

RENEWABLE ENERGY APPROVAL DOCUMENTS

RE Waubaushene 4 Solar Project
Executive Summary

March 18, 2011

RECURRENT
ENERGY



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RE Waubaushene 4 Project Site



Frog found on Project Location

Disclaimer

This report has been prepared by or on behalf of RE Waubaushene 4 ULC for submission to the Ontario Ministry of the Environment as part of the Renewable Energy Approval process. The content of this report is not intended for the use of, nor is it intended to be relied upon by, any other person. Neither RE Waubaushene 4 ULC nor any of its directors, officers, employees, agents or consultants has any liability whatsoever for any loss, damage or injury suffered by any third party arising out of, or in connection with, their use of this report.

Section 1: Project Introduction

1.1: Project Location

RE Waubaushene 4 ULC is proposing to develop an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land. This proposed facility is referred to as “RE Waubaushene 4” and is also referred to as the “Project.”

RE Waubaushene 4 is located in the Township of Severn with in the County of Simcoe, approximately 7 km northeast of the village of Coldwater. The Project will not be located on any Class 1 or Class 2 agricultural lands.

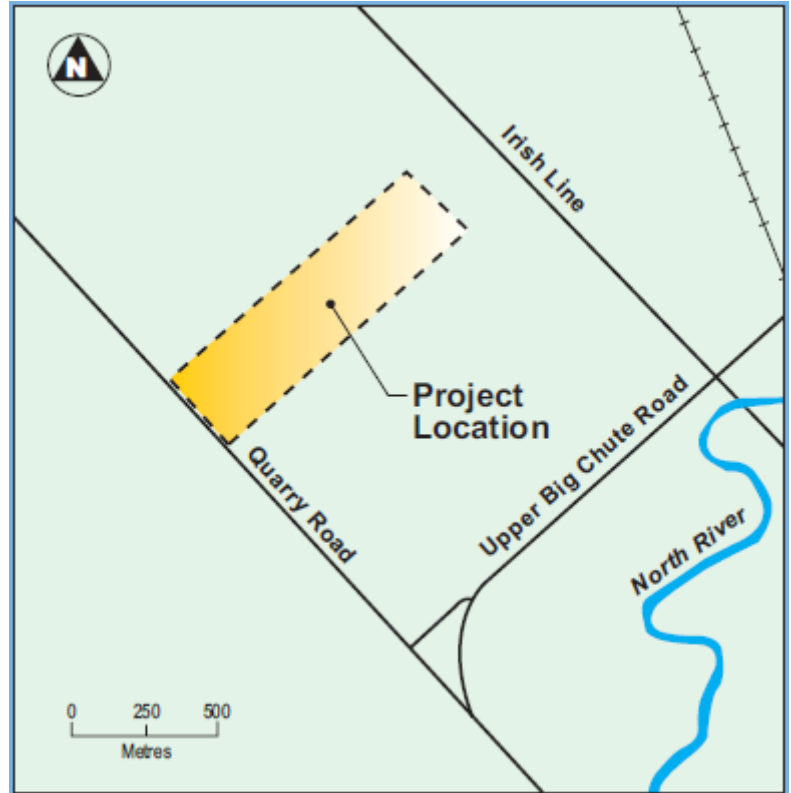
1.2: Project Proponent

The RE Waubaushene 4 Project is being proposed by **RE Waubaushene 4 ULC**, a Nova Scotia Unlimited Liability Company owned by Recurrent Energy, LLC through its subsidiaries. Recurrent Energy is an independent power producer and a leading developer of distributed solar projects for utilities, government, and commercial customers.

The company develops, builds, and operates distributed solar power systems – typically 2 to 20 MW each – connected to the existing distribution grid. Its vision is to use proven solar technology to meet rising energy demand with a fleet of clean

power plants located right where they are needed most.

RE Waubaushene 4 ULC has retained Hatch Ltd. to coordinate the completion of the Renewable Energy Approval (REA) process. All comments or questions in relation to the REA documents provided herein should be directed to Hatch, at the contact information provided below.



Examples of Comparable Solar Arrays

Contact Information	
<p>Primary Contact</p> <p>Noel Boucher, B.Sc. Environmental Coordinator Hatch Ltd. 4342 Queen Street, Suite 500 Niagara Falls, ON, Canada L2E 7J7 Tel: 905-374-0701 ext. 5757 Email: nboucher@hatch.ca</p>	
<p>Project Contact</p> <p>RE Waubaushene 4 ULC c/o Recurrent Energy LLC 300 California Street, 8th Floor San Francisco, CA 94104 Tel: 415-675-1500 Fax: 415-675-1501 www.ontariosolarfuture.ca</p>	<p>Secondary Contact</p> <p>David Brochu 300 California Street, 8th Floor San Francisco, CA 94104 Tel: 630-333-7602 Email: david.brochu@recurrentenergy.com</p>

1.3: Project Description

The Project will consist of solar photovoltaic panels that generate direct current (DC) electricity when exposed to sunlight. The panels will be stationary, arranged in rows mounted off the ground and tilted to the south to catch the sun’s rays. Electricity generated by the rows of panels is collected through underground cabling by inverters which convert the DC electricity to alternating current (AC). The AC current then continues from the inverters through underground cabling to a single main facility substation. At this substation, a transformer increases the voltage to the level of voltage of the electricity distribution grid. The Project will provide electricity to the grid by interconnecting with the existing distribution line on Quarry Road, southwest of the Project site. Other Project components include a small parking area, control house and internal access road network. The proposed site plan layout from the Construction Plan Report is provided in Figure 1.

Construction of the Project is scheduled to commence April 2012, subject to receipt of the REA and any other permits or approvals that may be required. Construction will last for approximately 6 months, with commissioning of the facility scheduled for November 2012. The commercial operation date and associated construction schedules proposed herein are currently estimates based on a number of variables. The start of construction and operations dates for the project may be significantly changed, either accelerated or delayed, due to changes in expected timeframes for regulatory approval, equipment procurement, and/or project scheduling optimization.

Commissioning is the process of assuring that all systems and components of the Project are installed, tested, and operating safely and according to its operational requirements. The main construction activities will include site preparation (road and parking area construction, minor vegetation removal and grading), installation of facilities (racking structures, solar panels, underground cabling, inverters and substation components), testing and commissioning and site restoration.

The facility is expected to operate for 30 years prior to decommissioning. Upon decommission the site, all Project components will be removed and the site will be restored to its previous agricultural use.

1.4: Project Benefits

The proposed Project will result in a number of social and environmental benefits, both at a local level and throughout the Province of Ontario.

Social Benefits

Operation of the Project will result in production of approximately 11.3 million kWh of electricity per year, enough to power approximately 1100 average homes. Construction and operation of the Project will result in the creation of jobs for the people of Ontario throughout the life of the Project – from initial development, design and manufacture, to construction and ongoing maintenance. At least 60% of the materials for the Project will be made or sourced from Ontario. This will help contribute to the Province’s goal of creating 50,000 jobs in the green energy industry. The Project will also result in benefits for the local landowner of the Project.

Environmental Benefits

Solar PV is among the safest and cleanest sources of energy generation. It uses only the sun, a completely renewable energy source, as its fuel, with no harmful pollutants emitted due to electricity generation. The Project will help Ontario to meet its goal of increasing the amount of energy generated from green renewable sources in the Province. This will assist in helping the Province phase out heavily polluting, non-renewable coal generation by 2014, therefore greatly reducing emissions associated with power generation. Further, operation of the facility will result in minimal waste generation and very limited use of raw materials (e.g., minimal water requirements for cleaning purposes), limiting the long-term environmental impacts associated with power generation.

Benefits to Ontario

The Project will help Ontario to meet its goal of doubling the amount of energy generated from renewable sources by 2025.

This will allow the Province to phase out existing coal generating facilities by 2014, which will substantially reduce air emissions due to power generation activities.

The RE Waubaushene 4 Project will assist the Province in meeting these important goals.

