DAVID BROWN SOLAR PARK
CONSTRUCTION PLAN REPORT

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Table of Contents

Table of Contents

List of Tables

List of Appendices

List of Figures

Appendix A

1.0 Introduction

1.1 PROJECT OVERVIEW

Saturn Power Inc. ("Saturn") is proposing to develop, construct and operate the 10 Megawatt (MW) David Brown Solar Park ("the Project") within the Township of South Stormont, United Counties of Stormont, Dundas and Glengarry, Ontario, in response to the Government of Ontario's initiative to promote the development of renewable electricity in the province.

For the purposes of this report, the Project Location represents the proposed physical footprint of the Project including the proposed facility components and temporary areas used during construction. The Zone of Investigation includes the Project Location in addition to a 120 metre (m) radius around the Project Location used to conduct environmental investigations. Figure 1 in Appendix A shows the Project Location and Zone of Investigation.

Please reference the Project Description Report for more information.

1.2 REPORT REQUIREMENTS

The purpose of the Construction Plan Report is to describe in sufficient detail Project activities related to the construction phase so that all potential adverse environmental effects may be identified.

The Construction Plan Report has been prepared in accordance with Item 1, Table 1 of O.Reg.359/09 and the Ministry of the Environment's (MOE's) guidance document "Technical Guide to Renewable Energy Approvals" (MOE, 2011). O. Reg. 359/09 sets out specific content requirements for the Construction Plan Report as provided in the following table (Table 1.1).

Table 1.1: Construction Plan Report Requirements (as per O. Reg. 359/09 – Table 1)

Requirements	Completed	Section Reference
Set out a description of the following in respect of the renewable energy project:		
1. Details of any construction or installation activities.	✓	2.0
2. The location and timing of any construction or installation activities for the duration of the construction or installation.	✓	2.0
3. Any negative environmental effects that may result from construction or installation activities.	✓	3.0
4. Mitigation measures in respect of any negative environmental effects mentioned in paragraph 3.	✓	3.0

2.0 Construction and Installation Activities

This section describes the construction and installation activities required for the Project. A detailed description of the Project components is provided in the Project Description Report. The Engineering, Procurement and Construction or General Contractor (Construction Contractor) will responsible for the detailed design and construction for the Project. The detailed construction plan will include all commitments for mitigation measures and monitoring programs for the construction phase identified in this report, and other reports to be submitted as part of the Project's REA application. The detailed construction plan would include site practices and procedures based on regulatory requirements and accepted site practices and will include plans related to traffic management, waste management, health and safety, sediment and erosion control, and emergency response and communications (including a complaint response protocol).

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles	Materials Required
Site Preparation			
Land Surveying	• A registered Ontario Land Surveyor will survey the property lines and boundaries of Project Location. • Temporary work areas will also be surveyed to ensure construction vehicles and personnel stay within demarcated areas.	• N/A	• N/A
Sediment and Erosion Controls	• Prior to vegetation removal, sediment and erosion control measures will be installed. • Silt fencing erected around and within the project site including along the existing drain. • Weekly visual inspections of silt fencing for maintenance • A sediment and erosion control plan will be developed by the Construction Contractor	• N/A	• Silt fencing • Other materials as defined in the sediment and erosion control plan
Site Clearing	• Site clearing and grubbing to remove woody vegetation including trees, stumps and roots	• Bulldozers, logging equipment, chainsaws, heavy hauler trucks	• N/A
Soil Stripping	• If necessary, surface material is stripped and stockpiled in the construction laydown area or removed from the site.	• Bull dozers	• N/A
Site Grading	• If necessary, subsoil is graded along site to flatten contours. Minimal change from the existing grade is anticipated.	• Bull dozers	• N/A

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles	Materials Required
Surface Drainage	• No significant changes to hydrology expected and no detention or treatment of stormwater is expected to be required. A stormwater management plan will be prepared by the Construction Contractor prior to construction.	• N/A	• N/A
Preparation of Construction Laydown Area	• 3.7 ha in size, for temporary storage of Project materials and equipment including construction office, first aid station, portable toilets and wash stations, waste disposal containers, parking area and concrete truck wash station • Topsoil stripped and stockpiled and some grading where necessary. • Where required, some areas will be gravelled for heavy equipment and material laydown. Location and depth of gravelled area will be determined during detailed design. • Grading will be above water table at all times of the year, no blasting is required.	• Excavators, bulldozers, dump trucks and compaction equipment	• Gravel • Geotextile material
Installation			
Access Roads	• Existing provincial and municipal roads used to transport components to the site. • Existing access into the property from Dickinson Road will be used and may be upgraded. • Access roads will be stripped and stockpiled and gravelled. Geotextile material may be used prior to placement of aggregate. • Roads are 5m wide with additional compacted shoulders on each side. • Turning radii will be wider in consideration of all potential vehicle requirements, including accommodation of emergency vehicles. • If necessary, culverts and drainage ditches will be installed beneath and along access roads to maintain existing site drainage patterns. • Grading will be above water table at all times of the year, no blasting is required.	• Excavators, bulldozers, dump trucks and compaction equipment.	• Gravel • Geotextile material
Installation of Racking System	• Racking system is transported to the construction laydown area by truck and positioned on the site by hand or motorized equipment. • Depending on geotechnical conditions, the racking system would be supported by either: o Steel piles grouted into bedrock; o Steel helical screw piles (installed by hydraulic drive motor); or o Ballasted foundations (concrete foundations positioned on grade). • Underground options would be 2m below frost level.	• Delivery truck • Mechanical, hydraulic or vibratory pile hammer equipment mounted on a boom truck (or equivalent).	• Steel piles, grout; or • Steel helical screw piles; or • Steel, concrete.

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles	Materials Required
Assembly of Solar Modules to Racking System	• Individual solar modules are approximately 2m x 1m. • Site will have up to 55,000 solar modules. • Transported to construction laydown area by truck and positioned on site by small truck. • Small mobile crane is used to position the modules on the racking system. • Fasteners between modules and racks are tightened with hand tools.	• Delivery Truck • Small mobile crane • Hand tools	• Solar modules • Hardware (bolts, etc)
Direct Current Cabling and Combiner Box Installation	• Direct Current (DC) cabling secured along the racking frame to a combiner box mounted within each solar module row. • Combiner box are fastened to the racking system or on support structures. • DC cabling leaves combiner box and installed underground in trenches or on grade within conduit to inverters.	• Hand tools • Excavator or backhoe for trenching	• DC cabling • Zip ties • Hardware (bolts, etc)
Inverter Stations Foundations	• Foundations for inverters and transformers at inverter station will be cast-in-place concrete pads or concrete piers. • Precast foundations would be trucked to site and placed in position using a crane in an excavation where granular base material has been placed. • Cast-in-place concrete pads would require excavation, placement of granular material, formwork construction, installation of reinforcing steel (rebar), installation of grounding grids and pouring concrete into the forms. Concrete would be delivered by ready-mix truck from a local supplier. A wash-out location would be provided on-site to rinse concrete trucks prior to leaving the construction site.	• Backhoe or excavator • Dump truck • Truck • Concrete truck	• Granular material • Formwork (wood) • Rebar • Grounding grid rods • Concrete
Inverter Station Assembly	• 1 MVA Inverter and medium voltage transformer would be transported to construction laydown area by truck. • A small mobile crane would be used to place each inverter and transformer onto the installed foundations. • Cabling will be installed by hand to connect DC cabling to the inverter station components and then onwards to the transformer substation	• Truck • Mobile crane	• N/A

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles	Materials Required
Alternating Current Cabling	• Alternating Current (AC) cabling from the inverter stations to the transformer substation would be installed underground or aboveground within conduits. • Data cabling for the SCADA system will also follow the same AC cabling routes. • Trenches for underground cabling would be dug by backhoe (or equivalent) approximately 1m deep and 0.5m wide. • Excavated materials is removed and stored on site. • A sand base layer is installed above and below the cabling. Trench is then filled with excavated material. • If cabling is located beneath an access road, conduits will be used within the trench. Where possible, cabling will follow next to the access roads. • Alternatively, conduit will be placed aboveground as per all relevant codes. • Fibre optic communication lines would follow the same route as the AC collector lines.	• Backhoe	• Sand • Conduit • AC cabling
Transformer Substation Installation	• Transportation of the main 10 MVA transformer, switchgear and protection/control equipment would be by truck to the construction laydown area. • Foundations would be installed either via cast-in-place concrete or pre-cast foundations (see Inverter Station foundations). • Oil containment system would be designed in the foundation of the transformer. • Perimeter fencing would be outside of the transformer foundation. • Small crane would position the electrical equipment onto the foundations. • Cable connections into the system would be completed by hand.	• Backhoe or excavator • Dump truck • Truck • Concrete truck	• Granular material • Formwork (wood) • Rebar • Grounding grid rods • Concrete • Fencing
Communication Tower	• Transported to construction laydown area via truck. • The footings of the communication tower will likely require ready-mix concrete without the need for a concrete truck.	• Backhoe or excavator • Hand tools	• Ready-mix Concrete
Distribution Pole Line	• From the transformer substation to the Point of Common Coupling a 300m long overhead 44 kV distribution line will be installed. • Wooden poles will be installed in augured holes. • Bucket truck would be used to install the cable on the poles.	• Excavator • Utility bucket truck • Auguring truck • Pole trailer • Reel stand vehicles • Conductor puller vehicle • Tensioner vehicle	• Wooden utility poles • Ready-mix concrete

