Pendleton Solar Energy Centre

DRAFT Project Description Report

Prepared for:
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Abbreviations

ANSI	Area of Natural and Scientific Interest
CIA	Connection Impact Assessment
COD	Commercial Operation Date
EPC	Engineer-Procure-Construct
EIS	Environmental Impact Study
GC	General Contractor
HONI	Hydro One Networks Inc.
IESO	Independent Electricity System Operator
MNRF	Ministry of Natural Resources and Forestry
MOE	Ministry of the Environment (now Ministry of the Environment and Climate Change)
MOECC	Ministry of the Environment and Climate Change
MTCS	Ministry of Tourism, Culture and Sport
MWac	megawatt alternating current
NHA	Natural Heritage Assessment
OEB	Ontario Energy Board
O. Reg. 359/09	Ontario Regulation 359/09
PDR	Project Description Report
PV	photovoltaic
REA	Renewable Energy Approval
SCADA	supervisory control and data acquisition
SIA	System Impact Assessment
Stantec	Stantec Consulting Ltd.

1.0 INTRODUCTION

Pendleton Energy Centre Limited Partnership (the Proponent), is proposing the development of a 12 megawatt alternating current (MWac) solar energy generating facility, known as the Pendleton Solar Energy Centre (the Project). The Project will be located in the Township of Alfred and Plantagenet, United Counties of Prescott and Russell. A map showing the location of the Project is provided in Figure 1, **Appendix A**. The Project will require a Renewable Energy Approval (REA) as per Ontario Regulation 359/09 (O. Reg. 359/09) - under Part V.0.1 of the *Environmental Protection Act*.

This draft Project Description Report (PDR) has been prepared following the guidance outlined in O. Reg. 359/09 and the Ministry of the Environment and Climate Change (MOECC)'s "*Technical Guide to Renewable Energy Approvals*" (2013). It provides a preliminary description of the Project and will be updated as studies and other reports progress. The information required under O. Reg. 359/09 for a PDR, and its location within this document is listed in Table 1-1.

Table 1-1 Required Information Contained within the Draft Project Description Report

Content	Location within Report
Any energy sources to be used to generate electricity at the renewable energy generation facility.	Section 4.2
The facilities, equipment or technology that would be used to convert the renewable energy source or any other energy source to electricity.	Section 4.3
The class of the renewable energy generation facility.	Section 4.4
The activities that will be engaged in as part of the renewable energy project.	Section 4.5
The name plate capacity of the renewable energy generation facility.	Section 4.6
The ownership of the land on which the project location is to be situated.	Section 4.7
Any negative environmental effects that may result from engaging in the project.	Section 5.0
An unbound, well marked, legible and reproducible map that is an appropriate size to fit on a 215 millimetre (mm) by 280 mm page, showing the project location and the land within 300 metres (m) of the project location.	Appendix A

2.0 CONTACTS

Contact information for the Proponent is as follows;

Name:	Kevin Campbell
Title:	Senior Developer
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Project Website:	http://www.edf-en.ca/projects/project_display/pendleton-solar-energy-centre1

The lead consultant for preparation of the REA Application is Stantec Consulting Ltd. (Stantec). Stantec provides professional consulting services in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics for infrastructure and facilities projects. The consultant's office and Project contact is:

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Title:	Project Manager
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3.0 AUTHORIZATIONS POTENTIALLY REQUIRED

The potential provincial and municipal permits, approvals, and agreements (collectively referred to as the Authorizations) which may be required for this Project are discussed below. As the Project studies progress, this information will be updated as required.

3.1 PROVINCIAL AUTHORIZATIONS

The Project must receive a REA from the MOECC. The REA application includes confirmation from the Ministry of Natural Resources and Forestry (MNRF) and the Ministry of Tourism, Culture and Sport (MTCS) that these ministries are satisfied with specific reports included in the application. In addition, at the provincial level there are multiple Authorizations that may be required to facilitate the development of the Project. Their ultimate applicability will be determined during the REA process and based upon the Project's detailed design. Table 3-1 lists key Authorizations that may be required in addition to the REA.