1.5: Renewable Energy Approval Process

The environmental approval for renewable energy projects is called the **Renewable Energy Approval (REA)**. It is regulated by the Ministry of the Environment (MOE) and the Ministry of Natural Resources (MNR). To obtain a Renewable Energy Approval, the Project is subject to the requirements of Ontario

Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, (herein referred to as the REA Regulation) created under the *Environmental Protection Act*. The REA Regulation identifies a process to engage and receive feedback from the public, Aboriginal communities, municipal and regulatory agencies. As part of the REA Regulation, RE Waubashene 4 ULC is required to prepare a number of documents to describe the Project and identify potential adverse effects. Any adverse effects will be prevented or minimized through mitigation measures and monitoring commitments. These documents are required to be made available for public, Aboriginal, municipal and agency review and comment prior to submission of the REA Application to the MOE. The documents that are included in this package for review include:

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

The Natural Heritage and Water Body Reports identified several environmental features within 120 m of the Project site including two tributaries of North River, significant wildlife habitat and a woodland. Mitigation measures have been specified to prevent and/or minimize adverse effects on this feature due to construction, operation and eventual decommissioning of the facility. A letter from the Ontario Ministry of Natural Resources confirming that the Natural Heritage Assessment satisfies the REA Regulation criteria is provided in Appendix 9.

Stage 1 & 2 Archaeological Assessments were conducted on the Project site to assess the potential for presence of archaeological features that could be disturbed due to construction. No archaeological resources were discovered during these studies. A letter from the Ministry of Tourism and Culture confirming that the Stage 1 and 2 Archaeological Assessment is acceptable is provided in Appendix 14.

A Heritage Checklist was completed to determine if a heritage resource was located on the property. The results indicated that a heritage resource was not located on the property and therefore a heritage assessment was not required. For further information relating to protected properties and heritage resources please refer to Appendix 15.

A noise study was undertaken to assess noise emissions from the inverters and transformer. The

Benefits to Ontario

Power 1,100 homes with clean, sustainable energy.

60% of materials made or sourced from Ontario.

Contribute to the goal of creating 50,000 jobs in the Province's renewable energy industry through the Feed-In Tariff program.

solar panels themselves do not emit noise. Mitigation measures (e.g., sound enclosures over the transformer) will be applied as necessary to ensure the Project meets MOE requirements with respect to noise levels in rural environments.

Summaries of each of these reports are provided in Appendix A.

1.6: Guide to Reviewing Project Reports

The REA Regulation requires that the reports discussed in Section 1.4 be made available for Aboriginal and public review at least 60 days in advance of the second public information centre for the Project. This section of the Executive Summary has been prepared to use as a guide when reviewing and commenting on these reports.

Figure 2 identifies the Project reports that are available for review, summarizes the purpose of each report and identifies a logical progression in which reports should be read to form a complete understanding of the Project and its potential environmental implications. If read in this sequence, the first reports provide information on Project construction, operation and decommissioning plans. Next, the reports identify the existing environmental features on or near the site. Finally, the remaining reports assess the potential adverse effects based on the interactions of the Project components and activities with the environmental features.

If you have any questions or require clarification on any of the information contained within these reports, you may contact Mr. Boucher by phone. However, all comments on the Project should be submitted in writing by letter, fax or email.

Once all comments have been received, they will be compiled and reviewed by Recurrent Energy and Hatch. A Consultation Report will be prepared identifying all comments received and how each comment has been addressed, and where necessary, how reports have been changed as a result.

Once all comments have been addressed, the complete REA application package, including the application form and all of the Project reports, will be submitted to the MOE for review. The MOE will then have 6 months to review the application and make a decision on the Project. The MOE's decision will be posted for a 15-day comment period on the Environmental Bill of Rights (EBR) Registry. Provided no appeal requests are received, the Project could commence, subject to receipt of any other permits and approvals that may be required.

Submitting Comments

Comments on these reports should be submitted, in writing, no later than February 22, 2011, to the attention of:

Noel Boucher, B.Sc.
Environmental Coordinator
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON, Canada L2E 7J7
Tel: 905-374-0701 ext. 5757
Email: nboucher@hatch.ca

Figure 1: Site Layout

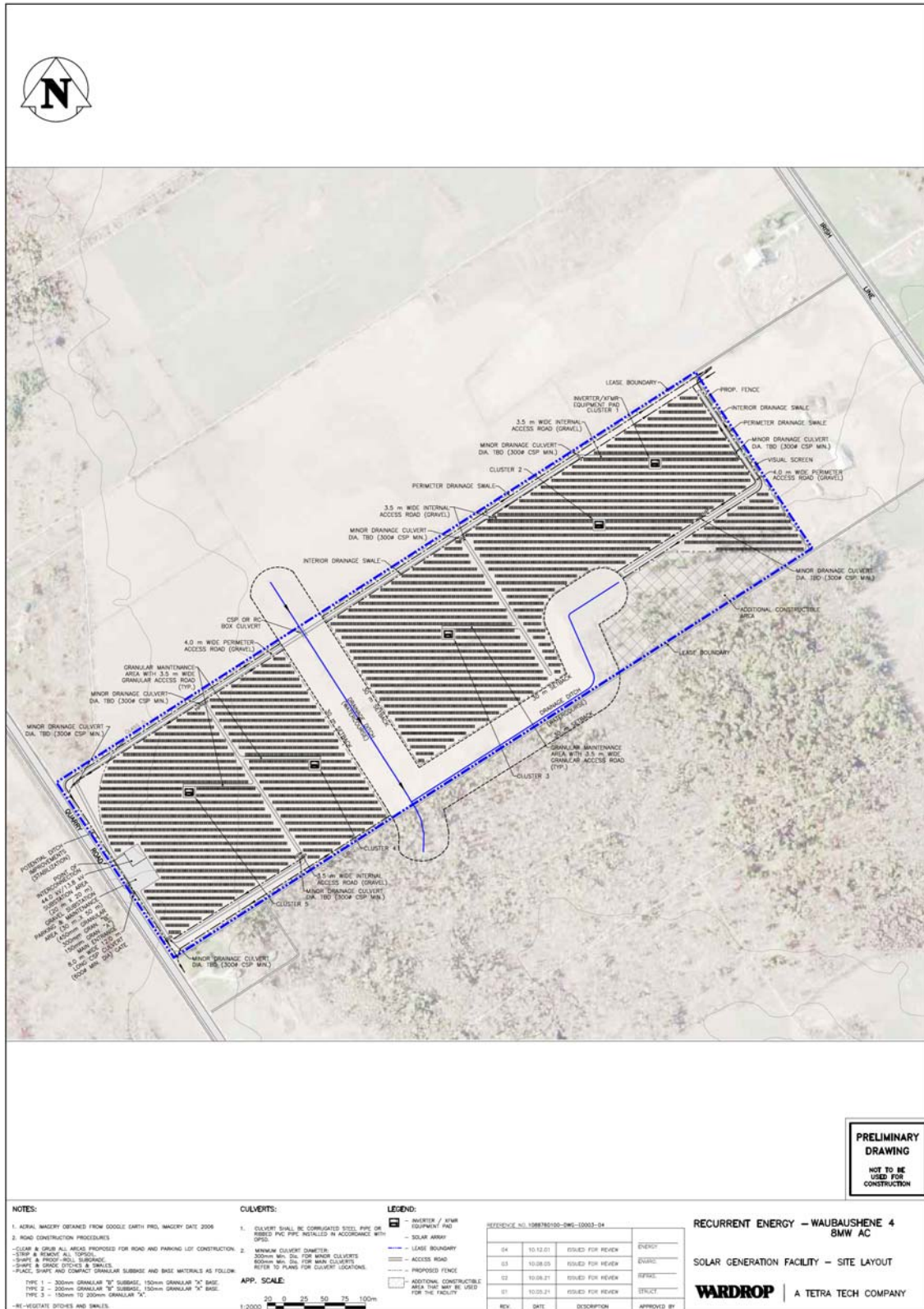


Figure 2: Project Reports

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

Appendix A: Project Report Summaries

Appendix A1 – Project Description Report Summary
Appendix A2 – Construction Plan Report Summary
Appendix A3 – Design and Operations Report Summary
Appendix A4 – Decommissioning Plan Report Summary
Appendix A5 – Natural Heritage Records Review Report Summary
Appendix A6 – Natural Heritage Site Investigation Report Summary
Appendix A7 – Natural Heritage Evaluation of Significance Report Summary
Appendix A8 – Natural Heritage Environmental Impact Study Summary
Appendix A9 – MNR Confirmation Letter
Appendix A10 – Water Body Records Review Report Summary
Appendix A11 – Water Body Site Investigation Report Summary
Appendix A12 – Water Body Environmental Impact Study Summary
Appendix A13 – Stage 1 & 2 Archaeological Assessment Report Summary
Appendix A14 – MTC Confirmation Letter
Appendix A15 – Protected Properties and Heritage Resources
Appendix A16 – Noise Study Report Summary

Appendix A1
Project Description
Report Summary

RE Waubaushene 4 ULC RE Waubaushene 4 Solar Project Summary

Project Description Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Project Description Report for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located approximately 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as "RE Waubaushene 4" or the "Project".