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles	Materials Required
Perimeter Fencing	• Chain linked fence and posts would arrive on site by truck • Posts to be installed with an auguring machine or auguring truck. • Fence to be assembled to posts. • Ready mix concrete may be used to secure some posts dependent on site conditions.	• Auguring machine or auguring truck	• Chain linked fence and posts • Ready mix concrete.
Water Taking	• No water is expected to be taken from surface water sources or groundwater sources. • There is the potential for incidental groundwater taking to be required as part of grading and/or foundation installation; however, this taking is expected to be minimal (if needed) and will not exceed 50,000 L/day. • If necessary, discharge of water will occur directly adjacent to the proposed excavation allowing re-infiltration into the groundwater system. • No negative impacts are expected in the event of this minor dewatering. • Water will be required during construction for sanitary purposes or dust control; a temporary water storage facility may be used on site for this purpose and will be confirmed by the Construction Contractor. • All water would be supplied by tanker truck from a commercial source.	• Tanker truck	• N/A
Post Installation Activities			
Site Restoration	• Aggregate and geotextile used within the construction laydown area may be removed, dependent on landowner preference. • Where possible, areas will be decompacted, filled using stockpiled material, graded and seeded as appropriate. • Seeding under the panels will be planned in the vegetation management plan.	• Truck	• Top soil • Seed
Final grading	• Stockpiled topsoil would be redistributed where required. • Grading would be finished, as appropriate, to achieve proper surface drainage.	• Excavators	• Top soil • Seed

2.1 MATERIALS BROUGHT ON SITE

2.1.1 Materials

In general, the Project's materials consist of standard building materials for construction including concrete, wood, geotextile, aggregate, wiring, cables and metal. Additional materials brought on-site include Project infrastructure such as solar PV modules, transformers, inverters, and building enclosures. Construction equipment and vehicles such as excavators, trucks used for the transport of solar components, and cranes would also be brought on-site during construction and installation activities. To the extent possible these materials would be procured locally when available and in sufficient quality and quantity and at competitive prices. Saturn Power would follow the Ontario Feed-in Tariff Program requirements for minimum Domestic content, which promotes local procurement of materials.

Table 2.2: Construction Materials

Construction Material	Delivery Vehicle and Truckloads	Usage	On-Site Storage
Concrete	Transit Mixers	Foundations for electrical buildings	None
Reinforcing Steel	Semi-Trailer		Staging/Laydown area
Lumber	Semi-Trailer	Formwork for foundations	Staging/Laydown area
Steel Support Piles	Semi-Trailer	Foundation supports for PV Modules Racks	Staging/Laydown area
Granular A and B, Sand	Dump Trucks	Staging/laydown areas, substation yard, access roads	None
Topsoil (if required)	Dump Trucks	Site restoration of disturbed areas	None
Seed	Semi-Trailer	Reseeding	Staging/Laydown area
Silt fencing	Semi-Trailer	Silt fencing	Staging/Laydown area

All estimates would be confirmed and additional details determined by the Construction Contractor.

Raw materials and equipment would generally be delivered to the main staging/laydown areas for temporary storage depending on the detailed delivery and construction schedule to be developed during detailed design.

Backfill required during construction, with the exception of aggregate, would use stockpiled material removed during earth moving for installation of below ground components – no additional fill from off-site sources is anticipated. Quantity is dependent on grading of site areas. It is anticipated that topsoil requirements will be met with stockpiled material.

2.1.2 Traffic Management

The Construction Contractor would implement a Traffic Management Plan to identify and deal with specific traffic planning issues including the management of traffic and the delivery of materials. The Traffic Management Plan would include details on the size and number of trucks, and the timeline and operational plan for transporting materials to the Project sites (including the sequence of events, duration of activities, and timing with respect to season). The Traffic Management Plan may also include the use of signage, road closures, speed restrictions, truck lighting, load restrictions, and equipment inspections. The Traffic Management Plan would be developed during the detailed design phase, once the construction contracts have been awarded. Saturn Power would provide the Traffic Management Plan to the Township of South Stormont and United Counties of Stormont, Dundas and Glengarry when developed.

The potential effects to local traffic and on municipal roads from the delivery of Project materials are discussed in Section 3.6. The main access to the Project Location is via Dickinson Road which is a municipal road. The number of vehicles anticipated to access the Project Location on a daily basis is presented below in Table 2.3.

Table 2.3: Daily Construction Traffic (Estimated)

Purpose	Traffic During Site Preparation	Traffic During Construction and Installation
Workers (daily roundtrips)	20 vehicles, assuming each worker drive individual vehicle	100 vehicles, assuming workers are a mixture of car pools and individual drivers
Trucks Delivering Road Aggregate (daily roundtrips)	five 25-ton trucks	one 5-ton truck per week
Construction Vehicles (one way only)	five vehicles	0
Deliveries (daily roundtrips)	6 to 10 vehicles	10 to 15 vehicles
Substation and Switching Station Equipment Deliveries (daily roundtrips; approx.. 20 total)		5 vehicles (may require wide load trucks)
Total	**36 vehicles**	**121 vehicles**

2.2 CONSTRUCTION EQUIPMENT USED

Heavy construction equipment that is anticipated to be used, and representative model numbers of this type of equipment, includes the following:

Table 2.4: Typical Construction Equipment (Estimated)

Equipment	Power and Weight	Usage	Qty.
Track-Type Tractor (D8)	179 kW 37.6 T	• Land clearing and grubbing (site preparation) • Spreading granular material for access road	2
Wheel Tractor-Scraper (615C)	198 kW 25.6 T	• Excavating and moving topsoil	1
Hydraulic Excavator (325B)	125 kW 25.9 T	• Excavating topsoil and placing backfill	1 to 2
Backhoe Loader (446B)	82 kW 8.9 T	• Excavating topsoil and placing backfill	1 to 2
Wheel Loader (966F)	164 kW 20.5 T	• Moving soil and granular material	1
Dump Truck (D25D)	194 kW 19.5 T	• Transport and placement of granular for access road	2 to 4
Motor Grader (14H)	160 kW 18.8 T	• Grading of laydown area and access roads during construction (as necessary)	1
Drum Vibratory Compactor (CS-563C)	108 kW 10.9 T	• Granular compaction for access road	1 to 2
Crawler Crane (LS-118)	267 kW 49.9 T	• Pile driving or installation of screw piles (if required)	1
Air Truck (Percussion Drill)	4.5 kW 4.1 T	• Drilling holes in bedrock for solar array pile supports	2 to 3
Rough Terrain Crane (RT500C)	90 kW 23.4 T	• Unloading and moving material and equipment.	1 to 2
Telescopic Handler (TH83)	81 kW 10.0 T	• Unloading and moving material and equipment.	1 to 2
Concrete Transit Mixers (6 to 8m^3 Capacity)	250 kW Loaded: 20 to 25 T	• Transportation and placement of concrete mix for foundations.	1 to 4
Container Box and Flatbed Semi-Trailers (12 to 17 m long)	Empty: 7 to 16 T Loaded: 40 to 70 T	• Transportation of tracked machines (bulldozers excavators), large electric equipment (inverters, transformers, building enclosure) and materials (precast concrete pads, solar PV modules and support racks).	6 to 10
Pickup Trucks (F150 Super Crew)	300 hp 2.6 T	• General transportation of small equipment, materials and personnel.	8
Diesel Generators, Air Compressors	175 kW	• Power supply for electrical equipment (hand tools, etc.)	3
Hand Tools - drill, wrenches, concrete vibrator, welding machines, saws, etc.		• General construction and assembly activities	15 +

The Construction Contractor would determine the final specifications for equipment to be used in Project construction, including size and weight. See Section 3.4 for potential effects from noise and dust.

2.3 TIMING AND OPERATIONAL PLANS

A description of the key construction activities are provided in Table 2.5. Construction activities leading up to commercial operation are anticipated to take approximately six to nine months.