Table 3-1 Key Provincial Authorizations

Administering Agency	Key Permit / Authorization	Rationale
Ministry of Transportation (MTO)	Change of Access and Heavy/Oversize Load Transportation Permit	To ensure compliance with provincial highway traffic and road safety regulations for transport of project components to the site.
MNRF	Approvals under the *Endangered Species Act*, 2007	Applicability to be determined or confirmed in the future, based on finding provincially listed species at risk or their habitat within the Project zone of investigation.
	Approval under the *Fish and Wildlife Conservation Act*, 1997	Applicability to be determined or confirmed in the future, based on finding provincially listed species at risk or their habitat within the Project zone of investigation.
South Nation Conservation Authority (SNCA)	Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Permit	Work within floodplains, water crossings, river or stream valleys, hazardous lands and within or adjacent to wetlands. Projects requiring review, *Fisheries Act* authorization and/or assessment under the *Canadian Environmental Assessment Act* are forwarded to the Department of Fisheries and Oceans (DFO).
Electrical Safety Authority	Electrical Safety Code Certification	Electrical systems and connections may require inspection/Authorization.
Ministry of Labour	Notice of Project	Notify the Ministry of Labour before construction begins.

Table 3-1 Key Provincial Authorizations

Administering Agency	Key Permit / Authorization	Rationale
Ontario Energy Board (OEB)	Generator license	A license may be needed from the OEB in order to generate electricity.
	Leave to construct	Construction of distribution lines may require an Authorization from the OEB.
Hydro One Networks Inc. (HONI)	Connection Impact Assessment (CIA)	Technical documentation submitted for review and comment by HONI to ensure technical compliance with the Distributed Generation Technical Interconnection Requirements. Upgrades and changes to the utility system will be identified by HONI as part of this submission.
	System Impact Assessment (SIA)	Integration of project with IESO-controlled transmission system.
	Connection Cost Agreement (CCA)	Recovery of costs to HONI of changes to allow connection based on findings from the CIA.
	Joint Use Agreement	Agreement to share infrastructure including trench or pole lines for electrical routing.

3.2 MUNICIPAL

The Proponent has consulted with the Township of Alfred and Plantagenet and the United Counties of Prescott and Russell, and identified Authorizations that may be required in order to proceed with the Project. These are listed in Table 3-2.

Table 3-2 Key Municipal Authorizations

Key Permit / Authorization	Rationale
Municipal Access Agreement (MAA)	May be required for use of roads to construct/operate the facility and for works in municipal road allowances.
Building Permit	May be required for compliance with building codes.
Entrance Permit	Required if an entrance from a municipal road is to be constructed.
Transportation Plan	May be required to assess road safety and suitability.

3.3 FEDERAL INVOLVEMENT

A Federal Environmental Assessment report is not expected to be required for the Project, as the Project is not listed in the Regulations Designating Physical Activities (CEAA, 2012). The Project may require Authorizations under the *Fisheries Act*, *Migratory Birds Convention Act* and *Species at Risk Act*. These requirements will be determined once conceptual plans are complete and additional data has been collected.

4.0 PROJECT INFORMATION

The following section outlines the location, energy sources and components pertaining to the proposed Project, as well as details on the Project schedule, activities, nameplate capacity and land ownership.

4.1 PROJECT LOCATION

The Project is located in the Township of Alfred and Plantagenet within the United Counties of Prescott and Russell. It is situated on one parcel of privately-owned land, totaling approximately 140 acres at the south-east corner of County Road 19 and County Road 2. It is approximately 5 km east of Curran, Ontario and the proposed connection point to the distribution grid will be located immediately adjacent to the property, on the west side of County Road 19. A map of the Project Location is provided in Figure 1, **Appendix A**. A 300 m buffer surrounding the Project Location has been applied to Figure 1, as outlined in O. Reg. 359/09 and the MOECC's "*Technical Guide to Renewable Energy Approvals*" (2013).

A Project Location, as defined by O. Reg. 359/09 is "a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the Project [including] any air space…". The current Project Location generally consists of the parcel boundary on which the solar facility will be located and the land associated with the connection line and connection point. The Project Location may be refined to optimize the Project or minimize environmental effects. This will be determined following field studies and Project layout design. Updated figures of the Project Location will be provided in subsequent versions of this PDR.

4.2 ENERGY SOURCES

The proposed Project is a solar facility that would utilize sunlight as a source of energy.

4.3 PROJECT COMPONENTS

4.3.1 Solar Panels and Racking

The Project Location will include the installation of solar panels (final number to be determined) pole mounted on solar arrays (final number to be determined). The manufacturer and specifications of the solar panels will be selected by the Proponent or the Engineer-Procure-Construct (EPC) or General Contractor (GC) contracted during the detailed design phase. The panels will be installed either in a fixed position (not-tracking) at a particular degree of declination facing the south in rows on the racking system, or will be tracking east/west on a north/south axis.

4.3.2 Access Roads

Existing provincial and county roads will be used to transport project-related components, equipment and personnel to the Project Location. An existing entrance from County Road 19 to the west of the Project is anticipated to be used for permanent access to the site and may be modified as required. Additional access points may be considered as the Project design evolves. Gravel access roads will be constructed on-site to provide access to the facility for the duration of the Project. Section 4.3.7 provides further details on perimeter fencing.

