



PROJECT DESCRIPTION REPORT

Windsor Solar Project

DRAFT – May 2014

Table of Contents

	Page
1. Introduction	1
2. The Proponent.....	1
3. Project Location.....	2
4. Authorizations	5
5. Project Information	7
5.1 Nameplate Capacity and Classification	7
5.2 Land Ownership	7
5.3 Energy Sources.....	8
5.4 Project Components	8
5.4.1 Solar Modules and Mounting System	8
5.4.2 Medium Voltage Stations and Equipment.....	9
5.4.3 Electrical Collector System.....	9
5.4.4 Substation and Other Equipment	9
5.4.5 Access Roads	10
5.4.6 Perimeter Fence	10
5.4.7 Temporary Storage and Construction Areas	10
5.4.8 Operations and Maintenance Building.....	10
5.4.9 Water Crossings.....	10
5.5 Project Activities	11
5.5.1 Construction.....	11
5.5.2 Operation and Maintenance.....	13
5.5.3 Decommissioning	14
6. Description of Environmental Effects.....	15
6.1 Cultural Heritage and Archaeological Resources	15

6.2	Natural Heritage Resources.....	16
6.3	Water Bodies	17
6.4	Air, Odour and Dust	17
6.5	Noise.....	17
6.6	Land Use and Resources.....	18
6.7	Provincial and Local Infrastructure	18
6.8	Public Health and Safety	19
6.9	Areas Protected under Provincial Plans and Policies.....	19
7.	Benefits of the Project	20

List of Figures

Figure 1:	General Location of Windsor Solar Project in Ontario	3
Figure 2:	Project Location, Natural Features and Setbacks.....	4

List of Tables

Table 1:	Possible Authorizations and Requirements for the Project	5
Table 2:	Construction Activities	11
Table 3:	Operations and Maintenance Activities.....	14

1. INTRODUCTION

Windsor Solar LP proposes to develop a solar facility with a maximum name plate capacity of 50 megawatts alternating current (MW AC), located on the Windsor International Airport property in the City of Windsor, Ontario (Figure 1). The Windsor International Airport is owned by the City of Windsor and operated by Your Quick Gateway (Windsor) Inc. (YQG). The renewable energy facility will be known as the Windsor Solar Project.

Windsor Solar LP has initiated the project with the Ontario Power Authority under the Green Energy Investment Agreement with the Province of Ontario. The project will require approval under *Ontario Regulation 359/09 – Renewable Energy Approval (REA)* under Part V.0.1 of the *Ontario Environmental Protection Act*.

This draft Project Description Report (PDR) provides an overview of the proposed project including location, components, activities, potential negative environmental effects and applicable mitigation measures.

2. THE PROPONENT

Windsor Solar LP is coordinating and managing the approvals process for the Windsor Solar Project. Windsor Solar LP is located at 55 Standish Court, 9th Floor, Mississauga, ON, L5R 4B2 (1-866-236-5040). Dillon Consulting Limited (Dillon) has been retained by Windsor Solar LP to prepare the REA application for the Windsor Solar Project. The contact at Dillon is:

Full Name of Company:	<u>Dillon Consulting Limited</u>
Prime Contact:	<u>Bruce McAllister, Project Manager</u>
Address:	<u>10 Fifth Street South, Chatham, Ontario, N7M 4V4</u>
Telephone:	<u>(519) 354-7802 x3314</u>
Fax:	<u>(519) 354-2050</u>
Email:	<u>BMcAllister@dillon.ca</u>

3. PROJECT LOCATION

The proposed Class 3 Solar Facility is to be located within the Windsor International Airport property, in the City of Windsor. The optioned lands consist of approximately 240 hectares (600 acres) of land and the proposed project location is generally bound by Rhodes Drive to the north, Division Road to the south, Lauzon Parkway to the east, and Walker Road to the west. The geographic coordinates of the centroid of the proposed project location are as follows:

- Latitude: 42° 16' 40.84" N
- Longitude: 82° 56' 22.87" W

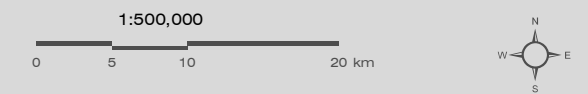
Figure 1 shows the general location of the project in Southwestern Ontario. The project location is defined in *Ontario Regulation 359/09* to be “a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project”. **Figure 2** shows the outer boundary of the proposed project location (at this stage) within which all project components will be located. While facility components making up the project location have been identified, their exact location has yet to be determined. **Figure 2** also identifies natural features and water bodies based on the Natural Heritage Assessment (NHA) Records Review within 300 m of the project location and identifies the required setbacks around these features for the purpose of assessing potential environmental effects.

