
	√	Destruction of any, or part of any, significant heritage attribute or feature.	N/A
	√	Alteration that is not sympathetic, or is incompatible, with the historic fabric or appearance.	N/A
	√	Shadows created that alter the appearance of a heritage attribute or change the visibility of a natural feature or plantings, such as a garden.	N/A
	√	Isolation of a heritage attribute from its surrounding environment, context or a significant relationship.	N/A
	√	Direct or indirect obstruction of significant views or vistas from, within, or to a built and natural feature.	N/A
	√	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.	Current agricultural land use will be discontinued within the Project Location during operation of the Project. This use could be restored if the Project operation was to cease at the end of its operational lifetime. No change to the Municipal land use designation or zoning is required for renewal energy projects approved under O. Reg. 359/09.
	√	Land disturbances such as a change in grade that alters soils and drainage patterns that adversely affect an archaeological resource.	No significant changes to topography or surface drainage patterns are anticipated as a result of the Project. A Stage 1 and 2 Archaeological Assessment was completed for the Project Location and the lands were determined to be clear of any archaeological resource potential.

Appendix M

Noise Study Report Summary

Appendix M – Noise Study Report Summary

Introduction

This *Noise Study Report* was prepared in accordance with the document entitled "Basic Comprehensive Certificates of Approval (Air) – User Guide" by the MOE. The sound pressure levels at the points of reception (POR) have been estimated using International Standard Association (ISO) 9613-2, implemented in the CADNA-A computer code. The performance limits used for verification of compliance correspond to the values for rural areas (45 weighted decibels (dBA) for day time, 40 dBA for night time). The results presented in this summary report are based on the best available information at this time. It is the intention that, in the detailed engineering phase of the Project, certified noise data based on final plans and designs will confirm the conclusions of the noise study. This document summarizes the results of the *Noise Study Report* for the Norfolk Bloomsburg TS Solar Energy Project as per section 17 of the REA Regulation.

Summary of Report

- The main sources of noise from the Project will be the ten inverter clusters which also include medium-voltage transformers. A main step-up (i.e., substation) transformer is not required for the Project.
- Presently, inverters for the Project consist of the SMA Sunny Central 1000 MV unit which comprises two inverters and one medium voltage transformer, contained in a prefabricated building enclosure. The main sources of noise are the cooling/ventilation fans for the inverters, the electrical components on the inverters and the medium-voltage transformer.
- The POR used in this study were initially identified from Ontario Base Maps (OBM) within a 1.2 km distance from the Project Location.
- The sound pressure levels at the POR were predicted using procedures from ISO 9613-2, which is a widely used standard for evaluation of noise impact in environmental assessments. The sound power levels were estimated from the National Electrical Manufacturers Association (NEMA).

Conclusions

Based on the results of the *Noise Study Report*, the sound pressure levels at the POR will not exceed MOE requirements for rural areas. Any noise issues that might arise during Project operation will be manageable and can be resolved by implementing typical remediation measures. Field measurements will be taken upon completion of installation and during the initial commissioning of the Project to ensure that the noise levels at the POR are within the limits set by the MOE.

Appendix N

Letter of Confirmation – Ontario Ministry of Natural Resources

Ministry of
Natural Resources
615 John Street North
Aylmer ON N5H 2S8
Tel: 519-773-9241
Fax: 519-773-9014

Ministère des
Richesses naturelles
615, rue John Nord
Aylmer ON N5H 2S8
Tél: 519-773-9241
Téléc: 519-773-9014

Ontario

May 31, 2011

Axio Power Canada Inc.
Robert Barkley
Manager Project Development
945 Princess Street, Suite 252
Kingston, ON K7L 3N6

Dear Mr. Robert Burkley,

RE: Axio Power Canada Inc. Norfolk Bloomsburg TS

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals (REA) Regulation (O.Reg.359/09), the Ministry of Natural Resources (MNR) has reviewed the natural heritage assessment and environmental impact study for the proposed solar farm located at part of Lots 3 and 4 Concession 12 within the County of Norfolk, submitted by Axio Power Canada Inc. on May 27, 2011.

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.

This confirmation letter is valid for the project as proposed in the natural heritage assessment (NHA). Should any changes be made to the proposed project that would alter the NHA, MNR may need to undertake additional review of the NHA.