4.3.3 Inverters and Transformers

A number of inverter stations, each with one or more inverters and one or more transformers will be scattered around the Project Location. The inverters will convert the DC electricity to alternating current (AC) electricity while the transformers will step-up the AC electricity from the low-voltage AC output of the inverter to 27.6 kV. The electricity is then useable at the local distribution grid level.

The specifications of the inverters and transformers will be determined by the Proponent during the preliminary design phase. In accordance with the specifications, the manufacturer of the inverters and transformers will be selected by the Proponent, the Engineer-Procure-Construct (EPC) contractor or the General Contractor (GC) contracted after the preliminary design phase.

4.3.4 Substation

A main power transformer will be not required. A substation comprised of 27.6 kV switchgear, 27.6 kV disconnects, 27.6 kV station transformer for auxiliary services, revenue metering equipment, and control house will be built in a fenced in area. All of this equipment is likely to be prefabricated and transported to site. The equipment will be supported by either cast-in place slab-on-grade concrete pads or structural steel piers and the entire fenced area will be graded and overlaid with a clear stone granular material. The specific make of the associated electrical equipment, including the main power transformer, if applicable, will be selected by the EPC contractor during the detailed design phase and based on the Proponent specifications. The equipment in the substation will also provide a supervisory control and data acquisition (SCADA) system for protection, control and monitoring of the substation and the solar energy centre.

4.3.5 Collector System and Connection Line

The 1500V (or below) DC electricity generated from the solar panels will be collected via junction boxes and underground cables to the inverters.

The 27.6 kV AC electricity from all inverter stations will be collected via underground cables to a single substation.

The underground cables (Collector System) would be installed via ploughing or trenching. Data cabling for the SCADA will also be installed in the same trenches.

An overhead 27.6 kV AC line (Connection Line) will be required from the substation to the Point of Common Coupling (PCC) where Hydro One Networks Inc. (HONI) will intertie the project to the existing 27.6 kV distribution grid line adjacent to the Project.

4.3.6 Buildings and Structures

An operations and maintenance building is not currently planned for the site. Other existing facilities in the area will be utilized in lieu. There is a possibility that a small permanent structure (such as a container or trailer) would be utilized for storage, however this will be confirmed during Project design.

4.3.7 Perimeter Fencing

The solar energy centre will be surrounded with a chain link fence topped with barbed wire to prevent unauthorized access. A gate will be installed at the main entrance from County Road 19 and alternate entrances as applicable to provide access for maintenance personnel and emergency vehicle access.

4.3.8 Temporary Staging Areas

Temporary staging areas will be used for storage of Project materials and equipment on site. The temporary staging areas would support construction trailers, portable toilets, waste disposal containers and pick-up areas, parking areas, equipment storage and maintenance area, truck unloading and loading area and laydown area for materials and equipment. The location of the staging area will be determined at a later date. Ideally, materials would be delivered directly to the Project Location for their installation.

4.4 RENEWABLE ENERGY GENERATION FACILITY CLASS

The proposed solar photovoltaic (PV) grid connected system would be considered a Class 3 Solar Facility under O. Reg.359/09, Section 4. This classification consists of solar facilities with nameplate capacities exceeding 10 kW that are in any location other than mounted on the roof or wall of a building.

4.5 PROJECT ACTIVITIES

A general overview of the activities during construction, operation, and decommissioning phases of the Project are provided below.

Table 4-1 Key Project Activities

Project Phase	Activities
Construction	Site grading
	Access road preparation
	Installation of foundations and racking
	Panel installation
	Installation of inverter stations, transformers and substation equipment
	Installation of collector lines and connection line
	Reclamation of temporary work areas
	Site landscaping
Operation	Preventative maintenance
	Unplanned maintenance
	Meter calibrations
	Site/ground maintenance
Decommissioning	Removal of solar panel infrastructure
	Removal of inverter stations, transformers and substation equipment
	Removal of collector lines and connection line
	Removal of fencing, roads and site grading (dependent upon new proposed use)
	Possible excavation and removal of collector lines and foundations depending upon agreement with property owner

4.6 NAMEPLATE CAPACITY

The total Contract Capacity of the solar facility is 12 MWac.

4.7 LAND OWNERSHIP

The Project would be located on part of Lots 19-20, Concession 8 in the Township of Alfred and Plantagenet, within the United Counties of Prescott and Russell. The Project would be located on privately-owned land, leased for 20 or more years.

4.8 PROJECT SCHEDULE

A preliminary schedule is provided in Table 4-2 and provides an overview of the key activity dates associated with the Project.