Table 2.5: Construction Activities – Anticipated Schedule and Duration

Key Activity	Schedule	Duration
Surveying and delineation of work areas	June 2013 – August 2013	90 days
Installation of sediment and erosion control measures (e.g. silt fencing)	June 2013 – August 2013	90 days
Site clearing, grubbing, stripping	June 2013 – August 2013	90 days
Access road and laydown area construction	June 2013 - September 2013	120 days
Perimeter fencing and entrance gate installation	June 2013 - September 2013	120 days
Foundation construction (substation and inverter stations, if required)	June 2013 to September 2013	90 days
Racking system and solar panel installation	June 2013 to December 2013	120 days
Installation of inverters, intermediate step-up transformers, and substation	August 2013 to December 2013	150 days
Electrical cable installation – underground and/or aboveground, depending on soil and bedrock conditions	August 2013 to November 2013	120 days
Site restoration, re-vegetation, and landscaping	May 2014	45 days

Note: Construction activities would take place in accordance with municipal by-laws, and during regular construction hours (e.g., between 7:00 a.m. and 11:00 p.m., Monday through Friday). See Section 3.4.2. If work is anticipated to be required outside of these hours, the timing would be discussed in advance with the Township of South Stormont and United Counties of Stormont, Dundas and Glengarry, and adjacent residents notified. In the event changes are required to the proposed construction schedule, updated construction schedules would be provided to the public through postings on the Project website.

2.4 MATERIALS/WASTE GENERATED AT, OR TRANSPORTED FROM, THE PROJECT LOCATION

During construction, waste material would be generated at, and transported from, the Project Location. All wastes will be handled and recycled or disposed of in accordance with regulatory requirements. Minimal waste is anticipated to contribute to local landfill sites, if permitted by the Ministry of the Environment to accept construction and demolition waste. There would be no on-site disposal of waste during the construction of the Project. The Construction Contractor will develop a waste management plan prior to initiating construction activities, which will detail the quantity and types of material expected to be generated, and procedures for storage and disposal of the waste materials.

The majority of waste material produced by the Project is expected to consist of typical construction material waste (e.g. excess fill, soil, woody debris, scrap lumber and metal, banding, plastic wrap removed from palletized goods, equipment packaging, grease and oil, steel, etc.) and a minor amount of domestic waste (i.e. garbage, recycling and organics). This waste material will be managed in accordance with regulatory requirements and accepted site practices. Domestic and construction waste disposal would be the responsibility of the Construction Contractor, and procedures for the separation, storage, and disposal of waste materials will be included in the waste management plan to be developed by the Construction Contractor. On-site storage in weather-protected areas for collection and separation of waste materials is expected to be located at the main staging/laydown areas.

Sanitary waste generated during the construction phase would be collected via portable toilets and wash stations supplied by a licensed third party who would be retained prior to the start of major construction activities. The licensed third party would be responsible for the transportation and disposal of all such waste according to regulatory requirements.

Hazardous materials to be used during the course of construction will be stored, handled, and disposed of as per regulations and accepted site practices. Procedures for storage, handling, and disposal of hazardous materials will be included in the waste management plan developed by the Construction Contractor. The amount of hazardous material requiring disposal would be determined and confirmed by the Construction Contractor prior to construction of the Project.

If contaminated soil is encountered during the course of earth moving, the contaminated material would be managed and disposed of in accordance with the current appropriate provincial legislation, such as Ontario Regulation 347, the General – Waste Management Regulation.

Typical waste materials that can be recycled or reused include solar panels, cabling, granular materials, oils and lubricants, and woody debris. Although the majority of components would be disposed of during decommissioning (see the Decommissioning Plan Report for further details), there may be a small quantity of these reusable and/or recyclable materials that may break or otherwise require disposal during the construction stage. Electrical equipment could either be salvaged for reuse or recycled. Components such as the cabling would have a high resale value due to copper and aluminum content. Spent oils if any could be recovered for recycling through existing oil reprocessing companies. Woody vegetation debris from clearing activities may be disposed of as waste at a licensed landfill, or may be used for firewood or other domestic uses, be chipped and spread on site (for erosion control or landscaping purposes), or moved to a suitable area of the property to provide wildlife habitat.

3.0 Potential Environmental Effects and Mitigation Measures

O. Reg. 359/09 requires that any adverse environmental effects that may result from operation and maintenance activities be described. Generally, an area within a 120 m radius of those activities has been considered in this assessment (known as the Study Area). The term "environment" in O. Reg. 359/09 includes the natural, physical, cultural, and socio-economic environment.

The sections below describe the potential effects, mitigation measures (if required) and net effects that may result from operation and maintenance activities. Mapping provided in Appendix A shows the Project Location and Study Area.

A detailed description of the existing natural environment can be found within the Natural Heritage Assessment and Environmental Impact Study (NHA/EIS) and the Water Assessment and Water Body Report (WA/WBR). The detailed studies in these reports are completed in the context of a 120 m zone of investigation, also shown on mapping provided in Appendix A.

A detailed description of the existing cultural heritage environment can be found within the Heritage Assessment (Protected Properties Report) and the Stage 1 & 2 Archaeological Assessment.

In order to identify potential negative environmental affects that may result from operation of the Project, the following is a high level summary of the methodology that was applied:

- Collected information on the existing environment using available background information, consultation with stakeholders, and site investigations.
- Reviewed proposed Project activities in order to predict the potential interactions between the Project and environment.
- Identified potential interactions that could cause an adverse effect on the environment.
- Developed measures to avoid, mitigate, and monitor potential adverse effects.

The key mitigation strategy used to address potential environmental effects from operation of the facility was avoidance of natural and cultural heritage features to the extent possible during siting of the Project. Monitoring plans and contingency measures have also been outlined in order to ensure mitigation measures are functioning as intended.

Where net effects remain, they are characterized as either positive or adverse. Adverse net effects were assessed using the following descriptors, as applicable:

- Duration: the period of time until the element returns to baseline conditions;
- Frequency: the number of times that an effect may occur;
- Permanence: the degree to which an effect will not return to baseline conditions;
- Spatial Extent: the area within which an effect may occur.

Positive net effects were not assessed further.

The key performance objective for each of the features discussed below is avoiding and/or minimizing potential effects (through the use of appropriate mitigation measures) to the features throughout the construction phase of the Project. The proposed mitigation measures would assist in achieving this performance objective. Additional information related to specific performance objectives is detailed in the Construction Environmental Effects Monitoring Plan provided in Section 5.0.

3.1 ARCHAEOLOGICAL AND CULTURAL HERITAGE RESOURCES

The following sections describe the potential effects, recommended mitigation measures, and net effects for heritage and archaeological resources. In accordance with O. Reg. 359/09, a *Stages 1 Archaeological Assessment, Stage 2 Archaeological Assessment* and *Heritage (Protected Properties) Assessment* have been prepared for the Project (included under separate cover). The following provides a summary of the above mentioned reports.

3.1.1 Archaeological Resources

The Stage 2 Archaeological Assessment of the Project Location identified no archaeological sites requiring further assessment and concluded that no further archaeological assessment of the property is required.

Potential Effects

Although considered unlikely, potential impacts to archaeological resources could occur if additional artifacts are encountered during construction activities.

Mitigation Measures

General mitigation measures would be implemented to facilitate no detrimental disturbance to any additional archaeological resources that may be found during Project construction. In the event that any additional archaeological or historical materials or features are discovered during construction of the Project, the following procedures shall be adhered to:

- Work in the area of the archaeological site or artifacts shall halt immediately and the Construction Contractor notified of the discovery; and,
- A licensed consultant archaeologist shall be contacted to determine the appropriate course of action.

In the event that human remains are discovered during construction activities the following procedures shall be adhered to:

- All work shall cease in the immediate area of the discovery and the Construction Contractor notified immediately; and,
- The Ontario Provincial Police and coroner shall be contacted immediately.

The Ministry of Tourism, Culture and Sport, appropriate Aboriginal communities, and the Registrar of Cemeteries at the Ministry of Consumer Services will also be notified.

Net Effects

By following the procedures recommended above no adverse net effects on archaeological resources are anticipated during construction of the Project.

3.1.2 Cultural Heritage Resources

One resource of cultural heritage value, the CN Railway Line, is identified adjacent to the Project Location within the Study Area.

No protected properties or cultural heritage landscapes are located within the Study Area.

Potential Effects

The Heritage Assessment concluded that there are no direct or indirect Project-related impacts on the CN Railway Line in terms of destruction, alteration, isolation, shadows, obstruction of views or change in land use. The Project is recommended to be released from further heritage requirements.

Mitigation Measures

Given that no direct or indirect Project-related impacts are identified on the CN Railway Line, mitigation measures are not required.