Updated maps will be provided in subsequent versions of the PDR based on site investigation and evaluation of significance field work as the REA process progresses. More detailed site plan layouts will also be provided in the draft Design and Operations Report as the REA process progresses.



WINDSOR SOLAR PROJECT

**FIGURE 1
GENERAL PROJECT LOCATION**



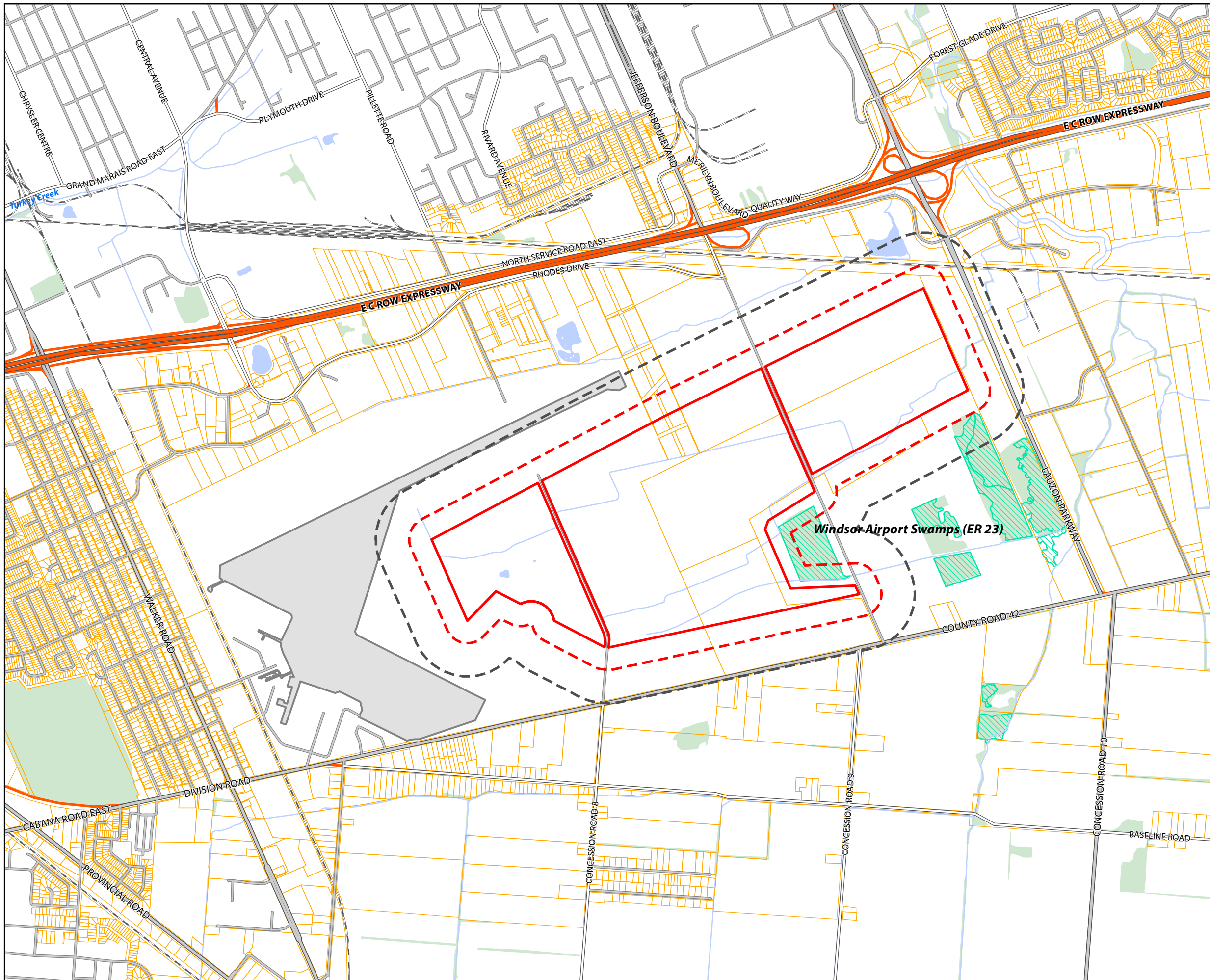
MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: GM
MAP CHECKED BY: MB
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: I:\GIS\149152 - Samsung Windsor\mxd\PDR