Table 4-2 Project Schedule Overview

Milestone	Approximate Date
Initiate Public REA Process	Spring 2016
REA technical studies	Ongoing through to fall 2016
Public Meeting #1	October 2016
Draft REA Reports to Public	December 2016
Final Public Meeting	February 2017
Submission of REA application to the MOECC	March 2017
REA Approval	January 2018
Start of Construction	March 2018
Commercial Operation Date (COD)	December 2018
Repowering/Decommissioning	2038 (20 or more years after COD)

5.0 DESCRIPTION OF POTENTIAL ENVIRONMENTAL EFFECTS

The potential negative environmental effects occurring during construction, operating, and decommissioning a renewable energy facility are well understood and can be typically mitigated through well-known and accepted techniques and practices. The REA process focuses on project-specific issues and potential negative effects as per O. Reg. 359/09 and includes the following:

- Heritage Resources
- Archaeological Resources
- Natural Heritage
- Water Bodies
- Air, Odour, Dust
- Noise
- Land Use and Resources
- Provincial and Local Infrastructure
- Public Health and Safety
- Areas Protected under Provincial Plans and Policies

Preliminary descriptions of the potential negative effects, mitigation measures, and net effects of the Project during the construction, operation, and decommissioning phases are identified below. More detailed information will be provided as studies are completed throughout the REA process.

5.1 HERITAGE RESOURCES

5.1.1 Construction, Operation and Decommissioning

To meet the requirements of O. Reg. 359/09, a "self-assessment" of the Project using the MTCS *REA Checklist: Consideration of Potential for Heritage Resources* (the Checklist) is required to determine whether engaging in the Project will have an impact on a potential heritage resource. Heritage resources include protected properties, built heritage and cultural heritage landscapes.

Background research has been completed to understand the local historical context and assist in assessing the potential for heritage resources in area. Research includes published histories, local library historical collections, maps, and historic photography as well as additional sources required by the Checklist. Contact had previously been made with relevant government representatives at the local and provincial levels during the LRP RFP preparation process and the findings were reviewed (no heritage resources or protected properties were identified). A site visit in the form of a windshield survey was conducted to identify built features and cultural landscapes that are of potential heritage value or interest.

Based on the completion of the Heritage Checklist and site visit, Stantec has determined that a Heritage Assessment is not needed and no further assessment is required.

5.2 ARCHAEOLOGICAL RESOURCES

5.2.1 Construction, Operation and Decommissioning

To meet the requirements of Section 21 of O. Reg. 359/09, an archaeological assessment is being undertaken for the Project. This includes a Stage 1 Archeological Assessment (background research and reporting) and Stage 2 Archaeological Assessment (field studies and reporting). The field studies to date have consisted primarily of a pedestrian survey at 5 m intervals with a small amount of test pitting, also completed at 5 m intervals. All lands associated with the Project Location have undergone Stage 2 field studies, with the exception of a small area at the connection point and the corner of the property at the intersection of County Road 2 and County Road 19. It is anticipated that a Stage 2 field study will be completed for the remaining area in August 2016. No evidence of archaeological sites/resources has been found in the areas surveyed. A combined Stage 1-2 Archaeological Assessment report will be submitted to the MTCS once all Stage 2 field studies have been completed. Contingent on the findings of the Stage 2 field work at the connection point, no negative environmental effects to archaeological resources are anticipated as a result of the Project.

5.3 NATURAL HERITAGE RESOURCES

5.3.1 Construction, Operation and Decommissioning

To address Sections 23.1 to 28 and 37 and 38 of O. Reg. 359/09, natural heritage features must be identified at the Project Location and within 50 m of the Project Location, potential impacts to these features must be assessed and mitigation measures proposed, as appropriate. Stantec completed site investigation work in July, 2015 and undertook an Ecological Land Classification (ELC) and wildlife habitat assessment. The following information is based on the background records review and site investigation of the Project Location for the natural features identified in O. Reg. 359/09:

- The Project Location is located within an active agricultural area (corn in 2015) and is not located within a natural feature.
- The Project Location is not located within 50 m of a Provincial Park or Conservation Reserve or an Area of Natural and Scientific Interest (ANSI)(Earth Science).
- Natural heritage features are located immediately adjacent to the Project Location.

The natural features identified within 50 m of the Project Location will be assessed for significance or provincial significance. If it is determined that Project components will be located within 50 m of natural features, an Environmental Impact Study (EIS) Report will be prepared to identify and assess any negative environmental effects, appropriate mitigation measures in respect of those effects and identify an environmental effects monitoring plan. The Natural

Heritage Assessment Report (which will consist of a Records Review Report, Site Investigations Report and Evaluation of Significance Report) and the EIS will be submitted to MNRF for written comments.