Net Effects

No negative impacts of significant magnitude have been identified to heritage resources or protected properties.

3.2 NATURAL HERITAGE FEATURES

In accordance with O. Reg. 359/09, an NHA/EIS was undertaken for the Project. The following provides a summary of the potential effects and the associated mitigation measures as described in that report. In addition, potential effects and mitigation measures are identified for regulated features outside the setbacks, and unregulated natural features, which are therefore not considered in the NHA/EIS.

3.2.1 Significant Natural Heritage Features

No significant wetlands were identified within the Project Location and therefore no direct loss of significant wetland is proposed as part of the Project. Two wetland features outside of the Project Location but within the 120m Zone of Investigation were treated as significant. The first significant wetland is 20.58 hectares and the second significant wetland is 62.02 hectares. The significant wetlands are also considered significant wildlife habitat for amphibian breeding.

Two woodlands treated as significant were identified in and within 120m of the Project Location. The first significant woodland is 20.58 hectares made up primarily of sugar maple, green ash and some silver maple. The second significant woodland is 62.02 hectares made up primarily of Black Ash, Elm, Prickly Ash and Silver Maple. The significant woodlands are also considered significant wildlife habitat for amphibian breeding. Generalized wildlife habitat for area sensitive woodland breeding birds has also been identified within the significant woodland.

No other significant natural heritage features as defined by O. Reg. 359/09 are located within the Project Location or 120 m zone of investigation; it has been confirmed that no provincial parks or conservation reserves, provincially significant Areas of Natural and Scientific Interest, or significant valleylands occur within 120 m of the Project Location.

Potential Effects

The original Project footprint proposed removal of the significant woodland and significant wetland features at the west end of the subject property. As a result of the Natural Heritage Assessment, the Project footprint was substantially reduced to be adjacent to (not within) the significant wetland features and require only 0.83 ha of the significant woodland to be removed (4.03% of the feature).

All proposed Project components are located outside of significant wetland boundaries. Therefore, there is no direct loss of significant wetland habitat or function related to the Project. Indirect impacts resulting from construction activities include dust generation, sedimentation, and erosion.

All proposed Project components are located outside of the 62.20 ha significant woodland feature and therefore no direct impact to the function, form or habitat is expected. Approximately 0.83 ha (4.03%) of the 20.58 ha significant woodland feature will be permanently removed during Project construction as part of the potential constructible area. Habitat to be removed consists primarily of sugar maple lowland ash deciduous forest community. Direct potential effects of this habitat removal include loss of species diversity, reducing or fragmenting available habitat, introduction or spread of invasive species, potential for change in surface water inputs to significant wetlands, and temporary disruption of movement to wildlife. Indirect potential effects to both significant woodlands include dust generation, sedimentation and erosion.

No direct loss of amphibian vernal pool habitat is expected however potential indirect effects to amphibians include sensory disturbance, localized dust generation, soil erosion, sedimentation, chemical or fuel spills and direct mortality from traffic.

Mitigation Measures

Avoidance was the main strategy used to minimize impacts to the significant wetlands and significant woodlands. All components of the Project are sited outside the significant wetland feature boundaries and within only 4.03% of one significant woodland (20.53 ha).

Protection of significant wetlands and significant woodlands will be accomplished by applying appropriate management practices to all construction activities:

- No development will be permitted within the significant wetland boundaries.
- The boundaries of all significant wetlands within 30 m of the proposed construction area will be flagged / staked in the field by a qualified ecologist prior to construction to assist with the demarcation of the construction area, to ensure construction activities avoid these sensitive areas and to assist with the proper field installation of E&S controls;
- Where possible, and as appropriate, access roads will be constructed at or near existing grade to maintain surface flow contributions to significant wetlands.
- As appropriate and prior to construction the limits of vegetation clearing will be staked in the field. The Construction Contractor will ensure that no construction disturbance occurs beyond the staked limits and that edges of sensitive areas adjacent to the work areas are not disturbed. Regular monitoring of the limits of clearing will be employed to ensure the objective of minimal disturbance. Should monitoring reveal that clearing occurred beyond defined limits, mitigation action will be taken that could include rehabilitation of the disturbed area to pre-disturbance conditions at the direction of a qualified ecologist (with enhancement of any disturbed areas).
- To the extent practical, tree and/or brush clearing will be completed prior to or after the core nesting season for migratory birds (May 1 to July 31). Should clearing be required during the breeding bird season, prior to construction, surveys will be undertaken to identify the presence/absence of nesting birds or breeding habitat. If a nest is located, a designated

buffer will be marked off within which no construction activity will be allowed while the nest is active. The radius of the buffer width will range from 5- 60 m depending on the species. Buffer widths are based on the species sensitivity and on buffer width recommendations that have been reviewed and approved by Environment Canada.

- Prior to the start of construction activity, the topsoil/seedbank will be stripped and preserved; material will be reapplied in suitable rehabilitation areas post construction.
- All disturbed areas of the construction site will be re-vegetated as soon as conditions allow.
- Sediment control measures, which may include perimeter silt fencing, mud mats (access roads) and check dams (rock or strawbales);
- Silt barriers (e.g., fencing) will be erected along significant wetland and significant woodland community edges located within 30 m of construction areas (including staging areas and laydown areas) to minimize potential sediment transport to the natural features. These barriers will be regularly monitored and properly maintained during and following construction until soils in the construction area are re-stabilized with vegetation; and
- Where the installation of an equalizing culvert is proposed appropriate erosion control measures (i.e. rip rap, strawbales, seeding) will be installed at the ends of each culvert to prevent erosion.
- All refuelling activities will occur well away from significant wetlands. In the event of an accidental spill, the MOE Spills Action Centre will be contacted and emergency spill procedures implemented immediately.
- Any fuel storage and activities with the potential for contamination will occur in properly protected and sealed areas.

Protection of amphibian breeding areas may include some of the above mitigation points as well as:

- Maintenance vehicle traffic will primarily be restricted to daytime hours. Vehicle speeds will be restricted to 30 km/h or less.
- Speed limit signage will be erected to communicate 30km/hr limit.
- Maintenance activities such as infrequent mowing will occur during the day and will avoid the amphibian breeding season (April – June).

Net Effects

A combination of feature avoidance and implementation of the mitigation measures described above ensure anticipated adverse effects to significant wetlands are minimized or avoided during construction and operation of the Project. No adverse net effects to significant wetland features are anticipated as a result of the Project.

Approximately 0.83 ha (4.03%) of significant woodland would be removed or disturbed for construction of the Project. More than 99% of the current significant woodland cover would be maintained within the landscape. The relatively small amount of woodland and wetland to be

removed represents a very small proportion of the available habitat in the local area and is not anticipated to have a measureable effect on the ecological functions of the area. Indirect effects to significant woodlands and wetlands can be controlled through the use of standard mitigation measures as discussed above.

Considering the temporary nature of construction effects and the distance between the features and the Project components it is likely that resident herpetiles will adapt to the Project quickly. Consequently, no significant net negative effects are anticipated to amphibian breeding populations and their habitats.

3.2.2 Other Natural Heritage Features

The Zone of Investigation is comprised predominately of disturbed industrial land, tilled agricultural fields, woodlands, wetlands, cultural savannah and cultural meadow.

Within the Project Location and 120 m Zone of Investigation, 91 species of vascular plants were recorded. Of that number, 58 species (68%) are native and 32 (32%) species are exotic. Of the native species, 96% are ranked S5 (secure in Ontario) and 2% are ranked S4 (apparently secure in Ontario).

Woodlands within 120 m of the Project Location have been altered due to farming practices, the existing highway 401 and railway line. There are a total of five woodlands within 120 m of the Project Location. Two woodlands were treated as significant and three woodlands were evaluated as not-significant.

There are a total of three wetlands within 120m of the Project Location. Two wetlands were treated as significant and one wetland was evaluated as not-significant.

No other natural areas are located within the Study Area.

Potential Effects

The original Project footprint proposed Project infrastructure within three of the four wetlands. The Project Location was revised to maintain distance from two of the significant wetlands, maintain distance from one small not-significant wetland unit and to remove one small wetland unit 1.23 ha in size.

The original Project footprint proposed the removal of the majority of two of the woodlands. The Project Location was substantially revised to minimize removal of the significant woodland (now removing only 0.83 ha of the 20.58 significant woodland). Clearing of natural vegetation will occur in the 3.4 ha not-significant woodland in the centre of the Subject Property. Overall, the total vegetation that requires clearing represents a very small proportion of the habitat available in the local area.

Clearing of vegetation, including the wooded areas, may increase the potential for the spread of existing invasive species, and an increase of dust, erosion and sedimentation.