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

2. Project Proponent

The RE Waubaushene 4 Project is being proposed by RE Waubaushene 4 ULC, a Nova Scotia Unlimited Liability Company owned by Recurrent Energy, LLC through its subsidiaries.

RE Waubaushene 4 ULC has retained Hatch Ltd., an Ontario-based environmental and engineering consulting company, to undertake the REA process.

3. Summary of Project

The proposed Project consists of an 8-MW Class 3 solar facility, constructed on privately owned land in the Township of Severn. RE Waubaushene 4 ULC has entered into a lease agreement with the private landowner for a lease term of 30 years. RE Waubaushene 4 ULC has obtained a contract from the Ontario Power Authority (OPA) to buy the power produced by the proposed facility under the Feed-In-Tariff (FIT) program for a period of 20 years. The proposed commercial operation date is November 2012. Decommissioning of the facility would likely not occur until around 2043.

Construction of the proposed facility would occur over a 6 to 9 month period with major construction activities, including site preparation, access road construction, installation of solar panels (including footings, support structures and panels), installation of inverters and transformer and all electrical cabling and site rehabilitation following construction.

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

4. Potential Environmental Effects

The PDR summarized the existing environmental features on the Project site. The site primarily consists of agricultural land with a portion of a larger woodland on and adjacent to the Project site. A series of constructed drainage ditches, all tributaries of the North River, runs through the Project site.

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

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

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

5. Outline of REA Process

The PDR provided a point form outline of the REA process including the main points of Aboriginal, public and agency consultation and reporting and assessment requirements, including identification of the Project reports required to be prepared under the REA Regulation.

6. Project's Social and Environmental Benefits

Benefits provided by the Project include

- increasing diversity, reliability, public health and environmental benefits of energy mix
- promoting stable electricity prices
- protecting public health and improving environmental quality
- ameliorating air quality problems
- improving public health by reducing the burning of fossil fuels
- enhancing energy resource diversity.

Appendix A2
Construction Plan
Report Summary

RE WAUBAUSHENE 4 PROJECT SUMMARY: CONSTRUCTION PLAN

Introduction:

RE Waubashene 4 (the "Project") is made by RE Waubashene 4 ULC. As per the March 1, 2010 draft of *Technical bulletin three: Guidance for preparing the Construction Plan Report as part of an application under O.Reg.359/09 PIBS 7438e* made under the Renewable Energy Approvals, the following is a summary of the reporting completed for the DRAFT Construction Plan for the RE Waubashene 4 Solar Project.

RE Waubashene 4 ULC is proposing to develop and operate an 8 megawatt (MW) facility on a parcel of agricultural land totalling approximately 32 hectares located about 7 km northeast of Coldwater, Ontario, in the Township of Severn, County of Simcoe, Province of Ontario (herein referred to as RE Waubashene 4 project).

The Project will consist of solar photovoltaic panels that generate direct current (DC) electricity when exposed to sunlight. This project will use 230W – 280W crystalline photovoltaic modules to form the solar panel arrays. The panels will be stationary, arranged in rows mounted off the ground with a fixed tilt angle to the south to catch the sun's rays. Electricity generated by the rows of panels is collected through underground cabling by inverter/transformer pairs which convert the DC electricity to alternating current (AC) at a specified voltage. The AC current then continues from the inverters through underground cabling to a single main facility substation. At this substation, the main power transformer increases the voltage to the level of voltage of the electricity distribution grid. The power passes through protective relays (SEL - 351) and fault - breaking switches before being delivered to Hydro One's electrical network. The total installed capacity of the Project is 8 MW AC.

Construction:

The construction of the facility will be conducted in three phases:

- Phase 1: Site preparation;
- Phase 2: Construction and Installation; and
- Phase 3: Post-installation.

Construction of the facility is scheduled to begin in April 2012 and be complete by November 2012.

Phase 1 – Site Preparation

Site preparation activities includes: connecting a temporary power supply; site survey and staking; road and parking area construction; water well installation; preparation of site including, removal of vegetation and topsoil and compaction of sub-grade, land preparation for construction of substation and control house, shaping of ditches and swales and; installation of a perimeter security fence.

Schedule: April 27, 2012 – September 3, 2012.

Phase 2 – Construction and Installation

Construction and installation activities includes: excavation of substation area for footings, foundations and oil containment area; construction of substation and control house; installation of culverts across ditches to the public roadways and; installation of panels, transformers, inverters, cable and other equipment. The site will accommodate approximately 28,900 solar panels.

Schedule: July 10, 2012 – November 13, 2012

Phase 3 – Post-installation

Post-installation activities include re-seeding/re-vegetating the site including ditches and swales and testing of systems prior to commencement of operations known as commissioning and commissioning of the interconnection.

Schedule: October 29, 2012 – November 13, 2012

Re-seeding/re-vegetating the site including ditches and swales will occur in the spring of 2013 when weather conditions allow. A non-invasive, native, low-maintenance plant species will be spread in order to reduce soil erosion.

Communications and Emergency Response:

Outlined in the report is a general plan for emergency communications and response at the site, including a listing of applicable local contacts for each type of emergency. A response plan to deal with general inquiries is also included in the report. A detailed emergency response plan will be developed in consultation with the local municipal authorities and emergency response agencies prior to the commencement of the construction.

Appendix A3
Design and Operations
Report Summary

RE WAUBAUSHENE 4 PROJECT SUMMARY: DESIGN & OPERATIONS

Introduction:

RE Waubashene 4 (the "Project") is made by RE Waubashene 4 ULC. As per the March 1, 2010 draft of *Technical bulletin two: Guidance for preparing the Design and Operations Report as part of an application under O.Reg.359/09 PIBS 7437e* made under the Renewable Energy Approvals, the following is a summary of the reporting completed for the DRAFT Design and Operations of the RE Waubashene 4 Solar Project.

RE Waubashene 4 ULC is proposing to develop and operate an 8 megawatt (MW) facility on a parcel of agricultural land totalling approximately 32 hectares located about 7 km northeast of Coldwater, Ontario, in the Township of Severn, County of Simcoe, Province of Ontario (herein referred to as RE Waubashene 4 project).

The Project will consist of solar photovoltaic panels that generate direct current (DC) electricity when exposed to sunlight. This project will use 230W – 280W crystalline photovoltaic modules to form the solar panel arrays. The panels will be stationary, arranged in rows mounted off the ground with a fixed tilt angle to the south to catch the sun's rays. Electricity generated by the rows of panels is collected through underground cabling by inverter/transformer pairs which convert the DC electricity to alternating current (AC) at a specified voltage. The AC current then continues from the inverters through underground cabling to a single main facility substation. At this substation, the main power transformer increases the voltage to the level of voltage of the electricity distribution grid. The power passes through protective relays (SEL - 351) and fault - breaking switches before being delivered to Hydro One's electrical network. The total installed capacity of the Project is 8 MW AC.