PROJECT: 149152
STATUS: DRAFT
DATE: 4/15/2014



WINDSOR SOLAR PROJECT

**FIGURE 2
PROJECT LOCATION AND
NATURAL FEATURES**

-  Project Location
-  120 m Project Location Setback
-  300 m Project Location Setback
-  Parcel Boundary
-  Airport
-  Railway
-  Watercourse
-  Water Body
-  Provincially Significant Wetland
-  Woodland



MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: GM
MAP CHECKED BY: JP
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: I:\GIS\149152 - Samsung Windsor\mxd\PDR



PROJECT: 149152
STATUS: DRAFT
DATE: 4/22/2014

4. AUTHORIZATIONS

Table 1 provides a list of authorizations (applicable permits, agreements, licenses, approvals and confirmation letters) that Windsor Solar LP expects may be required in addition to the REA. The necessary permits will be obtained prior to construction of the proposed solar facility. Information contained in **Table 1** is preliminary at this point and will be refined as the REA process progresses. The final list of permits required will be updated in subsequent versions of this PDR.

Table 1: Possible Authorizations and Requirements for the Project

Authority, Agency or Governing Body	Requirement
Department of Fisheries and Oceans (DFO)	<ul style="list-style-type: none"> • Fisheries Act subsection 35(2) authorization for watercourse crossings (or Letter of Advice)
Transport Canada	<ul style="list-style-type: none"> • Approvals related to Federal Aeronautical Zoning Regulations, Aerodromes and Air Navigation Ontario Region regulations • Compliance with Transport Canada’s Aerodrome Standards and Recommended Practices (TP312) • Approval under <i>Canadian Aviation Regulation (CAR)</i> Standard 621, Aeronautical Assessment Form
Nav Canada	<ul style="list-style-type: none"> • Land Use Program/Approval
Electrical Safety Authority	<ul style="list-style-type: none"> • Connection Authorization • Safety Inspection
Environment Canada	<ul style="list-style-type: none"> • Approvals related to Federal Species At Risk (to be confirmed)
Hydro One (HONI)	<ul style="list-style-type: none"> • Customer Impact Assessment - Integration of project within HONI and effects on customers • Connection Cost Recovery Agreement

Authority, Agency or Governing Body	Requirement
Independent Electricity System Operator (IESO)	<ul style="list-style-type: none"> • Authorization as market participant • Registration of facility • Registration of metering service • System Impact Assessment (SIA) - Integration of project with HONI's transmission and distribution infrastructure • Connection Assessment Approval (CAA)
Landowners	<ul style="list-style-type: none"> • Lease Agreement(s)
Ministry of Natural Resources (MNR)	<ul style="list-style-type: none"> • Water Crossings Work Permit under <i>Regulation 453/96</i> of the <i>Lakes and Rivers Improvement Act</i> • Species at Risk Permit under the <i>Endangered Species Act (2007)</i> if designated species habitat is impacted (to be confirmed) • Confirmation Letter for the Natural Heritage Assessment
Ministry of Tourism, Culture and Sport (MTCS)	<ul style="list-style-type: none"> • Comment Letter for the Stage 1 and 2 Archaeological Assessments and the Cultural Heritage Assessment
Ministry of Transportation (MTO)	<ul style="list-style-type: none"> • Compliance with Road User Safety Policy and Corridor Management Permits, including Highway Traffic Act and Road Safety Regulations • Highway Entrance Permit(s), Transportation Permits (e.g. Oversize, Overweight Permit or Special Vehicle Configuration Permit)
Essex Region Conservation Authority (ERCA)	<ul style="list-style-type: none"> • Permit for development in natural hazard lands under <i>Regulation 158/06</i> (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) (to be confirmed)
Ontario Energy Board (OEB)	<ul style="list-style-type: none"> • License to Generate under Section 57(C) of the OEB Act

Authority, Agency or Governing Body	Requirement
Ontario Power Authority (OPA)	<ul style="list-style-type: none"> • Power Purchase Agreement • Notice to Proceed • Domestic Content Plan, security deposits, financing plan, metering plan, etc.
City of Windsor	<ul style="list-style-type: none"> • Building Permit(s) • Transportation and public safety permits (e.g. entrance permits, road occupancy permits, moving permits, encroachment permits) • Road Use Agreement
Industry Canada	<ul style="list-style-type: none"> • Communication Frequency License