5.4 SURFACE WATER AND GROUND WATER

5.4.1 Water-taking Activities

5.4.1.1 Construction, Operation and Decommissioning

Currently, no water taking activities have been identified for the Project activities.

It is not currently anticipated that Project excavations will intersect groundwater; however this will be confirmed during the REA process and during detailed design.

5.4.2 Spills

5.4.2.1 Construction, Operation and Decommissioning

Some materials, such as fuel, lubricating oils and other fluids associated with equipment and machinery during construction, maintenance and decommissioning activities have the potential for discharge to the on-site environment through accidental spills. Accidental spills would be spatially limited and short in duration. Protocols to minimize their impact will be outlined in a Spills Response Plan as part of the Emergency Response Plan for the Project.

Operating equipment containing hazardous material and residual hazardous material will have secondary containment structures to protect the environment in the case of an accidental release. Secondary containment requirements will be specified in the REA.

5.4.3 Surface Water Runoff

5.4.3.1 Construction, Operation and Decommissioning

To maintain water flow to surrounding receiving water bodies and to prevent negative impacts such as siltation, a Stormwater Management Plan with erosion and sediment control measures will be prepared for the Project. The Stormwater Management Plan will mitigate the impact of new sources of stormwater on neighboring properties and roads.

5.4.4 Water Bodies

5.4.4.1 Construction, Operation and Decommissioning

To meet the requirements of Sections 29-31 and 39-40 of O. Reg. 359/09 water bodies will be assessed at and within 120 m of the Project Location. Based on the Records Review to date, there are two potential water bodies within 120 m of the Project Location. Spring and summer

Site Investigations have been completed to assess water bodies identified in the Records Review and identify additional water bodies. Based on the spring site investigation, it was confirmed that water bodies (as defined by O. Reg. 359/09) are present at and within 120 m of the Project Location. A Water Assessment and Water Body Report will be prepared to document existing conditions and assess potential impacts on water bodies within the Project Location and surrounding 120 m. If potential impacts are identified, mitigation measures will be proposed to reduce the risk of those impacts.

5.4.5 Ground Water

5.4.5.1 Construction, Operation and Decommissioning

The REA for a solar project may include a condition that requires the development and implementation of a pre- and post-construction groundwater monitoring program focused on assessing the potential for impacts to the quality of offsite water supply wells. Groundwater investigations and/or monitoring requirements will be verified during the REA process.

5.5 AIR, ODOUR & DUST

5.5.1 Construction and Decommissioning

During construction, specific maintenance activities, and decommissioning of the Project, some emissions to air will occur in the form of vehicle exhaust and road dust. The effects are expected to be localized and temporary and not result in significant adverse effects on local air quality. Typical mitigation measures will be employed such as maintaining vehicles in good working order and, where possible construction equipment would be equipped with emission control devices. Dust emissions would be minimized through standard construction mitigation techniques (e.g., watering of roads).

5.5.2 Operation

Operation of the Project will not produce emissions to the air, odour or dust with the exception of unplanned maintenance activities which would require the use of large machinery. The only planned onsite activities are general repairs and maintenance.

5.6 NOISE

5.6.1 Construction and Decommissioning

During construction, some maintenance activities and decommissioning of the Project, noise will be produced by equipment and machinery. Noise impacts will be localized and temporary.

5.6.2 Operation

Operation of the Project will result in some noise emitted from inverters/transformers and the substation. Acoustical modeling of the equipment, followed by an in-field acoustic audit post-construction will ensure that noise emissions meet regulatory requirements. A Noise Study Report will be produced and submitted as part of the REA application.

5.7 LAND USE AND RESOURCES

5.7.1 Construction, Operation and Decommissioning

The proposed Project site and abutting lands are zoned as Rural by the Township of Alfred and Plantagenet and are located in a Rural Policy Area as designated by the United Counties of Prescott and Russell. The land has recently been farmed with corn. Lands to the south and west are primarily forested. Lands to the north and west are forested with residential dwellings and some agriculture interspersed. No impacts are expected to surrounding land uses. The Project will take the current Project Location lands out of agricultural production but will return those lands to a state similar to the current state at the time of decommissioning (or another state as determined by zoning/landowners at the time of decommissioning).