Structures:

In addition to the PV panels, the facility will consist of a substation with a power transformer, control house, and internal access roadways.

Structural components in the substation area will include:

- Footings and oil containment system for the power transformer;
- Footings for the control house; and
- A pre-fabricated control house to enclose the protection and control equipment.

The internal road system will consist of approximately 3,240 m of granular roadways with widths varying from 3.5 to 5.0 m and varying depths of granular pavement structure depending on the type of subsoils encountered on the site.

Stormwater:

In general, the development will follow the existing topography of the site to the greatest extent possible in order to minimize the extent of re-grading required and to maintain existing drainage patterns. A system of swales, ditches and culverts will be constructed to collect and transport stormwater runoff through the site to existing drainage outlets. These swales and ditches will generally be installed adjacent to the proposed internal roadways and will be lined with vegetation to minimize the potential for erosion.

Maintenance:

Maintenance will include panel repairs, panel washing, maintenance to transformers, inverters and other electrical equipment as needed, maintenance to the oil/water separator system and road and fence repairs. Inspections will occur monthly and all items will be documented and repairs will take place accordingly, as required.

As part of maintenance to the property, vegetation onsite will be managed appropriately. Control of the vegetation will be satisfied to allow access to all areas of the site, as well as maintaining good aesthetics.

A water well will be installed during the construction phase of the project. The water will be used for panel washing and dust control (when required). Panels will be washed as needed, current plans are three times per year. It is estimated that approximately 20,560 L of water would be drawn from the well over three or four days for each panel washing maintenance cycle.

The facility electrical operations will be monitored remotely with a SCADA system. The facility will be monitored by security cameras installed around the facility.

Communications and Emergency Response:

Outlined in the report is a general plan for emergency communications and response at the site, including a listing of applicable local contacts for each type of emergency. A response plan to deal with general inquiries is also included in the report. A detailed emergency response plan will be developed in consultation with the local municipal authorities and emergency response agencies prior to the commencement of the construction.

Appendix A4
Decommissioning Plan
Report Summary

RE WAUBAUSHENE 4 PROJECT SUMMARY: DECOMMISSIONING

Introduction:

RE Waubashene 4 (the "Project") is made by RE Waubashene 4 ULC. As per the March 1, 2010 draft of *Technical bulletin four: Guidance for preparing the Decommissioning Plan Report as part of an application under O.Reg.359/09 PIBS 7439e* made under the Renewable Energy Approvals, the following is a summary of the reporting completed for the DRAFT Decommissioning Plan for the RE Waubashene 4 Solar Project.

Decommissioning includes details for the RE Waubashene 4 facility at the cease of operations, or if the facility is abandoned before completion. The area is currently farm land and the intent of the decommissioning process will be to return the location to as close to the baseline conditions established in 2009 as possible.

Waubashene 4 ULC is proposing to develop and operate an 8 megawatt (MW) facility on a parcel of agricultural land totalling approximately 32 hectares) located about 7 km northeast of Coldwater, Ontario, in the Township of Severn, County of Simcoe, Province of Ontario (herein referred to as RE Waubashene 4 project).

The Project will consist of solar photovoltaic panels that generate direct current (DC) electricity when exposed to sunlight. This project will use 230W – 280W crystalline photovoltaic modules to form the solar panel arrays. The panels will be stationary, arranged in rows mounted off the ground with a fixed tilt angle to the south to catch the sun's rays. Electricity generated by the rows of panels is collected through underground cabling by inverter/transformer pairs which convert the DC electricity to alternating current (AC). The AC current then continues from the inverters through underground cabling to a single main facility substation. At this substation, the main power transformer increases the voltage to the level of voltage of the electricity distribution grid. The power passes through protective relays (SEL - 351) and fault - breaking switches before being delivered to Hydro One's electrical network. The total installed capacity of the Project is 8 MW AC.

Removal of Equipment:

The decommissioning and restoration process comprises removal of above ground structures; removal of below ground structures; and restoration of topsoil, re-vegetation and seeding.

It is anticipated that structures will be fully removed from the ground. In the event that a structure breaks off below 1.2 m (4 feet) below the ground surface, the remaining section

will be left in place. If the structure breaks off in the upper 1.2 m (4 feet) of soil, it will be excavated and removed.

Removal of the above ground equipment includes electrical wiring, the equipment on the inverter pads and the interconnection transformer pad and associated equipment. The equipment will be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers and secured in a truck transport trailer for shipment off-site.

Removal of the solar modules includes removing the racks which the solar panels are attached and placed in secure transport crates and into a trailer for storage for ultimate transportation to another facility. The bolts and reusable fasteners, attaching each module to the racks, will be removed will be saved for re-use, where possible. Once the solar modules have been removed, the racks will be disassembled and the structures supporting the racks will be removed. These components will be scraped and sold for salvage value.

All other associated site infrastructure will be removed which includes roads, fences, awnings, concrete pads that supported the inverters, transformers and related equipment, and the underground electrical wiring. The fence and gate shall be removed and all materials recycled to the greatest extent possible. The culvert crossing will be removed if requested by the landowner and approved by the applicable roads authority.

Site Restoration:

All road and other areas compacted during original construction or by equipment used in the decommissioning, shall be tilled in a manner adequate to restore the sub-grade material to the proper density and depth consistent with the surrounding fields. Low areas will be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, topsoil will be placed to a depth and density consistent with the surrounding field. Compost will be applied to the topsoil spread and then the entire site will be tilled to further loosen the soil and blend in the compost.

Finally, an appropriate seed mixture, in accordance with the lease agreement with the landowner, subject to guidelines of local and provincial authorities, will be broadcast or drilled across the site and weed-free mulch spread will be crimped in to stabilize the soil until germination takes place and the young plants are established to facilitate moisture retention in the soil which, helps improve germination and survival of the seedlings.

Communications and Emergency Response:

Outlined in the report is a general plan for emergency communications and response at the site, including a listing of applicable local contacts for each type of emergency. A response plan to deal with general inquiries is also included in the report. A detailed emergency response plan will be developed in consultation with the local municipal authorities and emergency response agencies prior to the commencement of the decommissioning.

Appendix A5
Natural Heritage
Records Review Report Summary

RE Waubaushene 4 ULC
RE Waubaushene 4 Solar Project
Summary

Natural Heritage Records Review Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Records Review Report for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located about 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as “RE Waubaushene 4” or the “Project”.

Section 25 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Natural Heritage Records Review. Records were searched within a minimum distance of 1 km from the Project site from Ministry of Natural Resources (MNR), federal government, County of Simcoe, Township of Severn and other relevant sources.

2. Results

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

- a woodland is located along the southern boundary of the Project location, with minor occurrence in the southeastern portion of the Project location
- no specific wildlife habitat features, valleylands, wetlands, or ANSI's were identified within 120 m of the Project location
- no Crown land and, therefore Crown Forest Resources were identified within the vicinity of the Project location
- no active petroleum resource operations were identified within 300 m of the Project location
- the Natural Heritage Information Centre (NHIC) did not identify any occurrences of species at risk within the vicinity of the Project site
- the Ontario Herpetofaunal Summary Atlas identified several species of reptile and amphibian whose ranges may include with the Project site of which several are species at risk including Milksnake (*Lampropeltis triangulum*), Massasauga (*Sistrurus catenatus*), Eastern Hog-nosed Snake (*Heterodon platirhinos*), Blanding's Turtle (*Emydoidea blandingii*), Snapping Turtle (*Cheyltra serpentine*) and Western Chorus Frog (*Pseudacris triseriata*)

- ♦ habitat for Blanding’s Turtle, Eastern Hog-nosed Snake and Massassauga are protected under the Endangered Species Act, and therefore are considered separately from the Natural Heritage Assessment
- in the Ontario Breeding Bird Atlas, species at risk were identified within the vicinity of the Project: Red-headed Woodpecker (*Melanerpes erythrocephalus*), Olive-sided Flycatcher (*Contopus cooperi*), and Bobolink (*Dolichonyx oryzivorus*)
 - ♦ habitat for Bobolink is protected under the Endangered Species Act, and therefore are considered separately from the Natural Heritage Assessment.