5. PROJECT INFORMATION

5.1 Nameplate Capacity and Classification

The Windsor Solar Project is designed to generate a maximum of 50 MW AC of electricity. According to Part II, Section 4 of *O. Reg. 359/09*, the proposed project is a Class 3 Solar Facility. The characteristics of a Class 3 Solar Facility, as described in the regulation, are as follows:

- The location of solar photovoltaic collector panels and devices are at any location other than mounted on the roof or wall of a building; and
- The name plate capacity of the solar facility is greater than 10 kilowatts.

5.2 Land Ownership

The proposed project location is on the Windsor International Airport property. The Windsor International Airport is owned by the City of Windsor and will be leased to the proponent, Windsor Solar LP, for 20 years with an option to extend. Detailed land ownership information will be provided in a subsequent version of this PDR.

5.3 Energy Sources

The primary source of energy that will be used to generate electricity will be the kinetic solar energy of moving photons, which will be converted to electrons by the solar photovoltaic (PV) modules. This will create direct-current (DC) electricity, which is converted to AC electricity by inverters.

5.4 Project Components

PV panels will be the technology used to convert solar energy into electricity. DC electricity generated from the panels will be collected and converted into AC electricity by inverters. From the inverters, the AC voltage will be “stepped-up” and connected to the transmission grid at which point it will be metered and transferred into the transmission grid for general regular use.

Details about the project components, both temporary and permanent, that will be used to construct, operate, maintain and decommission the solar energy facility are provided below. More detailed information regarding project components will be provided in subsequent drafts of the PDR.

5.4.1 Solar Modules and Mounting System

Approximately 197,000 to 207,000 solar panels of between 290-305 watts (DC) each will be installed for the Windsor Solar Project. The estimated number of panels uses a conservative 1.2 DC to AC conversion rate. This results in a high-level estimate for the number of modules (panels) to be installed. This number will change depending on the number of stings and the matching between the panel and inverter, which has not been finalized at this time.

The panels will be aligned in rows to be spaced according to design criteria and will be mounted on racking structures. The type of anchoring system and/or foundation supports for the racking structures will be determined based on a preliminary geotechnical assessment, but it is anticipated that the racks will be supported by screw or driven piles into the ground. The racking system will be in a fixed position facing south and will not track the movement of the sun. Further details on the racking system and supporting structures will be provided in subsequent versions of this report and in the Design and Operations Report as the project progresses.

5.4.2 Medium Voltage Stations and Equipment

Solar panels create DC electricity, which is then converted to AC electricity through the inverter. The AC voltage created by the inverters will be “stepped-up” through multiple Medium Voltage (MV) Stations. A MV Station houses multiple components, including inverters, and a MV transformer. Each MV Station will include two 800 kW inverters and one MV transformer with a capacity rating of 1600 KVA. The MV transformer consists of a three-phase high-voltage winding and two separate low-voltage windings each rated for 360 volts. The number of MV Stations to be used will be determined based on the electrical design. Additional details will be provided in subsequent versions of this report and in the Design and Operations Report as the project progresses.

5.4.3 Electrical Collector System

The AC electrical energy output from the MV Stations will be collected via underground/overhead cables and connected to the main substation transformer. The location of these lines has yet to be determined but will be within the project location boundary as shown in **Figure 2**.

5.4.4 Substation and Other Equipment

The collector system voltage will be stepped up to the IESO’s transmission grid voltage at one collector/interconnection substation. The location of the collector/interconnection substation will be determined through consultation with HONI and is assumed to be located within the project location boundary with no transmission lines required. The size of the substation will be determined in a subsequent version of this report, but it is expected that the substation will be of a size similar to the total nameplate capacity of the project (50 MW). The substation will also include a DSTATCOM, a Dynamic VAR compensator which will be used to regulate the IESO transmission grid voltage to an established set point as defined by the IESO. In conjunction with the DSTATCOM, switched static capacitors and reactors may be required for this project. The size of the capacitors and reactors will be determined by the IESO. In addition, it will be assumed that the local distribution utility will have nearby suitable distribution lines to provide the project location with auxiliary power as required. If no distribution supply is available nearby, the requirements for an auxiliary generator will be determined once the layout of the solar facility is reviewed. Additional details will be provided in subsequent versions of this report and in the Design and Operations Report as the project progresses.