The removal of vegetation could potentially affect both flora and fauna by reducing available habitat, especially for species with low mobility. Due the type of habitat currently in the Project Study Area, no loss of species diversity is anticipated from the construction of the Project.

In addition to amphibians, other slow-moving wildlife are at an increased risk from vehicle collisions. Given the temporary nature of the increased traffic activity and the design of access roads (unpaved, gravel) the risk of increased mortality during construction is considered low. Some limited mortality is possible; however, the potential long-term effects to wildlife populations from this mortality and from barrier effects are anticipated to be minimal.

Sensory disturbance of wildlife may occur during construction of the Project as a result of increased on-site human activities, including increased traffic, dust, and noise. However, a certain level of sensory disturbance to wildlife in the Project Study Area already exists from ongoing industrial activities and the presence of the Highway 401 and railway. However, most wildlife would likely avoid the area during the construction phase of the Project. As described in the *NHA/EIS*, this site and its wildlife are characteristic of surrounding landscapes.

Other construction activities that have the potential to affect terrestrial flora and fauna include accidental spills and/or leaks, and improper waste disposal.

There are no direct potential effects to generalized wildlife habitat however indirect potential effects include temporary disturbance during construction activity.

Mitigation Measures

Where vegetation clearing is proposed, including wooded areas, mitigation measures include staking and monitoring the limits of vegetation clearing to prevent encroachment, implementing erosion and sediment controls and restoring cleared areas with native species following construction. Any vegetation removal will avoid the breeding bird window if possible (approximately May 15 to July 31); if the avoidance window cannot be observed, a qualified biologist will be sent to conduct nest surveys and any regulated nest will be avoided in accordance with the federal Migratory Birds Convention Act. All tree cutting will be conducted in compliance with the any municipal tree-cutting by-laws, if applicable.

In order to minimize the spread of existing invasive species, dust emissions, and erosion and sedimentation, all disturbed areas would be re-vegetated as soon as conditions allow. Additional information regarding mitigation for dust, noise, and erosion and sediment control are provided in Sections 3.4.1, and 3.4.2, and 0, respectively.

All equipment refueling will occur well away from natural features, in designated areas at the main staging/laydown areas. In the event of an accidental spill, the MOE Spills Action Centre will be contacted as appropriate and emergency spill procedures implemented immediately.

Any fuel storage (within certified storage tanks) and activities with the potential for contamination will occur in properly protected and sealed areas well removed from natural features. Follow-up monitoring /inspections would be conducted in the event of an accidental spill/leak, as necessary.

Net Effects

Though the effects are anticipated to be minimal, there is some potential for disturbance to flora and fauna during construction of the Project as a result of limited vegetation removal and increased human activity. However, these effects are expected to be short-term in duration and spatially limited to the work areas and their immediate vicinity. The relatively small amount of woodland and wetland to be removed represents a very small proportion of the available habitat in the local area and is not anticipated to have a measureable effect on the ecological functions of the area.

Any adverse net effects to wildlife from construction activities are anticipated to be short-term in duration and intermittent. No potential long-term effects to wildlife are anticipated as a result of construction activities.

3.3 WATER BODIES AND AQUATIC RESOURCES

3.3.1 Groundwater

Based on review of MOE Water Well Records (WWR) and aerial imagery, two water wells are located within 300 m of the Project Location. Nearby private wells were installed at depths of 54 to 64 m below ground surface (BGS). The 2012 geotechnical investigation for the Project (Stantec, 2012) included 10 boreholes with monitoring wells installed within five (5) of these boreholes. No boreholes reached bedrock. All overburden boreholes but one were noted as dry at the time of drilling. Groundwater monitoring conducted by Stantec in June 2012 indicated a water level ranging from 0.23m BGS to 1.07m BGS.

A search for groundwater seeps was a component of both terrestrial and aquatic site investigations conducted for the Project. No groundwater seeps were identified within the Project Location or 120 m Zone of Investigation.

Potential Effects

Based on the results of the geotechnical investigation, it is anticipated that groundwater conditions may be as shallow as 1 m BGS. Installation of the solar panel racking systems is expected to extend up to 2 m below the frost level and therefore will likely extend into the shallow groundwater in some areas. Based on the proposed installation method for the racking system, the work can be done in the wet and it is not expected that groundwater dewatering would be required.

Earth moving for the foundations of the inverter stations and transformer substation, construction laydown area and access roads will likely be very shallow at less than 1 m BGS and will not encounter shallow groundwater. In the event that groundwater seepage was encountered during construction activity, such as grubbing, stripping, earth moving or fill

placement, dewatering would be completed on an as-required basis. As such, it is possible that some dewatering activities may be required when installing these Project components.

Some materials, such as fuel and other fluids associated with construction equipment have the potential for discharge to the on-site environment through accidental spills and thus infiltrate groundwater supplies.

Mitigation Measures

It is possible that near-surface groundwater may be encountered in the course of earth moving; however, it is extremely unlikely that dewatering (if needed) will exceed 50,000 L per day (which would thus necessitate a permit to take water). Minimal grading is expected at the Site and the existing clay and silt overburden material is expected to remain in place and act as an aquitard layer protecting the underlying bedrock aquifer.

Based on this understanding, it is unlikely that construction activities will negatively affect groundwater quality, quantity, or movement. Any water pumped from excavated areas will be directed away from surface water features and allowed to re-infiltrate.

Given the minimal depth of construction activities and minimal expected dewatering requirements, it is anticipated that nearby private wells will not be affected.

Saturn Power will undertake a baseline groundwater quality monitoring program at an on-site monitoring well and the nearest adjacent residential well to characterize existing groundwater quality prior to construction. Monitoring of the adjacent residential well will only be completed with the owner's permission. Additional monitoring may be required if complaints are received from surrounding landowners regarding water well quality during construction. In the event of a well interference complaint, Saturn Power will complete the following actions:

- resample groundwater quality and document groundwater levels at monitoring well;
- collect a water quality sample from private well(s), as applicable; and
- retain a third party consultant to review available data and determine if adverse effects have occurred as a result of construction activity.

If adverse effects have occurred due to construction, Saturn Power would provide a temporary potable water supply until corrective measures are taken and will comply with MOE Guideline B-9: Resolution of Groundwater Interference Problems.

In the event of a spill, established procedures will be followed as described in Section 3.9, including notifying the MOE's Spills Action Centre as appropriate.

Net Effects

Some temporary disturbance may be possible during the earth moving of the solar panel foundations; however, with the implementation of good construction practices (e.g. minimizing the length of time that the earth moving is open and monitoring seepage into the area should earth moving occur), it is anticipated any potential effects would be short term in nature and have little to no effect on groundwater quality and adjacent private water wells.

3.3.2 Surface Water, Fish and Fish Habitat

In accordance with O. Reg. 359/09, a Water Assessment and Water Body Report was undertaken for the Project and is included under separate cover. The following provides a summary of the potential effects and the associated mitigation measures as described in that report. Water features are shown in Figure 2, Appendix A.

There are two water bodies, both unnamed tributaries of Hoople Creek, present within the 120 m zone of investigation. The water bodies are within the jurisdiction of Raisin Region Conservation Authority (RRCA). It was determined through alternative field investigations that these features are water bodies as per O. Reg. 359/09 definition and at minimum provide indirect fish habitat. The Mohawks of Akwesasne additionally identified Hoople Creek and all associated tributaries as important valued features.

Potential Effects

Based on the current Project layout, no in-water work is proposed in fish habitat or features contributing indirectly to fish habitat. All works related to this project will occur greater than 30 m from water bodies.

The potential impacts related to general construction could include:

- Short-term increase in turbidity from runoff and soil erosion;
- Potential change in discharge resulting from improper grading;
- Water quality and habitat disturbance effects to aquatic habitat;

The potential impacts related to the use of the existing culvert and access road across the water body and construction of the staging/laydown area could include:

- Changes to riparian vegetation during maintenance activities within road allowance and vicinity can reduce shoreline cover, shade and food production areas.

The potential impacts related to solar panel and distribution line installation include:

- Erosion and sedimentation from site disturbance and dewatering (if required);
- Collapse of the punch or bore hold under the water body(if applicable);
- Disturbing riparian vegetation can reduce shoreline cover, shade and food production areas; and
- Spill/leaks into water bodies of deleterious substances such as fuel or lubricating oil.

Mitigation Measures

There are many standard mitigation measures available to protect fish and fish habitat from potential effects during the construction phase of the Project. Consultation with the RRCA will be conducted prior to construction to ensure required permits are in place.