3. Conclusions

Table 3.1 summarizes the results of the records review.

Table 3.1 Summary of Records Review Determinations

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

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

Appendix A6
Natural Heritage
Site Investigation Report Summary

RE Waubaushene 4 ULC RE Waubaushene 4 Solar Project Summary

Natural Heritage Site Investigations Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Site Investigations Report for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located about 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as "RE Waubaushene 4" or the "Project".

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

2. Results

- The Project location is composed primarily of agricultural lands, with fields separated by drainage channels.
- Woodland was assessed according to the Ecological Land Classification as a Mixed Forest Community (FOM).

The Significant Wildlife Habitat Technical Guide (SWHTG) identified the following types of wildlife habitat: habitat for seasonal concentrations of animals, rare or specialized habitats for wildlife, habitat for species of conservation concern, wildlife movement corridors:

- habitat criteria for seasonal concentrations of animals were considered during the site investigation, and candidate habitat for raptor winter feeding and roosting areas were noted as a candidate seasonal concentration area
- no rare vegetation communities were identified on or within 120 m of the Project location
- specialized habitats for wildlife were considered during the site investigation and habitat for Savannah Sparrow, an area sensitive species was noted as a specialized habitat

- candidate significant wildlife habitat for species of conservation concern was considered during the site investigation, and candidate significant wildlife habitat for Milksnake was noted and will be considered in the Evaluation of Significance
- animal movement corridors are present within the hedgerows and woodland on and within 120 m of the Project location.

3. Conclusions

Based on the results from the site investigation, there are no corrections to the Records Review required.

There are several natural features present on and within the Project location that will require an Evaluation of Significance in order to determine whether Environmental Impact Studies are required. These are

- wildlife habitat on and within 120 m of the Project location, including
 - ◆ raptor winter feeding and roosting areas
 - ◆ habitat for Savannah Sparrow, an area sensitive species
 - ◆ animal movement corridor present in the hedgerow north of the Project location, and woodland on and within 120 m south of the Project location
 - ◆ habitat for Milksnake, a species of conservation concern
- woodland on and within 120 m of the Project location.

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

Appendix A7
Natural Heritage
Evaluation of Significance
Report Summary

RE Waubaushene 4 ULC RE Waubaushene 4 Solar Project Summary

Natural Heritage Evaluation of Significance

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Evaluation of Significance for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located about 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as "RE Waubaushene 4" or the "Project".

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

- wildlife habitat, including
 - ◆ habitat for species of concern (Milksnake)
 - ◆ habitat for area sensitive species (Savannah Sparrow)
 - ◆ raptor winter feeding and roosting areas on and within 120 m of the Project location
 - ◆ animal movement corridors associated with the hedgerows and woodland
- woodland on and within 120 m of the Project location.

2. Results

2.1 Wildlife Habitat

The criteria and processes outlined in the Ministry of Natural Resources Natural Heritage Reference Manual (NHRM) and Significant Wildlife Habitat Technical Guide (SWHTG) were used to evaluate the significance of wildlife habitat.

Criteria for evaluation of seasonal concentration areas are identified within Table Q-1 of Appendix Q of the SWHTG. Candidate raptor winter feeding and roosting areas on and within 120 m of the Project location were determined not to be significant due to the abundance of this habitat type within the region, high snow loads and nearby disturbances.

Criteria for evaluation of seasonal concentration areas are identified within Table Q-2 of Appendix Q of the SWHTG. Candidate habitat for Savannah Sparrow, an area sensitive species was determined not to be significant due to the abundance of this habitat type in the area and the level of the disturbance presence within the suitable habitat.

Criteria for evaluation of seasonal concentration areas are identified within Table Q-3 of Appendix Q of the SWHTG. Given that Milksnake are habitat generalist, the entire Project location is considered to be suitable habitat. As Milksnake are difficult to detect, use of the area was unconfirmed, and the size of the population is uncertain. The site is located on private land and therefore long-term protection cannot be assured. Milksnake are identified as a species of Special Concern on the Endangered Species Act, and therefore though use is unconfirmed, the area is treated as significant wildlife habitat and carried forward to the Environmental Impact Study.

Criteria for evaluation of seasonal concentration areas are identified within Table Q-4 of Appendix Q of the SWHTG. The hedgerows were not considered to be a significant animal movement corridor given that there are larger wooded areas present in the local area and the hedgerows are discontinuous and composed primarily of shrubs.

The woodland on and within 120 m of the Project location was not considered to be a significant animal movement corridor due to the fact that it is surrounded by a quarry and agricultural lands, therefore it does not provide a link between critical habitats.

2.2 Woodlands

The criteria for establishing woodland significance is identified within Section 7 of the NHRM. Criteria used includes: woodland size (> 20 ha in size), ecological function (e.g. woodland interior, proximity to other woodlands or other habitats, linkages, water protection, woodland diversity), uncommon characteristics, and economical and social functional values.

The woodland on and within 120 m of the Project location was determined to be significant as it met the criteria for size (52.4 ha), forest interior (22.9 ha), and water protection (within 30 m of a watercourse).

3. Conclusions

Table 3.1 summarizes the results of the Evaluation of Significance Report.

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

Natural Feature		Project Location	Adjacent Lands (within 120 m)	Notes
SIGNIFICANT	Woodland	Yes	Yes	The large woodland on and within 120 m of the Project location is significant.
	Wildlife Habitat	Yes	Yes	All lands on and within 120 m of the Project location are considered to be significant wildlife habitat for Milksnake
	Valleyland	No	No	
PROVINCIALY SIGNIFICANT	Wetland	No	No	
	Earth Science ANSI	No	No	
	Life Science ANSI	No	No	

Therefore, of the natural heritage features evaluated, the woodland, and the significant wildlife habitat associated with the agricultural land and woodland will require an Environmental Impact Study as per Section 38 of the REA Regulation.

Appendix A8
Natural Heritage
Environmental Impact Study
Summary

RE Waubaushene 4 ULC
RE Waubaushene 4 Solar Project
Summary

Natural Heritage Environmental Impact Study

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Environmental Impact Study for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located about 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as "RE Waubaushene 4" or the "Project".

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

The woodland and Milksnake habitat located on and within 120 m of the Project site was identified as significant and therefore an EIS was completed. The EIS concluded that there will be no significant negative effects on the significant wildlife habitat and woodland.

2. Results

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

Table 2.1 Summary of Potential Negative Environmental Effects and Proposed Mitigation