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

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

If you wish to discuss any part of this confirmation, please contact Heather Riddell, A/Renewable Energy Planning Ecologist, Aylmer District, at heather.riddell@ontario.ca or 519-773-4723.

Sincerely,

M Wilson

Mitch Wilson
District Manager
Aylmer District MNR

cc. Jim Beal, Renewable Energy Provincial Field Program Coordinator, MNR
Narren Santos, Environmental Assessment and Approvals Branch, MOE
Andrea Fleischhauer, A/Southern Region Renewable Energy Coordinator, MNR
Bruce Bennett, Project Manager, Manager, Environmental Services Group, Hatch Ltd.
Paul Ashley, Senior Ecologist, Environmental Services Group, Hatch Ltd.

Appendix O

Letter of Confirmation – Ontario Ministry of Tourism and Culture

Ministry of Tourism and Culture

Culture Programs Unit
Programs and Services Branch
Culture Division
435 S. James St., Suite 334
Thunder Bay, ON P7E 6S7
Tel.: 807 475-1638
Fax: 807 475-1297

Ministère du Tourisme et de la Culture

Unité des programmes culturels
Direction des programmes et des services
Division de culture
Bureau 334, 435 rue James sud
Thunder Bay, ON P7E 6S7
Tél.: 807 475-1638
Téléc.: 807 475-1297

November 22, 2010

Robert Barkley, Manager Project Development
Axio Power Canada Inc.
945 Princess Street, Suite 252
Kingston, ON, K7L 3N6
rbarkley@axiopower.com

RE: Axio Power Solar Farm Norfolk Bloomsburg TS

Location: Part of Lots 3 and 4, Concession 12, Town of Bloomsburg, Norfolk County

FIT #: FM92H4L

MTC File #: HD00539

Dear Mr Barkley,

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 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.*

The report recommends the following:

- The study area as depicted by Figure 3 should be considered free of any archaeological concern.
- Should deeply buried archaeological remains be found on the property during construction activities, the Heritage Operations Unit [Culture Programs Unit] of the Ministry of Culture

(MoC) [Ministry of Tourism and Culture (MTC)] should be notified immediately.

- In the event that human remains are encountered during construction, the proponent should immediately contact both Ministry of Culture [Ministry of Tourism and Culture], and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Business Services (416) 326-8404.

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,

Paige Campbell
Archaeology Review Officer
paige.campbell@ontario.ca

cc. The Archaeologists Inc.
Shari Prowse, GEA/REA Coordinator, MTC

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[*]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 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.

Ministry of Tourism and Culture

Culture Programs Unit
Programs and Services Branch
Culture Division
435 S. James St., Suite 334
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Ministère du Tourisme et de la Culture

Unité des programmes culturels
Direction des programmes et des services
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Tél.: 807 475-1638
Téléc.: 807 475-1297
paige.campbell@ontario.ca

November 22, 2010

T. Keith Powers
The Archaeologists Inc.
kpowers@thearchaeologists.com

Dear Keith,

Re: Review and acceptance into the Ontario Public Register of Archaeology Reports the archaeological assessment report entitled "Stage 1 and 2 Archaeological Assessment of Norfolk Bloomsburg TS, Part of Lots 3 and 4, Concession 12, Town of Bloomsburg, Norfolk County, Regional Municipality of Norfolk, Ontario" written August 2010, received on November 3, 2010
PIF: P052-202-2010
MTC: HD00539
FIT: FM92H4L

This office has reviewed the above-mentioned report, which has been submitted to this Ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18. This review is to ensure that the licensed professional consultant archaeologist has met the terms and conditions of their archaeological licence, that archaeological sites have been identified and documented according to the 1993 technical guidelines set by the Ministry and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario.

This Stage 1/2 background study and field survey did not locate any archaeological materials and it is recommended that the study area as depicted by report Figure 3 be considered free of any archaeological concern. The Ministry of Tourism and Culture concurs with these recommendations and accepts this report into the Ontario Public Register of Archaeology Reports. This letter does not constitute the Ministry's written comments for the purposes of O. Reg. 359/09.

Please feel free to contact me with any concerns or questions regarding this letter.

Yours,

Paige Campbell
Archaeology Review Officer

Suite 500, 4342 Queen Street
Niagara Falls, Ontario, Canada L2E 7J7
Tel 905 374 5200 ◆ Fax 905 374 1157