Proposed mitigation measures for construction activities within 120 m of the water bodies include:

- All in-water work would be completed within MNR timing windows to protect local fish populations during their spawning and egg incubation periods. A typical construction timing window for warmwater streams is July 1 to March 15 (period during which in-water work is permitted).
- All materials and equipment used for the purpose of site preparation and Project construction shall be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering the water:
  - Any stockpiled materials will be stored and stabilized away from the water;
  - Refuelling and maintenance of construction equipment will occur a minimum of 100 m from the water body;
  - As appropriate, spills will be reported to the MOE Spills Action Centre;
  - Any part of equipment entering the water should be free of fluid leaks and externally cleaned/degreased to prevent any deleterious substance from entering the water; and
  - Only clean material, free of fine particulate matter should be placed in the water.
- Sediment and erosion control measures will be implemented prior to construction and maintained during the construction phase to prevent entry of sediment into the water:
  - Silt fencing and/or barriers will be used along the periphery of the Project Location;
  - No equipment will be permitted to enter any natural areas beyond the silt fencing during construction;
  - All sediment and erosion control measures will be inspected at least weekly and during and immediately following rainfall events to ensure that they are functioning properly and are maintained and/or upgraded as required;
  - Topsoil stockpiles will be sufficiently distant from the water body to preclude sediment inputs due to erosion of stored soil materials;
  - If the sediment and erosion control measures are not functioning properly, no further work will occur until the sediment and/or erosion problem is addressed;
  - Alterations to site drainage will be designed such that there will be no substantial changes to watershed discharge;
  - All disturbed areas of the construction site will be stabilized immediately and re-vegetated as soon as conditions allow; and

- Sediment and erosion control measures will be left in place until all areas of the construction site have been stabilized.

In addition, the Operational Statement provided by the Department of Fisheries and Oceans will be applied.

No further specific mitigation measures are necessary to prevent impacts related to construction/installation of the Project components.

Environmental monitoring will occur at a minimum weekly during construction. Observations (including compliance/non-compliance and recommended remedial action) will be recorded by a project representative and submitted to the Construction Contractor management staff. Additionally, monitoring will occur during the following spring run-off the year after construction (first year of operations), to review the effectiveness of the site stabilization and re-vegetation, to check bank and slope stability, and to ensure surface drainage has been maintained. In the event that areas of concern are noted, appropriate remedial measures will be completed as necessary (i.e. site rehabilitation and re-vegetation) and additional follow-up monitoring conducted as appropriate, under the direction of a project representative.

Net Effects

None of the proposed activities associated with the Project components are expected to result in net impacts to surface water, fish and fish habitat if the above mitigation measures are implemented.

3.4 AIR QUALITY AND ENVIRONMENTAL NOISE

The following sections describe the potential effects, recommended mitigation measures, and net effects for air, odour, dust and noise.

3.4.1 Air and Dust Emissions

Potential Effects

During construction, minor localized air emissions will occur from operating heavy equipment. Construction activities rely on the utilization of a wide range of mobile equipment, such as bulldozers and dump trucks. The engine exhaust from these vehicles, especially from those operating on diesel fuel, represent a source of particulate and other emissions (e.g. SO_2, NO_X, VOCs , PAHs, and CO_2) from the construction site. Traffic delays also result in increased emissions from vehicles traveling slowly through construction zones. The delivery of materials to construction sites can also generate significant amounts of emissions, especially for sites that are relatively far from material manufacturers.

Additionally, construction related traffic and various construction activities (e.g. earth moving, grading, and exposed areas) have the potential to create short-term nuisance dust effects in the immediate vicinity of the Project.

Mitigation Measures

To protect adjacent receptors from potential off-site dust concerns, the Construction Contractor will implement good site practices during construction which may include:

- Maintaining equipment in good running condition and in compliance with regulatory requirements;
- Protecting stockpiles of friable material with a barrier or windscreen and in the event of dry conditions and excessive dust;
- Dust suppression (e.g. water) of source areas (water will be obtained via tanker trucks);
- Covering loads of friable materials during transport;
- Company and construction personnel will avoid idling of vehicles when not necessary for construction activities; and
- Equipment and vehicles will be turned off when not in use unless required for construction activities and/or effective operation.

In terms of emissions from combustion engines, all construction equipment will meet the emissions requirements of the MOE and/or Ministry of Transportation (MTO). This will assist in minimizing the Project's short-term contributions of greenhouse gases, odour, and other airborne pollutants. All vehicles identified through a monitoring program that fail to meet the minimum emission standards would be repaired immediately or replaced as soon as practicable from the construction area.

Net Effects

The application of the recommended protection and mitigation measures during construction should limit fugitive air and dust emissions from the work areas. As a result, any net effects are expected to be short-term in duration and highly localized.

3.4.2 Environmental Noise

Potential Effects

During construction of the Project, noise will be generated by the operation of heavy equipment and vehicles on-site and from increased vehicular traffic on Dickinson Drive. Construction equipment would remain on the Project site until Project completion... Daily access to the site by contractors and crews would be via Dickinson Drive.

Mitigation Measures

To minimize inconvenience brought on by noise during the construction phase of the Project, all construction equipment will be equipped with mufflers and/or silencers in accordance with MOE and/or MTO guidelines and regulations and requirements of the *Occupational Health and Safety Act*. Noise levels arising from equipment will also be compliant with sound levels established by the MOE.

On-site construction activities will be limited to the hours between 7:00 a.m. and 11:00 p.m. (9:00 a.m. to 11:00 p.m. on Sundays and Statutory holidays) in accordance with the Township of South Stormont noise by-law, unless a variance is approved by the Township of South Stormont.

A complaint response protocol will be established in the detailed construction plan which would allow for the reporting of questions, concerns and/or complaints regarding noise generated as a result of construction activities.

Net Effects

Application of the recommended mitigation measures during construction should limit noise emissions to the general vicinity of the work areas. Any net effects are expected to be limited to short-term, intermittent noise increases during daylight hours at the work areas and/or along the transportation routes.

3.5 LAND-USE AND SOCIO-ECONOMIC RESOURCES

An assessment of land use in the Study Area was conducted through a review of the Township of South Stormont Zoning By-law (Richard, 2011). In addition, visits to the Study Area by the Project team and air photo interpretation were used to identify existing uses of land in the vicinity of the Project Location that could be affected by Project operation.

The Study Area is located in a rural area of the Township of South Stormont, United Counties of Stormont, Dundas and Glengarry. The area is dominated by industrial, agricultural and residential land uses. Socio-economic features within the Study Area include:

- Highway 401 to the north;
- A CN Railway line to the south;
- Dickinson Drive, a public road right of way to east;
- Rural residential properties on the north side of the Highway 401; and,
- Industrial properties on the south side of the Study Area.

No areas protected under Provincial Plans and Policies specified in O. Reg. 359/09 are located within the Project Study Area.

No recreational facilities, areas or cultural features are currently located within the Study Area. The lands in the Project Location are privately owned and do not include or border local hiking or cycling routes, fishing or conservation areas or parks. There is the possibility of hunting activities occurring within the Study Area.

3.5.1 Residential Land Use

Residential uses include rural residences associated with the agricultural lands and smaller residential properties along the north side of Highway 401.

Potential Effects

During construction there would be a temporary increase in noise and dust levels around the work and transportation routes resulting in potential effects to adjacent residential land uses.

Mitigation Measures

Mitigation measures have been identified for noise and dust in Section 3.4.

Net Effects

Although some disturbance to adjacent land uses is unavoidable during construction, it is expected to be short-term in duration, temporary, and would be minimized through the implementation of good site practices, transportation planning, and communication with the community.

3.5.2 Agricultural Lands and Operations

Agricultural land-use within the Study Area is dominated by cash crop production. The land within the Project Location is no longer used for agriculture however in recent years was used to grow switchgrass for a nearby biogas facility.

No specialty crop or locally significant agricultural lands have been identified in the Project Location.

Discussion with previous landowners determined that although some of the site is considered suitable agricultural land, the property is not a prime agricultural area for common field crop production due to several constraints; including: the land was previously disturbed during construction of Highway 401 and a significant number of rocks are scattered throughout the property and most topsoil in the area was removed by a previous landowner for use in construction. Additionally, the property is zoned as Industrial which permits the development of groundmount solar projects under the relevant FIT rules.

Potential Effects

The current landowner does not utilize the property for agriculture however, the potential use of the site for agricultural activities will cease with the onset of construction activities. Longer term impacts to agricultural lands and soils are discussed in the Design and Operations Report.

The movement of heavy machinery on wet soil may cause rutting, compaction, and mixing of topsoil and subsoil. These activities may break down soil structure and affect soil fertility thereby reducing soil productivity. When exposed, soils are more prone to erosion. The degree of erosion is affected by the intensity and duration of rainfall and/or wind events, soil moisture, surface soil cover, slope, soil texture, structure, and organic matter content. Improperly

salvaged topsoil can result in topsoil and subsoil mixing, compaction, rutting, and erosion. This can affect re-vegetation of the construction area.