5.8 PROVINCIAL AND LOCAL INFRASTRUCTURE

5.8.1 Construction and Decommissioning

Infrastructure expected to be used during the Project would be restricted to local roads during construction and decommissioning, with no other municipal services anticipated. Potential effects are related to traffic congestion/safety and road damage from construction equipment. The potential increase in traffic along municipal roads may result in short-term, localized disturbance to traffic patterns or increases in traffic volume. Project-related traffic would be restricted to a limited, defined workforce. A road use agreement is anticipated to be negotiated with the United Counties of Prescott and Russell to consider traffic patterns and potential damage to roads.

5.8.2 Operation

The only planned onsite activities during operation are general repairs and maintenance, which will require the use of existing local roads for maintenance vehicles. Operations-related traffic from personnel vehicles during regular business hours could disturb traffic patterns or result in increases in traffic volume. However, with the exception of unexpected major maintenance activities, effects on provincial and local infrastructure during operation are anticipated to be intermittent, short-term in duration and highly localized.

5.9 PUBLIC HEALTH AND SAFETY

5.9.1 Construction and Decommissioning

The solar facility poses minimal risks to public health and safety. Perimeter security fencing will prevent unauthorized access to components of the Project that may pose a hazard. During construction, unexpected major maintenance activities, and decommissioning, the use of large equipment and machinery and the increase of large vehicles on the local roads may increase public safety risks. Appropriate consultation will be undertaken with the Township of Alfred and Plantagenet and the United Counties of Prescott and Russell to help to mitigate any risks.

5.9.2 Operation

The operation of the solar energy centre does not produce any emissions to land, air or water and does not pose a threat to human health. An Emergency Response and Communications Plan will be prepared and communicated to Project staff and local emergency authorities as applicable for use in the event of an emergency on-site. This will be discussed further in the Design and Operations Report.

5.10 AREAS PROTECTED UNDER PROVINCIAL PLANS AND POLICIES

5.10.1 Construction, Operation and Decommissioning

The Project is not proposed to be located on land in the following provincial land use plans: Greenbelt Plan; Oak Ridges Moraine Conservation Plan; Niagara Escarpment Plan; and the Lake Simcoe Protection Plan.

5.11 SUMMARY OF ENVIRONMENTAL EFFECTS

A summary of the potential environmental effects as a result of Project activities will be provided at a later date following the completion of REA investigations and field work activities. To determine potential environmental effects, all components within the Project Location and the area that overlaps with the distribution line will be examined.

5.12 PROJECT RELATED SETBACKS

A key component of Ontario Regulation 359/09 is the application of setbacks for renewable energy facilities from specific environmental features. Where permitted under the regulation, development within setbacks for these features is allowed with the preparation of an Environmental Impact Study or Water Body Report that identifies mitigation measures for potential negative environmental effects. The setbacks applicable to the Project are presented in Table 5-1. This table will be updated to reflect the presence or absence of the feature based on the results of natural heritage and water site investigations and Project layout design.

Table 5-1 Setback Distances for Solar Facilities under Ontario Regulation 359/09

Feature	Setback Distance	Prohibitions and Study Required when Within Setback	Presence/Absence of Feature within Setback Distance from Project Location
Ontario Regulation 359/09			
Provincially Significant Wetland (PSW) - Southern	50 m	Development is prohibited within a southern PSW and within 50 m of a provincially significant southern wetland but may be permitted with the preparation of an EIS.	None identified to date within the Project Location
Provincially Significant ANSI (Earth Science) or Provincially Significant ANSI (Life Science)	50 m	Development is prohibited within the ANSI or within 50 m of the ANSI but may be permitted with the preparation of an EIS.	None identified to date within the Project Location
Provincial Park or Conservation Reserve	50 m	Development is prohibited within a provincial park or conservation reserve (unless not prohibited by or under the *Provincial Parks and Conservation Reserves Act*) and is also prohibited within 50 m of a Provincial Park or Conservation Reserve. Development within 50 m of either may be permitted with the preparation of an EIS.	None identified to date within the Project Location
Significant woodland	50 m	Development is prohibited within the woodland or within 50 m of the woodland but may be permitted with the preparation of an EIS.	To be determined
Significant wildlife habitat	50 m	Development is prohibited within the significant wildlife habitat or within 50 m of the habitat but may be permitted with the preparation of an EIS.	To be determined
An ANSI (Life Science) (not provincially significant) in the Oak Ridges Moraine	50 m	Development is prohibited in an ANSI (Life Science) or within 50 m of such an ANSI in the Oak Ridges Moraine but may be permitted with the preparation of an EIS.	The Project Location is not located in the Oak Ridges Moraine Conservation Plan area
Southern wetland (not provincially significant) in the Oak Ridges Moraine	50 m	Development is prohibited within a southern wetland that is not provincially significant or within 50 m of such a wetland but may be permitted with the preparation of an EIS.	The Project Location is not located in the Oak Ridges Moraine Conservation Plan area
A sand barrens, savannah or tallgrass prairie in the Oak Ridges Moraine	50 m	Development is prohibited within a sand barrens, savanna or tallgrass prairie or within 50 m of these features but may be permitted with the preparation of an EIS.	The Project Location is not located in the Oak Ridges Moraine Conservation Plan area