5.4.5 Access Roads

The Windsor Solar Project will be accessed with one or more main access roads allowing vehicles and equipment to enter the project location. One or more interior on-site access roads will also be developed, and their exact location and nature (permanent or temporary) has yet to be determined. Details on the access roads will be provided in subsequent reports as the project progresses.

5.4.6 Perimeter Fence

For the safety of the public and to prevent vandalism, a perimeter fence will be installed. This will be a chain link fence of standard height that will be installed around the entire project location. The perimeter fence is a requirement of the Electrical Safety Authority and will be built to their specifications. Typically, the Electrical Safety Authority requires a 1.8 m high fence with three strands of barbed wire on top.

5.4.7 Temporary Storage and Construction Areas

During construction it will be necessary to designate/construct temporary storage areas for equipment and components. These areas form part of the project location and will be included in the detailed Site Plan of the Design and Operations Report. Such areas will fall within the outer boundary of the project location as shown in **Figure 2**.

5.4.8 Operations and Maintenance Building

An Operations and Maintenance Building may be required for the Windsor Solar Project. It is likely that temporary office buildings (e.g., portable trailers) will be required during construction. Any such buildings would be located within the boundary of the project location as shown on **Figure 2**.

5.4.9 Water Crossings

Based on a preliminary review of site conditions within the project location, water crossings may be required over Lappan Drain, McGill Drain, and Rivard Drain, all classified as intermittent municipal drains, and shown in **Figure 2**. Additional details on water bodies within the project location are provided within **Section 6.3** and will be further refined during the approvals process.

5.5 Project Activities

The following subsections outline project activities during the construction, operations and decommissioning phases of the project. The Windsor Solar Project will not require the collection, transmission, treatment, storage, handling, processing or disposal of sewage, biogas, biomass or source separated organics or surface water. The operation of the facility will not discharge contaminants to the air. Some management of stormwater may be required. Further detail on stormwater management will be provided in subsequent versions of this report.

5.5.1 Construction

The following activities associated with construction of the solar facility will take between 8 to 10 months and are anticipated to begin in 2016. They will occur in relative order in which they are presented below. More information will be forthcoming in the draft Construction Plan Report. Pre-construction activities to be undertaken include: Stage 1/Stage 2 Archaeological Assessment, field studies for the Natural Heritage Assessment, topographic surveys, geotechnical studies, soil studies, and preliminary stormwater studies.

Table 2: Construction Activities

Activity	Description
Clearing, ground levelling and grading	Selective clearing of vegetation may occur based on the results of the NHA. Minimal ground levelling and grading to ensure proper drainage and to facilitate construction activities may be required.
Installation of storm water management equipment/facility	Based on consultation with the Windsor International Airport, and results of the NHA and stormwater management plans, temporary and/or permanent equipment to manage flow and protect natural features during construction/operation will be installed.
Installation of the perimeter fence	Installation of temporary fencing to delineate the construction area and installation of a permanent chain-link perimeter fence.

Activity	Description
Installation of Security Lighting	During construction, the site will be monitored by the supervising construction staff and 24-hour on-site security will also be utilized. Lights will be installed near the entrance to the facility and task-specific lights will be installed where they are deemed appropriate based on Windsor International Airport safety requirements.
Construction of access roads	Temporary and/or permanent gravel access roads will be constructed to facilitate installation and delivery of equipment as well as maintenance requirements during operations.
Delineation of temporary storage and construction areas and installation of temporary facilities	Equipment lay-down and materials storage areas will be delineated with fencing or other materials and temporary office buildings (trailers) will be constructed. These areas will be used for construction office trailers, washrooms, first aid station, vehicle parking, construction equipment parking, storage sheds, truck unloading/loading areas, waste disposal pick-up areas, equipment and material lay-down. If a permanent operations and maintenance building is required it will be constructed at this time.
Construction of foundations	Engineered foundations for the MV Station, substation transformer and operations and maintenance building (if any) will be constructed. The type of foundation will depend on the results of the geotechnical assessment.
Installation of supports and PV modules	The type of anchoring system and/or foundation supports for the racking structures will be determined based on a preliminary geotechnical assessment, but it is anticipated that the racks will be supported by screw or driven piles into the ground. The racking system will be in a fixed position facing south and will not track the movement of the sun. PV modules will be mounted to the racking system.