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Vegetation Communities/Wildlife Habitat		
Construction	Removal of vegetation due to direct encroachment on the natural feature.	Direct encroachment may be required within a portion of the significant woodland. Up to 3 ha of woodland may be removed if needed. Areas removed are located along the edge of the woodland, and consist entirely of edge habitat. Total area removed is approximately 6%. This will have a negligible effect on the woodland and will not impact its designation of significance. Therefore removal of this portion will not result in an impact to form or function of the feature. Work areas will be clearly flagged, workers to be made aware not work beyond the extent of the cleared areas. All trees felled into cleared areas, cleared and grubbed materials to be stored away from remnant vegetation.
Construction/ Decommissioning	Heavy dust may impact photosynthesis due to fugitive dust generation.	Use of dust suppressant, phased construction and decommissioning, stockpiles to be stabilized and/or covered, avoid earthworks during windy days.
Construction	Increase in surface water runoff rate and alter surface water pattern and therefore effect vegetation due to land grading and ditching, soil compaction, and vegetation removal	Minor grading will occur and take into consideration current land grade to replicate present stormwater flow pattern. Discing or other soil loosening methods will be used on compacted areas. Long-term ground cover will be planted.
Operations	Placement of solar panels within significant wildlife habitat for Milksnake.	Presence of the Project may result in movement away from these areas. However, Milksnake are habitat generalist. And once the vegetation has grown in and naturalized the Project location, the change in the site is not anticipated to displace or exclude any Milksnake, particularly in the fall or spring when the ambient temperatures become cooler
Operations	Alterations to surface water runoff and therefore vegetation communities due to changes in grading and ditching, impervious or less pervious surfaces and changes in vegetation.	Minor grading will occur and take into consideration current land grade to replicate present stormwater flow pattern. Long-term ground cover will be planted. Impervious and less pervious soils drain into ditches or localized areas; therefore no appreciable impact to local drainage patterns.
Decommissioning	Alterations to surface water runoff due to changes in grading and changes in vegetation.	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Wildlife Communities		
Construction/ Decommissioning	Auditory and visual disturbance of local wildlife populations may result in a short-term reduction of resident populations.	Construction may occur during wildlife breeding season, any wildlife species breeding on the Project location, such as nesting birds, may be directly impacted. Major construction activities with the potential to disturb breeding wildlife will be timed wherever possible to occur outside of the breeding bird period (generally May through July). Such activities will include tree removal, land grading, excavations, construction of access roads, and trenching. If these activities are required during the breeding wildlife period, the areas potentially impacted will be search by a trained biologist within 48 hours of the proposed activity. If nests are found, work will be suspended within 100 m of the nest location until such a time as the nest is successful or abandoned. In order to minimize incidental take of wildlife, vehicular speeds on access roads will be restricted. Daily visual monitoring of the work area and construction equipment will be completed to search for reptiles and amphibians to ensure that potential impacts to these species are minimized. Construction workforce will be made aware of the potential for wildlife occurring on the Project site and that measures should be taken to avoid wildlife wherever possible. If wildlife are observed on the Project location, they will be either directed off of the Project location by a worker or collected by a designated employee, who has been provided with protocols for the safe handling and transport of wildlife, and transported to the nearest available location off site and released.
Operations	Auditory and visual disturbance of local wildlife populations may result in a short-term reduction of resident populations.	In order to minimize incidental take of wildlife, vehicular speeds on access roads will be restricted. Visual monitoring of access roads will also occur. Workforce will be made aware of the potential for wildlife occurring on the Project site and that measures should be taken to avoid wildlife wherever possible. If wildlife are observed on the Project location, they will be either directed off of the Project location by a worker or collected by a designated employee, who has been provided with protocols for the safe handling and transport of wildlife, and transported to the nearest available location off site and released. Mowing may be required beneath and around the solar panels, and may result in incidental take. Known occurrences of incidental take will be reported and species

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		impacted will be documented. If the species is determined to be a species of conservation concern, work within the area will be ceased immediately, and the MNR/EC will be contacted to make them aware of the occurrence. Work in the area will remain ceased until a survey is conducted by a trained biologist to ensure that there are no further species of conservation concern present in the area.

Table 5.1 in the EIS summarizes the proposed monitoring plan.

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

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

3. Conclusions

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

Overall, while the Project will result in some changes to the natural environment, specifically the potential clearing of a small portion of the significant woodland and the placement of Project components within significant Milksnake habitat, however no negative effects on these significant natural features are anticipated to occur following implementation of the mitigation and monitoring measures proposed.

Appendix A9
MNR Confirmation Letter

November 23, 2010

RE Waubaushene 4 ULC
c/o Bob Leah, Recurrent Energy LLC
800 E. Northwest Highway
Suite 611
Palatine, Illinois
60074

Dear Mr. Leah:

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 RE Waubaushene 4 Solar Project in the Township of Severn submitted by RE Waubaushene 4 ULC on November 11, 2010.

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 and environmental impact study, including those sections describing the Environmental Effects Monitoring Plan and Construction Plan Report. Should any changes be made to the proposed project that would alter the NHA, MNR may need to undertake additional review of the NHA.

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

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

If you wish to discuss any part of this confirmation or additional comments provided, please contact Whitney Moore, Renewable Energy Planning Ecologist, Midhurst District by phone at 705-725-7560 or by e-mail at whitney.moore@ontario.ca.

Sincerely,



Mark Shoreman
District Manager
Midhurst District MNR

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

Appendix A10
Water Body
Records Review Report
Summary

RE Waubaushene 4 ULC RE Waubaushene 4 Solar Project Summary

Water Body Records Review Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Water Body Records Review Report for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located approximately 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as "RE Waubaushene 4" or the "Project".

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

2. Results

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

- two water features within 120 m of the Project site
- Watercourse A originates on the property north of the Project site and flows southeastward through the Project site, entering the woodlot to the southeast
- Watercourse B is located north east of the Project site and appears to originate adjacent to the Project boundary, flowing north and east through the adjacent agricultural fields
- both watercourses are tributaries of the North River
- the County of Simcoe mapping identified that Watercourse A appears to be a constructed linear drain and does not appear to be tilled or driven
- the County of Simcoe mapping also identified Watercourse B as a constructed drain, running in a narrow corridor.

3. Conclusions

Table 3.1 summarizes the results of the records review.

Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in a water body?	No	No part of the Project will be constructed within a water body.
Is the Project within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity?	No	No lakes are present on or within 120 m of the Project site.
Is the Project within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity?	No	No lake trout lakes are present on or within 300 m of the Project site
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	Several watercourses are located on the Project site.
Is the Project within 120 m of a seepage area?	No	No seepage areas were found within 120 m of the Project during the records review.

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

Appendix A11

Water Body Site Investigation Report Summary

RE Waubaushene 4 ULC RE Waubaushene 4 Solar Project Summary

Water Body Site Investigations Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Water Body Site Investigations Report for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located approximately 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as "RE Waubaushene 4" or the "Project".

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

2. Results

Four drainage channels were observed on or within 120 m of the Project site. They are described as follows:

Drain A

- originates in the agricultural field north of the Project, flows through the Project site in a linear corridor and enters the woodlot south of the Project site
- is a tributary of the North River
- channelized and runs in a straight line across the Project site
- meets the definition of a water body noted in the REA Regulation

Drain B

- originates near the western end of the Project site and flows in a northeasterly direction
- little to no water observed in the channel during the site investigation and it appears to serve only as a stormwater conveyance feature
- does not meet the definition of a water body as per the REA Regulation since it is more consistent with a grassed channel used for temporary surface drainage

Drain C

- is an excavated, linear drainage channel that runs in a westerly direction longitudinally through the Project area before draining into Drain A
- some standing water in portions of the drain during site investigation, although it appears to function as an intermittent stormwater conveyance feature
- does not meet the REA Regulation definition of a water body, since it is more consistent with a grassed channel used for temporary surface drainage

Drain D

- located along the southern periphery of the Project site
- consists of an excavated channel through scrub land and a portion of the woodlot adjacent to the agricultural fields before draining into Drain A south of the Project site
- isolated pools of standing water observed during site investigation
- meets the definition of a water body as per the REA Regulation

3. Conclusions

Drain A and Drain D will require an Environmental Impact Study (EIS) as per Sections 39 and 40 of the REA Regulation in order to determine i) any potential negative environmental effects on the natural features ii) identify mitigation measures iii) describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects and iv) describe how the Construction Plan Report addresses any negative environmental effects.

Appendix A12
Water Body
Environmental Impact
Study Summary

RE Waubaushene 4 ULC
RE Waubaushene 4 Solar Project
Summary

Waterbodies Environmental Impact Study

1. Introduction

As per Section 17 of the Renewable Energy Approvals Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Waterbodies Environmental Impact Study Report for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located approximately 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as "RE Waubaushene 4" or the "Project".

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

This EIS was completed on two drains (tributaries of North River) present on and within 120 m of the Project site.