Mitigation Measures

Construction activities will be restricted to the delineated construction areas and following the completion of construction, as appropriate, temporary workspaces would be graded and de-compacted (if required), the topsoil replaced, and the area left as close to pre-existing condition as possible. Minimal grading and earth moving is anticipated for construction of the Project.

Saturn Power will implement a vegetation management plan related to the ground cover beneath the solar panels following construction. The vegetation ground cover will be established as soon as practicable by the Construction Contractor at the end of the construction phase.

Net Effects

While the potential for the site for use as agricultural land will be eliminated with the onset of construction, the effects to the agricultural soils are expected to be temporary and spatially limited and there are no anticipated significant effects.

3.5.3 Mineral, Aggregate and Petroleum Resources

A review of the MNR's Oil, Gas and Salt Resources database did not identify any petroleum resources within 300 m of the Project Location.

Potential Effects

The operation of the solar farm is not anticipated to have any potential effects on mineral or aggregate resources as these lands have not been identified for mineral or aggregate extraction.

Mitigation Measures

As no potential effects are anticipated to existing mineral or aggregate resources, no mitigation measures are necessary.

Net Effects

No adverse net effects are expected as a result of the Project.

3.5.4 Hunting, Fishing and Gathering Resources

The Project Location is largely cleared for industrial use. However suitable habitat remains for hunting and gathering, especially on the west side of the property.

Potential Effects

There is no potential for creating access to previously inaccessible areas through construction.

Sensory disturbance to game species may occur during the construction phase due to noise and increased traffic and human activity. A certain level of sensory disturbance to wildlife in the Project Study Area already exists from ongoing agricultural, rural and domestic activities.

The vegetation clearing activities during the first phase of construction will remove potential for future gathering activities relating especially to gathering of traditionally significant plants for Aboriginal communities.

Mitigation Measures

Mitigation measures related to noise are identified in Section 3.4.2.

Through consultation with the Mohawks of Akwesasne, it was decided that notice would be provided to the Environmental Office in advance of any vegetation clearing activities. Community members would then be authorized to access the site to harvest any traditionally significant plants.

Net Effects

Construction noise effects on games species are anticipated to be temporary and intermittent.

Reduced amount of land for gathering/harvesting resources will be for the life of the project but will be across a small portion of land relative to the scale of the local landscape.

3.6 LOCAL TRAFFIC

Potential Effects

There will be an increase in traffic during construction on municipal roads due to the commuting workforce, the transportation of Project components, construction machinery, equipment and supplies, and to remove excess materials and waste from the Project Location. Local road users are most likely to be affected by the increase in traffic, which is expected to be highly localized.

Potential effects and mitigation measures related to construction traffic noise and air and dust emissions are addressed in Section 3.4.

Mitigation Measures

The Construction Contractor will implement a Traffic Management Plan to identify and deal with specific traffic planning issues including the management of traffic and the delivery of materials. The Traffic Management Plan would be made available to the Township of South Stormont and United Counties of Stormont, Dundas and Glengarry when available.

Aspects of the Traffic Management Plan will likely include strategies governing movement of materials and personnel to, from, and within the workspace areas; transport of solar panels and large loads; and/or dust and vehicle emission controls. The program may include the use of

signage, road closures, speed restrictions, truck lighting, load restrictions, and equipment inspections.

Truck traffic would increase on some roads during Project component deliveries, in particular along Dickinson Drive, but would be restricted to pre-determined times to the greatest extent possible. Road safety is not expected to be an issue during the construction phase due to the implementation of a Traffic Management Plan; however, the potential for accidents along the haul routes and on-site cannot be totally avoided.

The effect of constructing the various Project components is anticipated to have a limited, short term effect on traffic during construction and will also be managed through the implementation of a Traffic Management Plan.

Net Effects

Truck traffic would increase on some roads during component deliveries, but would be restricted to predetermined routes and times to the greatest extent possible. Road safety is not expected to be an issue during the construction phase; however, the potential for accidents along the haul routes and on-site cannot be totally avoided.

The effect of constructing the various Project components is anticipated to have a limited, short term effect on traffic during construction.

3.7 LOCAL ECONOMY

Potential Effects

Construction of the Project is expected to begin in June 2013 with a commercial operation date of Q1 2014. During construction, the actual number employed and the make-up of those employed would vary over time as the Project goes through the various construction phases; however it is estimated that approximately 100 people will be hired during the construction period.

The construction of the Project will also result in indirect and induced employment, the majority of which is anticipated to be filled by local businesses. Indirect employment is jobs and income in other businesses/industries in the community that supply goods and services to the Project and Project employees. Induced employment includes jobs and income changes occurring in other businesses/industries in the community from spending activities of directly and indirectly employed individuals.

To the extent possible, local hiring would be maximized during the construction period providing work for existing qualified tradespersons and labourers.

Since it is likely that the labour force would be supplied through local and neighbouring communities no special housing, healthcare or food facilities would be required as part of the Project construction activities.

While the increased number of personnel present in the area during the 6 to 9-month construction period would increase the demand for some goods and services from the local area (e.g. lodging, food, and banking), the demand is expected to be nominal and short-term. This demand would also generate local benefits to businesses and services from Project spending.

To the extent possible Saturn Power and/or the Construction Contractor would source required goods and services from local qualified suppliers, including through suppliers with the Mohawks of Akwesasne community, where these items are available in sufficient quantity and at competitive prices. Of particular interest to the Mohawks of Akwesasne was the opportunity to bid on services relating to steel manufacturing and operations/maintenance. Saturn Power will coordinate with the Mohawks of Akwesasne Economic Development office to ensure that tenders or sourcing requests for these services are distributed to the community.

Mitigation Measures

As no potential negative effects are anticipated to the local economy, no mitigation measures are necessary.

Net Effects

A positive net effect is anticipated on the local economy during construction of the Project. The Project provides income, employment, and fiscal benefits to the local area. The Township of South Stormont would receive ongoing property tax income from the Project. Existing businesses within local communities could benefit from the demands of the Project workforce during construction.

3.8 EXISTING LOCAL INFRASTRUCTURE

3.8.1 Municipal Infrastructure

Municipal infrastructure within the Study Area includes Dickinson Drive and associated road allowance. The proponent is committed to working with the United Counties of Stormont, Dundas and Glengarry and Township of South Stormont to obtain all necessary permits, approvals, and agreements related to the Project. An existing access off of Dickinson Drive will be used into the property.

Potential Effects

Transportation of excess loads and large components may produce abnormal wear on Dickinson Drive.

Site grading has potential to impact site drainage and impact municipal drains.

Mitigation Measures

Saturn Power will consult with the Township of South Stormont and United Counties of Stormont, Dundas and Glengarry regarding any potential effects to municipal interests including arranging a meeting with the General Contractor prior to construction. Saturn Power will enter

into a Road Use Agreement with the County for the Project, and will conduct monitoring of the road conditions if required by the agreement. The agreement will include provisions that ensures that Saturn Power will be responsible for repairs to any road damage.

Drainage plans will be engineered to maintain site drainage and will be distributed to Township of South Stormont and United Counties of Stormont, Dundas and Glengarry for review.

Net Effects

The effect of constructing the Project is anticipated to have a limited, short term effect on municipal roads and ditches.

3.8.2 Other Infrastructure

Other linear facilities and infrastructure located within the Project area include:

- A CN Railway line runs adjacent to the south side of the Project Location. This railway line is active and regularly used.
- A TransCanada Pipelines gas distribution pipeline runs approximately 510m away from the Project Location, outside of the Study Area.
- An existing distribution line owned and operated by Hydro One runs through the Project Location on the south end of the property. Agreements are being finalized between Saturn Power and Hydro One for the distribution line to be relocated off of the property prior to construction.
- The Provincial Highway 401 is adjacent to the north side of the Project Location, within the Study Area.

Project infrastructure and/or construction activities would not require the crossing of navigable waters.

Potential Effects

No potential construction-related effects are expected to the gas distribution pipeline or HONI distribution.

Potential for utility lines to be discovered during construction.

Potential for changes to drainage during construction could affect CN Railway and Highway 401.

Mitigation Measures

Construction Contractor will be responsible for completing utility locates prior to the start of construction.

Drainage plans will be engineered to maintain site drainage and will be distributed to CN Railway and the MTO (through the Building and Land Use Permit Application) for review.

Net Effects

No adverse net effects are expected as a result of the Project.

3.9 WASTE MATERIAL DISPOSAL & SPILLS

The following sections describe the potential effects, recommended mitigation measures, and net effects for waste generation, and spills.