Activity	Description
Wiring, MV Station and substation transformer	DC electrical cabling from the solar PV modules to the MV Stations will be trenched underground. The AC cables from the MV Stations to the main substation will be trenched underground or installed overhead. The collector system voltage will be stepped up to the IESO’s transmission grid voltage at one collector/connection substation to be constructed at a location to be determined through consultation with HONI (assumed to be located within the project location boundary with no transmission lines required).
Remediation and clean-up of work areas	Removal of all construction-related waste from the project site (reuse/recycle where applicable).

Construction activities will be conducted by licensed contractors in accordance with required standards and codes and all activities will abide by local laws. All construction-related activities will be conducted within the project location outlined in **Figure 2**. Testing and commissioning of the facility will occur over the last few weeks of construction. During construction, fuel, oils or grease may be stored on site. These materials will be stored in accordance with a Spills Response Plan to be developed prior to the start of construction. Decisions on waste disposal or recycling during, and immediately after, construction will be made by the on-site contractor who will refer to the *Environmental Protection Act*.

5.5.2 Operation and Maintenance

The following activities are associated with the operation and maintenance of the solar facility. These activities will take place over the operational lifetime of the facility. More information will be forthcoming in the draft Design and Operations Report.

Overall, few activities are associated with the operational phase of the project. The proposed solar energy facility will be monitored and managed remotely and minimal on-site activity is required for its daily operation. An operations and maintenance manual will be prepared prior to the start of construction of the project. Security and minor maintenance will be the only regular activities anticipated on-site.

Table 3: Operations and Maintenance Activities

Activity	Description
Monitoring and meter calibrations	Ongoing remote monitoring. Meter calibrations as needed.
Periodic maintenance and inspection of project components	Regular inspections of project components will occur on a monthly/quarterly/semi-annual basis. Routine maintenance will occur on a scheduled basis. Security visits and measures will be conducted as needed.
Cleaning of panels	Cleaning of panels and equipment if required.
Major or additional maintenance	While unlikely, major maintenance will be undertaken as needed if equipment fails or is damaged and needs to be repaired or replaced.
Periodic landscape maintenance	Short native vegetation will be planted once construction activities are complete. Ground maintenance will take place (frequency to be determined) to ensure that weeds are contained and that the panels are not shaded.
Inspections and testing	Activities will be carried out as required by the governing bodies.

During the operations phase, no hazardous materials will be stored on-site with the exception of oil for transformers, which will be adequately contained and accompanied by a Spills Response Plan, which will be developed prior to the start of construction.

5.5.3 Decommissioning

Most of the materials used in a solar facility are reusable or recyclable, and some equipment may have manufacturer take-back and recycling requirements. Through the decommissioning phase of the project the site will be returned to a state similar to its pre-construction condition. Materials such as steel/aluminum from the racking and copper from the electrical infrastructure will be removed and recycled. The PV panels will be removed and either returned through manufacturers' recycling protocols or refurbished and recycled where possible. Any remaining materials will be removed and disposed of off-site at an appropriate location.

The following activities are associated with the decommissioning of the solar facility. These activities will take place approximately 20 years after commissioning. Decommissioning activities are expected to take between 6-9 months and will occur in the relative order in which they are presented below. More information will be forthcoming in the draft Decommissioning Plan Report:

- Disconnection and removal of above and below-ground wiring;
- Removal of PV modules, steel/aluminum structures and electrical equipment;
- Removal of foundations and any maintenance buildings or other structures;
- Removal of access roads ;
- Topsoil replacement as necessary;
- Site grading and rehabilitation as necessary; and,
- Removal of waste from the project location.

The final decision on waste disposal or recycling will be contracted to the on-site contractor that will refer to the *Environmental Protection Act* before submitting a Generator Registration Report for each waste produced at the facility.

6. DESCRIPTION OF ENVIRONMENTAL EFFECTS

The following subsections provide a summary of potential effects that may result from the construction, installation, operation, use and retirement of the solar facility at the project location and within 300 metres. Appropriate mitigation and monitoring requirements to minimize negative effects will be evaluated and implemented, where necessary. Details on mitigation measures and monitoring will be provided in subsequent reports.