2. Results

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

Table 2.1 Summary of Potential Negative Environmental Effects and Proposed Mitigation

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

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Construction	Increase in soil erosion and sedimentation due to construction of access road and water crossing.	Construction will be in accordance with the <i>Environmental Guidelines for Access Roads and Water Crossings</i> (MNR, 1990) and sediment and erosion controls will be installed per the guidance in the <i>Erosion & Sediment Control Guideline for Urban Construction</i> (GGHACA, 2006). Sediment and erosion controls to be in place prior, during and following construction. Culvert installation will occur in dry conditions behind instream cofferdams. Access roads will be aligned 90 degrees to watercourse. Culvert installation during low-flow periods. Limited heavy machinery use on the stream bed. Stabilize and revegetate exposed areas as soon as possible. Riprap should be placed on the upstream and downstream fill slope around the culvert inlet to prevent erosion of fill.
Construction/ Decommissioning	Heavy dust may impact surface water quality.	Use of dust suppressant, phased construction and decommissioning, stockpiles to be stabilized and/or covered, hard surfaces for access roads, and avoid earthworks during windy days.
Construction/ Operations/ Decommissioning	Accidental spills contaminating surface water.	Fuelling stations and hazardous materials storage to be located outside of the 1:100-yr flooding hazard. Emergency spill kit on site at all times and the spill kit will have adequate materials/equipment for spill response. Machinery arriving on site to be clean and free of leaks. Contractor to have spill response procedure and all workers will be properly trained on the procedure. No cement products to be placed into any watercourse. Concrete truck rinsing station at least 120 m away from any known watercourse. Cement storage to be raised and place in a waterproof shelter.
Operations	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, and changes in vegetation.	Stormwater flow patterns will be replicated. Long-term ground cover will be planted. Impervious and less pervious soils will allow runoff into ditches or localize points and discharge into vegetation to allow flow dissipation; therefore no appreciable impact to local drainage patterns.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Operations	Water used in maintenance activities to be released on site may affect surface water quality.	Panel washing will use up to 25,700 L over a 4 to 5 day period, approximately three times per year. No cleaning agents will be used and therefore no impacts to surface water quality are anticipated.
Decommissioning	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, and changes in vegetation.	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions. It is assumed that a reinstatement of row crops will occur.
Aquatic Biota and Habitat		
Construction	Direct impact to aquatic biota and habitat due to instream construction of water crossing.	Proposed mitigation for surface water quality will be employed. No instream work will not occur between April 1 and June 30 to protect the reproductive activities of the warm water fish community. Electrofishing will occur prior to dewatering and all fish transferred downstream of the water crossing. Dewatering and water diversion around the work will be conducted with a shrouded pump to prevent fish entrainment and mortality through the pump.
Construction	Direct impacts to aquatic biota and habitat due to installation of overhead lines.	Install overhead lines in frozen conditions if possible. Install overhead lines perpendicular to the watercourse. Install line poles outside of the 30-m high water mark buffer. No fording of machinery. No machinery will operate on the banks of the high water mark. Sediment and erosion controls will be installed as necessary. Disturbed areas will be revegetated and stabilized as soon as possible.
Construction/Operation/ Decommissioning	Indirect effects to aquatic biota and habitat due to changes in surface water quality, surface water runoff rate and groundwater.	Proposed mitigation for surface water quality, surface water runoff and groundwater, as above, is anticipated to be sufficient.
Groundwater		
Construction	Recharge or seepage areas may be impacted by altered surface water runoff or excavations.	The amount and duration of dewatering for excavations will be minimized to the extent possible.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Construction	Groundwater resources potentially affected by water withdrawals from a new on-site well during construction.	Typical withdrawals will be around 10,000 L/d. If more water is required, it will be limited to less than 45,000 L/d to minimize effects on the local groundwater table.
Operations	Groundwater resources potentially affected by well withdrawals for periodic maintenance purposes.	Panel washing will use up to 25,700 L over a 4 to 5 day period approximately three times per year. Should maintenance activities require more water, groundwater withdrawal will be limited to 45,000 L/d or less. This will have a minimal short-term effect on the local groundwater table around the well.
Construction/ Operations/ Decommissioning	Groundwater contamination due to accidental spills.	See mitigation measures above for accidental spills contaminating surface water.

Table 5.1 in the EIS summarizes the proposed monitoring plan.

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

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

3. Conclusions

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

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

Appendix A13
Stage 1 and 2
Archaeological Assessment Report
Summary

**RE Waubaushene 4 ULC
RE Waubaushene 4 Solar Project****Summary****Stage 1 and 2 Archaeological Assessment Report****1. Introduction**

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Archaeological Assessment Report, prepared by D.R. Poulton & Associates for the RE Waubaushene 4 Solar Project.

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located approximately 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as "RE Waubaushene 4" or the "Project".

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 Ministry of Tourism and Culture must review and accept the Archaeological Assessment Report and provide an acceptance letter that will become part of the application for a REA. The purpose of the present assessment was to confirm the presence or absence of significant archaeological resources that could represent potential constraints for the proposed RE Waubaushene 4 Solar Generation Facility. The assessment included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2 km radius of the RE Waubaushene 4 Project site. It also included a systematic 5-m interval Stage 2 archaeological survey of all of the Leased Lands in the property.

2. Results

The background study determined that there are no registered archaeological fieldwork or discoveries documented within a 2 km radius of the RE Waubaushene 4 Project site. The study also determined that the property had a moderate potential for as-yet undiscovered sites. The survey did not find any archaeological resources on the Project site.

3. Conclusions

The office of the Ministry of Tourism and Culture has reviewed the Archaeological Assessment Report in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, and accepted its findings. The survey did not find any archaeological resources, therefore further investigation is not warranted and the Project site does not have any significant archaeological resources or planning concerns for the proposed solar generation facility.

Appendix A14
MTC Confirmation Letter

Ministry of Tourism and Culture
Culture Division
Culture Programs Unit
Programs and Services Branch
400 University Avenue, 4th floor
Toronto, ON, M7A 2R9
Telephone: 416-314-7132
Facsimile: 416-314-7175
Email : Jim.Sherratt@ontario.ca

Ministère du Tourisme et de la Culture
Division de culture
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Télécopieur: 416-314-7175
Email : Jim.Sherratt@ontario.ca



August 30, 2010

Ms. Kimberley Arnold
Hatch Limited
4342 Queen Street
Niagara Falls, Ontario
L2E 7J7

RE: RE Waubaushene 4 Solar Generation Facility, Lot 8, Concession 1, Matchedash Geographic Township, Municipality of Severn Township, Simcoe County, Ontario, FIT-FQJE13B, MTC File no. HD00500, PIF No. P316-057-2010.

Dear Proponent:

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

Based on the information contained in the report 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 [P316-057-2010] recommends the following:

As detailed in Section 4.0 of this report, the Stage 1 background study determined that there were no documented past archaeological investigations or sites within the RE Waubaushene 4 property or within a 2 km radius of the property. In addition, it also determined that no First Nations or Euro-Canadian archaeological sites had been registered in the vicinity of the property, and that the property had at most a moderate potential for as-yet undiscovered sites. The subsequent Stage 2 survey of the RE Waubaushene 4 property determined that no archaeological sites are present within the Leased Lands. In view of the negative results of the survey, it is recommended that no further archaeological investigations or concerns are warranted for the proposed RE Waubaushene 4 Solar Generation Facility.

Further to the above, it is recommended that the Ministry of Tourism and Culture issue a letter accepting the present report into the Provincial registry (sic) of archaeological reports. It is also recommended that the letter include a statement that the Ministry concurs with the recommendations and other findings presented in the report. Finally, it is requested that a copy of the letter be forwarded by email to Bob Leah, Director of Development, Canada, Recurrent Energy. His email is Bob.Leah@recurrentenergy.com. In due course, this letter and the related archaeological assessment report will be submitted by Recurrent Energy and hatch Ltd. to the Ontario Ministry of the Environment as part of the complete REA application for the development of the proposed solar generation facility on the RE Waubaushene 4 property.