Table 5-1 Setback Distances for Solar Facilities under Ontario Regulation 359/09

Feature	Setback Distance	Prohibitions and Study Required when Within Setback	Presence/Absence of Feature within Setback Distance from Project Location
Lake (other than a lake trout lake)	120 m from the average annual high water mark	Development is prohibited within the lake and within 120 m of the annual average high water mark of a lake that is not a lake trout lake. Development may be permitted within 120 m with the preparation of an EIS. However, a transformer substation or solar PV panels must be a minimum of 30 m from the annual average high water mark at all times.	To be determined
Lake trout lake that is at or above development capacity	300 m	Development is prohibited within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity. Development may be permitted within 120 m with the preparation of an EIS. However, a transformer substation or solar PV panels must be a minimum of 30 m from the annual average high water mark at all times.	None identified to date within the Project Location
Permanent or intermittent stream	120 m from the average annual high water mark	Development is prohibited within a permanent or intermittent stream and within 120 m of the annual average high water mark of the stream. Development may be permitted within 120 m with the preparation of an EIS. However, a transformer substation or solar PV panels must be a minimum of 30 m from the annual average high water mark at all times.	To be determined
Seepage area	120 m	Development is prohibited within a seepage area and within 120 m of a seepage area. Development may be permitted within 120 m with the preparation of an EIS. However, a transformer substation or solar PV panels must be a minimum of 30 m from the annual average high water mark at all times.	To be determined

Table 5-1 Setback Distances for Solar Facilities under Ontario Regulation 359/09

Feature	Setback Distance	Prohibitions and Study Required when Within Setback	Presence/Absence of Feature within Setback Distance from Project Location
Noise receptor and substation transformer	-	Provided an Acoustic Assessment is completed, no setbacks to non-participating receptors for any solar equipment is required, provided the sound level is less than 40 dBA at a non-participating receptor (as verified through the Acoustic Assessment Report).	To be determined. A main power transformer is not being considered for this Project.

6.0 CLOSURE

The Pendleton Solar Energy Centre '*Draft Project Description Report*' has been prepared by Stantec for Pendleton Energy Centre Limited Partnership in accordance with O. Reg. 359/09, and the "*Technical Guide to Renewable Energy Approvals – Chapter 4: Guidance for Preparing the Project Description Report*" (MOECC 2013).

This report has been prepared by Stantec for the sole benefit of Pendleton Energy Centre Limited Partnership, and may not be used by any third party without the express written consent of Pendleton Energy Centre Limited Partnership and Stantec. The data presented in this report are in accordance with Stantec's understanding of the Project as it was presented at the time of the Report.

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7.0 REFERENCES

Canadian Environmental Assessment Act, 2012 (S.C. 2012, c. 19, s. 52).

Endangered Species Act, 2007 (S.O. 2007, c. 6).

Fish and Wildlife Conservation Act, 1997 (S.O. 1997, c. 41).

Fisheries Act (R.S.C., 1985, c. F-14).

Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22).