6.1 Cultural Heritage and Archaeological Resources

The construction of the proposed Windsor Solar Project has the potential to impact cultural heritage and archaeological resources. A combined Stage 1/Stage 2 Archaeological Assessment (background study and property inspection) will be undertaken. The assessment will be conducted in accordance with the *Ontario Heritage Act* and using the Ministry of Tourism, Culture and Sport's (MTCS) *Draft Standards and Guidelines for Consultant Archaeologists*. This work will confirm the need for additional archaeological investigations, which will be undertaken as necessary. A full Cultural Heritage Assessment will be completed for the project. This work will be carried out for the purpose of minimizing, or where appropriate, avoiding, possible impacts. The results and recommendations of these assessments will be provided in subsequent versions of this report.

6.2 Natural Heritage Resources

A Records Review for the Windsor Solar Project is ongoing, consistent with Section 25 of *Ontario Regulation 359/09*, for the project location and lands within 300 m of the project location using secondary source information. The purpose of the Records Review is to determine whether the project location is:

- In or within 120 m of a provincial park or conservation reserve;
- In a natural feature, as defined to be:
 - A wetland (coastal wetland, northern wetland or southern wetland);
 - A valleyland;
 - A wildlife habitat;
 - A woodland; or
 - An Area of Natural and Scientific Interest (ANSI).
- Within 50 m of an area of an ANSI (earth science); or
- Within 120 m of a natural feature that is not an ANSI (earth science).

Based on the Records Review information collected to date, the project location is a mixture of meadows and mowed fields within a manicured setting. Natural features and wildlife habitat is anticipated to be minimal as airports carefully implement natural feature and wildlife management systems for the purpose of minimizing possible interactions between wildlife and aircraft for safety reasons. Preliminary site investigation work, to be undertaken, will confirm the results of the Records Review. No associated wildlife habitat has been identified to date. Background information indicates that the Windsor Airport Swamps (ER 23), which are within 300 m of the project location towards the southeast, are a provincially significant wetland (PSW) complex. Woodlands located within 300 m of the project location toward the southeast are also considered significant and contain significant plant species. The wetland and woodland features adjacent to the project location likely provide habitat for a variety of species and plants.

No Provincial Parks, Conservation Reserves, Valleylands, Earth Science ANSI, or Life Science ANSI were identified within the project location or surrounding 300 m. At the time of submission of this report, no Species of Conservation Concern have been noted in the project location or within 300 m of the outer boundary of the project location.

Figure 2 maps the natural features identified during the NHA Records Review and includes required setbacks. The evaluation of natural features is currently ongoing as the final extent of the project location has yet to be determined, and only basic construction practices are known

at this time. Thus, site specific potential impacts to the natural features have yet to be determined. Most of the potential impacts to natural features are expected to occur during the construction phase and will likely be reduced significantly through the use of mitigation and monitoring measures. Appropriate mitigation and/or monitoring measures will be developed and outlined in future reports.

6.3 Water Bodies

No lakes or seepage areas are within the project location or within 300 m of the project location based on the Records Review and **Figure 2**. Three mapped drains are located within the project location (**Figure 2**): Lappan Drain, McGill Drain and Rivard Drain. These features are tributaries to the Little River Drain that flows into the Little River and then the Detroit River near Lake St. Clair. The drains will be evaluated for potential impacts during site investigation field work. Most of the potential impacts to water bodies are expected to occur during the construction phase and will likely be reduced significantly through the use of mitigation and monitoring measures. Appropriate mitigation and/or monitoring measures will be developed and outlined in future reports.

6.4 Air, Odour and Dust

Once operational, the solar facility will not create dust, odour or emissions to the air. During construction, minimal increases in particulate matter (dust) will be experienced in the adjacent area, which is predominantly agricultural to the south and east, and predominantly employment uses (industrial/office/commercial) to the north and west. Residential developments are also located within the adjacent area. Additionally, there will be emissions from the diesel engines of construction machinery and equipment which may cause temporary negative impacts to local air quality. Given the current use of this area as an airport facility, the impacts will be localized and temporary in nature and are not anticipated to have a residual impact on regional air quality or climate change. Appropriate air quality mitigation measures, where appropriate will be implemented during construction. The anticipated impacts on air quality will be minimal from construction in comparison with daily emissions produced by airport operations. Due to the proximity of the solar facility to the Windsor Airport, discussions will take place with the Windsor Airport Manager and/or Airport Authority to determine the potential impacts on airport operations as a result of potential construction dust.