The above conclude the property-specific recommendations of this report. Nevertheless, it should be emphasized that no archaeological assessment can be considered to totally negate the potential for deeply buried cultural remains, including human burials. In recognition of this fact, the archaeological assessment technical guidelines formulated by the Province of Ontario require that all reports on archaeological assessments include recommendations to address the possibility that deeply buried remains may be encountered during earthmoving and construction (MCTR 1993:12). Accordingly, it is recommended that archaeological staff of the Ontario Ministry of Tourism and Culture be notified immediately if any deeply buried archaeological remains should be discovered during earthmoving or construction related to the proposed solar generation facility. In the event that human remains should be encountered, it is similarly recommended that the proponent contact Jim Sherratt, Archaeological Review Officer, Ontario Ministry of Tourism and Culture (email address Jim.Sherratt@ontario.ca, telephone 416-314-7132) and Michael D'Mello, the Registrar of the Cemeteries Regulation Unit of the Ontario Ministry of Small Business and Consumer Services (telephone #416 326-8404; email address Michael.D'Mello@ontario.ca).

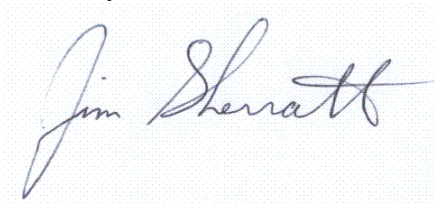
The Ministry is satisfied with these recommendations.

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,

A handwritten signature in blue ink that reads "Jim Sherratt". The signature is written in a cursive style and is placed over a light blue, textured rectangular background.

Jim Sherratt
Archaeology Review Officer
Eastern Region

- c. Ms. Sherri Pearce, D.R. Poulton & Associates Inc.
Mr. Bob Leah, Recurrent Energy

*In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Appendix A15
Protected Properties and
Heritage Resources

Project Report

March 18, 2011

RE Waubaushene 4 ULC
RE Waubaushene 4 Solar Project

Heritage Resources and Protected Properties

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1. Introduction

1.1 Project Description

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located approximately 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as “RE Waubaushene 4” or the “Project”.

1.2 REA Legislative Requirements

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

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

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

2. Protected Properties

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

3. Heritage Assessment

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

4. Conclusion

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

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

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

Property: Waubaushene 4

Address: 1952 Irish Lane, Coldwater, ON, L0K 1E0

Township and County: Township of Severn, County of Simcoe

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 <i>Ontario Heritage Act</i> .	See MCL Check Sheet Step 2, Item 4. The property is not designated under clause 10(1)(b) of the <i>Ontario Heritage Act</i> .
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 <i>Ontario Heritage Act</i> .	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 <i>Ontario Heritage Act</i> . 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 <i>Ontario Heritage Act</i> 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 <i>Ontario Heritage Act</i> . 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 <i>Ontario Heritage Act</i> 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 <i>Ontario Heritage Act</i> . 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 <i>Ontario Heritage Act</i> .	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the <i>Ontario Heritage Act</i> . 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 <i>Ontario Heritage Act</i> .	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on or adjacent to such a property.

Item	Description of Property	Reference
7	A property that is part of an area designated by a municipal by-law made under section 41 of the <i>Ontario Heritage Act</i> as a heritage conservation district.	The MCL Ontario Heritage Properties Database includes properties designated under Part V of the <i>Ontario Heritage Act</i> . 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 <i>Ontario Heritage Act</i> .	The property is not designated a historic site under Regulation 880.

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

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

Property: Waubaushene 4

Address: 1952 Irish Lane, Coldwater, ON, L0K 1E0

Township and County: Township of Severn, County of Simcoe

Step 1 – Screening Potential Resources			
		Built heritage resources	Reference
Yes	No	Does the property contain any built structures, such as:	The following resources were assessed using Google Earth 5.1.3533.1731 on February 26, 2010. All leased lands for this project appear to be on land cultivated for agricultural use.
	√	Residential structures (e.g. house, apartment building, trap line shelter)	
	√	Agriculture (e.g. barns, outbuildings, silos, windmills)	
	√	Industrial (e.g. factories, complexes)	
	√	Engineering works (e.g. bridges, roads, water/sewer systems)	
		Cultural heritage landscapes	
Yes	No	Does the property contain landscapes such as:	
	√	Burial sites and/or cemeteries	
	√	Parks	
	√	Quarries or mining operations	
	√	Canals	
√		Other human-made alterations to the natural landscape	Lands have been cultivated for agricultural use. Drainage tile may be installed below the surface.

Step 2 – Screening Potential Significance			
Yes	No	A property's heritage significance may be identified through the following:	Reference
			According to the MTC Ontario Heritage Properties Database there are no heritage properties located on or adjacent to the property. (Website search: 26Feb10 http://www.culture.gov.on.ca/english/heritage/hpd.htm)
	√	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 MTC's current list. (Research completed 26Feb10 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 Project. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 26Feb10)
	√	5. Is there a provincial or federal plaque?	There are no provincial plaques located in the vicinity of the Project location (Research completed 25Feb10 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?	See general comment above. National Historic Sites are included within the Ontario Heritage Properties Database. In addition, no sites within the vicinity of the Project are listed on the Canadian Register of Historic Places (Research completed 26Feb10 www.historicplaces.ca)
	√	7. Does documentation exist to suggest built heritage or cultural heritage landscape potential? (e.g. research studies, heritage impact assessment reports, etc.)	
√		8. Was the municipality contacted regarding potential cultural heritage value?	The Township of Severn was contacted on February 26, 2010.
	√	Were any concerns expressed?	
		9. What are the dates of construction?	N/A
	√	Are the buildings and/or structures over 40 years old?	There are no buildings and/or structures on the lots where the Project will be located.

	√	Is it 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		Comments
	√	Destruction of any, or part of any, significant heritage attribute or feature.	
	√	Alteration that is not sympathetic, or is incompatible, with the historic fabric or appearance.	
	√	Shadows created that alter the appearance of a heritage attribute or change the visibility of a natural feature or plantings, such as a garden.	
	√	Isolation of a heritage attribute from its surrounding environment, context or a significant relationship.	
	√	Direct or indirect obstruction of significant views or vistas from, within, or to a built and natural feature.	
	√	A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces.	
	√	Land disturbances such as a change in grade that alters soils and drainage patterns that adversely affect an archaeological resource.	

Contents of a Heritage Impact Assessment

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

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

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

Appendix A16
Noise Study Report
Summary

RE Waubaushene 4 ULC RE Waubaushene 4 Solar Project Summary

Noise Assessment Report

1. Introduction

This report presents the results of the noise assessment study for the RE Waubaushene 4 Solar Project, required under O. Reg. 359/09 as part of the Renewable Energy Approval Process (REA).

RE Waubaushene 4 ULC is proposing to develop and operate an 8-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 32-hectare (ha) parcel of land located approximately 7 km northeast of Coldwater, in the Township of Severn, County of Simcoe; herein referred to as “RE Waubaushene 4” or the “Project”.

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

2. Results

- The main sources of noise from the solar facility will be the step-up transformer, located at the substation, and five inverter clusters which also contain step-up transformers.
- The sound pressure levels at the POR were predicted using procedures from ISO 9613-2 as required by MOE (Basic Comprehensive Certificates of Approval (Air) – User Guide), which is a widely used standard for evaluation of noise impact in environmental assessments.
- For the purpose of evaluating the potential noise impacts of the substation transformer, the sound power level was estimated using data from the National Electrical Manufacturers Association (NEMA). This standard provides maximum sound level values for transformers, and manufacturers routinely meet this specification.
- Noise data was obtained for two inverter manufacturers: Satcon and Xantrex. Both inverters had the same capacity at 500 kW. Xantrex data was more complete, including third-octave band data, and it was also higher than the Satcon data in terms of sound power level. For that reason, Xantrex data was used for modelling the inverter clusters. The attenuation caused by the inverter enclosures/e-house and solar panels was not considered in the model.
- To ensure compliance with MOE standards at the receptors located close to the facility noise mitigation measures (sound barriers) were introduced at two of the inverter clusters. Minimum

construction requirements for the noise barriers, as well as the absorption coefficients used in the noise model, were specified. While analysis indicates that no additional mitigation will be required, the noise levels will be verified at the closest receptors after the RE Waubaushene 4 facility goes into service. If measurements indicate a need to reduce sound levels to satisfy MOE criteria, the mitigation measures will be taken at the sources.

3. Conclusions

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