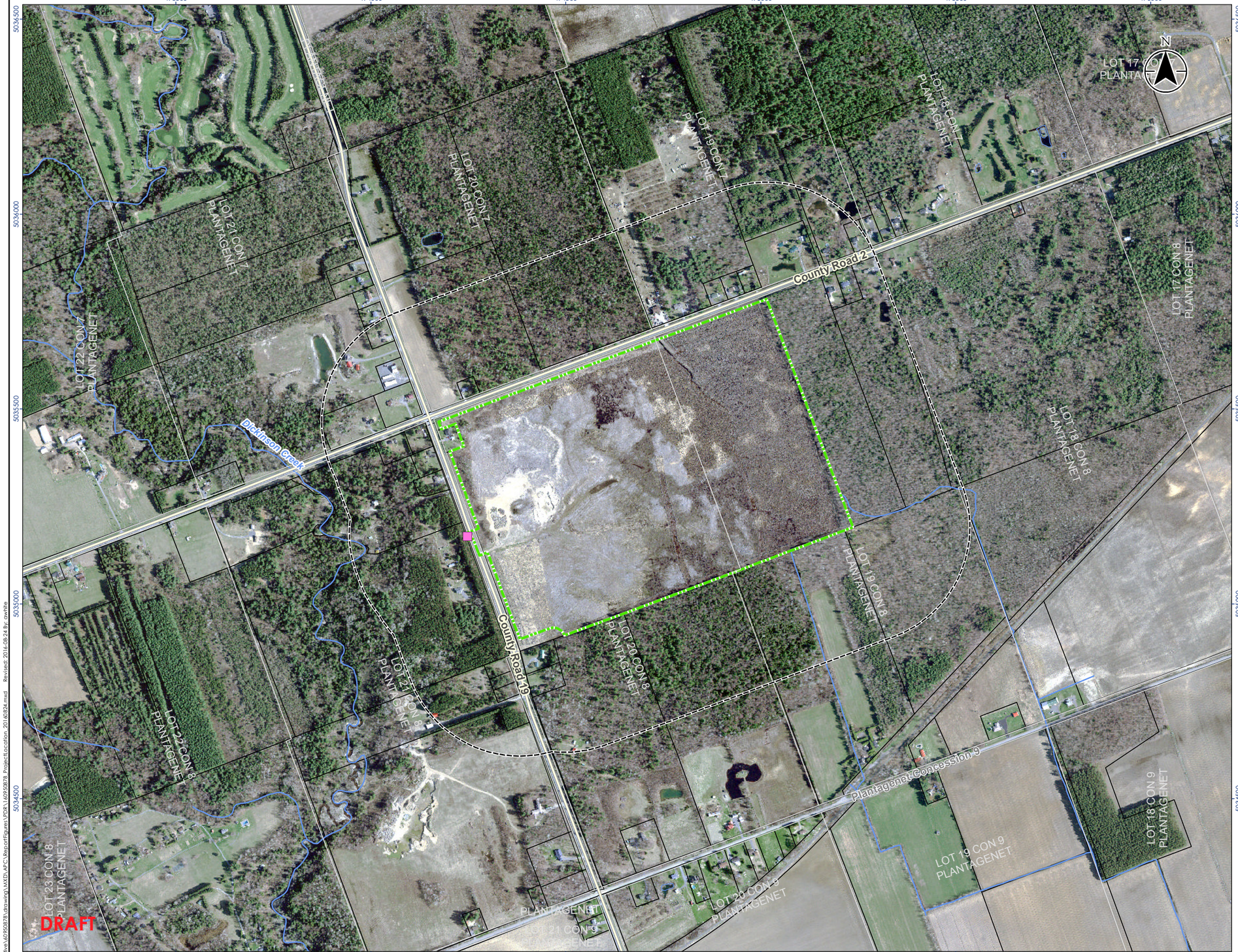
Ministry of the Environment (MOE). 2013. Technical Guide to Renewable Energy Approvals.

Ontario Regulation 359/09 made under the Environmental Protection Act Renewable Energy Approvals Under Part V.0.1 of the Act, as amended by O. Reg. 231/11 (May 2, 2014).

Regulations Designating Physical Activities (SOR/2012-147) made under the Canadian Environmental Assessment Act, 2012, as amended by the Regulations Amending the Regulations Designating Physical Activities.

Species at Risk Act (S.C. 2002, c. 29).

Appendix A FIGURES



Stantec

PENDLETON solar energy centre

Legend

- Project Location
- Connection Point
- 300 m Buffer of Project Location
- Major Road
- Minor Road
- Lot
- Property Boundary
- Watercourse

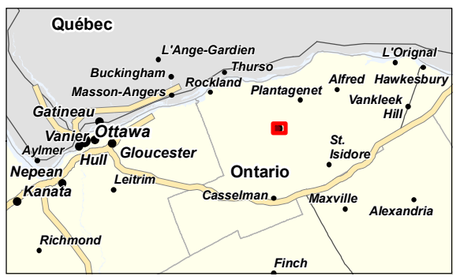
The Project Location is located within an active agricultural area (corn in 2015) and is not located within a natural feature. The Project Location is not located within 50 m of a Provincial Park, Conservation Reserve, or an Area of Natural and Scientific Interest (ANSI).

0 200 400 metres

1:10,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016. Base data modified by Stantec.
3. Imagery Source: Ontario Ministry of Natural Resources and Forestry. Digital Raster Acquisition Project East 2014 (DRAPE2014)



Project Location
United Counties of Prescott and Russell

160950878 REVB
Prepared by AMW on 2016-08-24
Technical Review by DLH on 2016-08-24
Independent Review by AL on 2016-08-24

Client/Project
PENDLETON ENERGY CENTRE LP
PENDLETON SOLAR ENERGY CENTRE

Figure No.
1

DRAFT

Title
Pendleton Solar Energy Centre
Project Location

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