6.5 Noise

During the construction period, which is expected to be 8 to 10 months, construction activities will lead to elevated levels of noise in the area. Efforts will be made to minimize this noise.

Once the solar facility has been constructed and is operational, the only noise generated will be from the MV Stations and main substation transformer. This equipment will be located so as to minimize noise impacts on receptors and noise levels will be modelled to confirm that regulated noise levels are met. Minimal noise (e.g., vehicles, spray washing) may be experienced during the operations phase at nearby receptors during times of periodic maintenance. Given the proximity to the airport and the existing noise regime associated with the airport, noise from the solar facility's construction, operation and decommissioning should be minimal.

6.6 Land Use and Resources

The proposed solar facility will be located within the boundary of the Windsor International Airport. The Windsor International Airport is located within the Sandwich South Planning District. The Planning District covers 2,530 hectares and was annexed into the City of Windsor in 2003 and incorporated into the City Official Plan in 2007. The project location is designated "Airport" and "Future Employment Area" in the Official Plan and is adjacent to an "Open Space" designation in the southeast corner of the airport lands. In 2010, the Windsor International Airport Master Plan was also completed, which is the overall planning document that guides the development of the Airport and assists the City of Windsor and the private sector in making land use decisions on surrounding lands. In the general vicinity of the Airport, land use is governed by Transport Canada TP1247E (Land Use in the Vicinity of Airports) and recent modifications by NAV CANADA. Specifically, the registered zoning in place is entitled *Windsor Airport Zoning Regulations, Regulations Respecting Zoning at Windsor Airport, current to August 2009*. The majority of the project location is currently rented out and farmed with cash crops and/or consists of mowed fields. Short native vegetation will be grown beneath and between the panel rows to control erosion. The project location will be returned to its original condition or similar after decommissioning.

The proposed facility is physically low-profile and should be non-obtrusive to the surrounding community. Significant setbacks from the surrounding road network and adjacent property lines are being applied and the majority of the surrounding uses are employment uses and agricultural.

6.7 Provincial and Local Infrastructure

Local roads may experience additional wear from heavy construction loads. Road damage will be repaired by Windsor Solar LP based on a Road Use Agreement to be established between Windsor Solar LP and the City of Windsor. Periodic traffic disruptions are possible along Division

Road, Lauzon Parkway and some local roads during the construction phase of the project. Connection to the provincial grid has been considered as part of the Green Energy Investment Agreement and no negative effects are predicted during the operational phase of the project. Solar facility development activities will take place such that negative impacts to airport infrastructure will not occur. Ongoing communication between Windsor Solar LP and the Director of Operations at the Windsor International Airport will occur as needed.

6.8 Public Health and Safety

Potential impacts to public health and safety are minimal but include those generally related to construction. Noise, vibration and dust during construction are the key potential causes of human health impacts. The level of noise, vibration, and dust emissions expected during construction are anticipated to be low, localized and temporary in nature and mitigation measures will be implemented to address or eliminate the impacts.

Temporary and permanent fencing will prevent unauthorized access and ensure public safety during the construction and operations phases. Appropriate signage, flagging and other safety measures will be undertaken to notify the public and ensure public safety. Applicable safety policies and procedures will be adhered to during the construction phase of the project.

Discussions are planned with Windsor International Airport to determine any additional requirements that may be required to ensure the safety of the adjacent operations.

An Emergency Response Plan and Emergency Communications Plan will also be prepared prior to construction and will outline the protocol to be followed in the event of an emergency at the Windsor Solar Project. This plan will be developed in consultation with the local emergency services department from the City of Windsor and Windsor International Airport. The Emergency Response Plan will provide key contact information for relevant responders, regulators, landowners and other stakeholders.

6.9 Areas Protected under Provincial Plans and Policies

The project is not located in areas subject to Land Use Plans. Specifically, the project does not lie within the Niagara Escarpment, Lake Simcoe Watershed, Oak Ridges Moraine or the Greenbelt. The project supports the goals of the Province's *Green Energy and Green Economy Act, 2009*.

7. BENEFITS OF THE PROJECT

The generation of power from solar energy will displace approximately 60 GWh of electricity annually that otherwise may have been generated by fossil fuel-burning or non-renewable power plants. As a result, the energy generated will not contribute to climate change or emissions-related health impacts. A further benefit is that jobs will be created, especially during the construction phase.