Waste materials expected to be generated during construction are described in Section 2.9. Waste materials will be temporarily stored on-site and will be reused, recycled, and/or disposed of at an appropriate MOE-approved off-site facility as required...

Potential Effects

Improper disposal of waste material generated during construction may result in contamination to soil, groundwater, and/or surface water resources on and off Project lands. Litter generated during construction may also become a nuisance to nearby residences if not appropriately contained and allowed to blow off the construction site. There will be no on-site disposal of waste during the construction of the Project.

Materials, such as fuel, lubricating oils and other fluids associated with construction, have the potential for discharge to the on-site environment through accidental spills.

Mitigation Measures

During construction, the Construction Contractor would implement a site-specific waste management plan (see also Section 2.9), including:

- Systematic collection and separation of waste materials within on-site storage areas in weather-protected areas located at the main staging/laydown areas;
- Transportation of all waste materials and recycling off-site by private waste material collection contractors licensed with a Certificate of Approval – Waste Management System;
- Requirement for contractors to remove their excess materials from the site (e.g. extra cable, formwork, scrap metals, pallets, etc.);
- Excess materials generated during the course of construction earth moving of soil would be handled in accordance with the MOE's Protocol for the Management of Excess Materials in Road Construction and Maintenance;
- Excess excavated soils may be reused elsewhere on the property with landowner permission;
- Labelling and proper storage of hazardous and liquid wastes (e.g. used oil, drained hydraulic fluid, and used solvents) in a secure area that would ensure containment of the material in the event of a spill. As per s.13 of the *Environmental Protection Act*, all spills that

could potentially have an adverse environmental effect, are outside the normal course of events, or are in excess of the prescribed regulatory levels would be reported to the MOE's Spills Action Centre;

- Dumping or burying wastes within the Project sites will be prohibited;
- Should contaminated soil be encountered during the course of earth moving the contaminated material would be disposed of in accordance with the current appropriate provincial legislation, such as Ontario Regulation 347, the General – Waste Management Regulation;
- Disposal of non-hazardous waste at a registered waste disposal site(s);
- If waste is classified as waste other than solid non-hazardous, a Generator Registration Number is required from the MOE and the generator would have obligations regarding manifesting of waste. Compliance with Schedule 4 of Regulation 347 is mandatory when determining waste category; and,
- Implementation of an on-going waste management program consisting of reduction, reuse, and recycling of materials. Concrete will be delivered to the site by ready-mix truck from a local supplier. A washout location will be provided on-site to rinse concrete trucks prior to leaving the construction site.

Spill risk substances are limited to fuel, lubricating oils, and other fluids associated with construction. Large quantities of these materials will not be stored at the site and do not represent a significant potential adverse effect on the groundwater in the event of accidental spills. Standard containment facilities and emergency response materials would be maintained on-site as required. Refuelling, equipment maintenance, and other potentially contaminating activities would occur in designated areas.

The Construction Contractor will develop a detailed Construction Emergency Response and Communications Plan, containing procedures for spill contingency and response plans, spill response training, notification procedures, and necessary cleanup materials and equipment. As per s.13 of the *Environmental Protection Act*, all spills that could potentially have an adverse environmental effect, are outside the normal course of events, or are in excess of prescribed regulatory levels should be reported to the MOE Spills Action Centre.

Sanitary waste generated during the construction phase would be collected via portable toilets and wash stations supplied by a licensed third party who would be retained prior to the start of major construction activities.

Net Effects

With the application of the mitigation measures outlined above, no net effects are anticipated during construction.

3.10 PUBLIC HEALTH AND SAFETY

Potential Effects

Potential effects to public health and safety are largely in the form of increased construction related traffic (Section 3.6) and unauthorized access of the public to the construction site.

Mitigation Measures

Implementing transportation planning and safety measures during construction would minimize the potential for traffic related safety concerns. The detailed construction plan developed by the Construction Contractor will include a Traffic Management plan and procedures for health and safety, and emergency response and communications.

The Construction Contractor would also employ good site safety practices during the construction phase. The detailed construction plan referenced above should consider both public and occupational health and safety issues.

Public access to the construction site will be prevented primarily through the use of perimeter fencing, a gate, signage and security procedures.

Other measures include the use of personal protective equipment, accident reporting, and equipment operation. Discussions with local emergency services personnel will take place prior to construction to address concerns of local emergency services personnel.

Net Effects

With proper protection and mitigation measures, and adherence to safety policies and procedures, there is minimal increased or new risk to public health and safety from construction of the Project.

4.0 Construction Environmental Effects Monitoring Plan

The Construction Contractor would be the primary party responsible for the implementation of construction environmental effects monitoring measures. Implementation of these measures would be undertaken in a manner that is consistent with Saturn Power's standard environmental and engineering practices and in compliance with applicable municipal, provincial, and federal standards and guidelines.

The Construction Contractor will ensure that all mitigation measures are functioning as intended. Additionally, the Construction Contractor will check to ensure that that the site is stabilized following completion of construction.

Environmental effects monitoring measures are provided in Table 4.1 below.

Table 4.1: Environmental Effects Monitoring Plan – Construction Phase

Feature	Potential Adverse Effect	Performance Objective	Mitigation Strategy	Net Effects	Monitoring Plan and Contingency Measures	Section Reference

Archaeological Resources	• Impacts to archaeological resources could occur if additional artifacts are encountered during construction activities.	• Minimize disturbance to archaeological resources.	• Appropriate standards were followed when conducting the Stage 2 Archaeological Assessment.
			• In the event additional archaeological or historical materials or features are discovered during construction of the Project, the following procedures shall be adhered to:
			  ◦ Work in the area of the archaeological site or artifacts shall halt immediately and the Construction Contractor notified of the discovery; and
			  ◦ A licensed consultant archaeologist shall be contacted to determine the appropriate course of action.
			• In the event that human remains are discovered during construction activities the following procedures shall be adhered to:
			  ◦ All work shall cease in the immediate area of the discovery and the Construction Contractor notified immediately; and
			  ◦ The Ontario Provincial Police or local police and coroner shall be contacted immediately.
			• The Ministry of Tourism, Culture and Sport, appropriate Aboriginal communities, and the Registrar of Cemeteries at the Ministry of Consumer Services will also be notified.
				• None.	• None Required.	• 0

Cultural Heritage Resources	• None.	• None	• None required	• None	• None required	• 3.1.2

Significant Natural Heritage Features	• Direct removal of 0.83 ha from a 20.53 ha significant woodland (4.03%) has potential impacts including:
	  ◦ Loss of species diversity
	  ◦ Reducing or fragmenting available habitat
	  ◦ Introduction or spread of invasive species
	  ◦ Temporary disruption of movement to wildlife
	• Potential indirect impacts such as dust generation, sedimentation and erosion
	• Contamination through accidental spills.
	• Some increased risk of amphibian mortality on construction roads.
	• Some potential for change in surface water inputs to significant wetlands.
		• Minimize likelihood of spill; contain spill material; and contain sediments in run-off.
		• Minimize potential for amphibian mortality.
			• No development in significant wetland boundary.
			• Limits of vegetation clearing are to be staked in the field.
			• To the extent practical, tree and/or brush clearing will be completed prior to or after the core nesting season for migratory birds (May 1 to July 31).
			• The boundaries of all significant wetlands within 30 m of the proposed construction area will be flagged / staked in the field by a qualified ecologist prior to construction to assist with the demarcation of the construction area, to ensure construction activities avoid these sensitive areas and to assist with the proper field installation of E&S controls.
			• Where possible, and as appropriate, access roads will be constructed at or near existing grade to maintain surface flow contributions to significant wetlands.
			• Where new access roads cross existing drainage features, design will include culverts or other appropriate structures of sufficient size to accommodate flow.
			• Construction contractor to ensure no work occurs outside of the limits of construction envelope.
			• No refuelling or maintenance of vehicles in, or adjacent to the significant wetland. In the event of an accidental spill, the MOE Spills Action Centre should be contacted and emergency spill procedures implemented immediately.
			• Sediment and erosion control implemented and maintained in good repair, including maintenance of sediment fencing around the perimeter of the Project Location as a barrier to amphibians.
			• Construction staff will be trained in amphibian identification and visually inspect work areas for amphibian presence prior to the initiation of construction activities and relocate identified amphibians from the work zone.
			• Proper muffling of construction machinery to keep noise levels at a minimum
			• Implementation of a vegetation management plan related to the ground cover beneath the solar panels; the vegetation management will be confined within the perimeter fence of the Project Location; infrequent mowing is expected and will occur only during the day. Mowing during the amphibian breeding season (April – June) will be avoided (Figure 1, Appendix A).
				• The relatively small amount of significant woodland to be removed represents a very small proportion of the available habitat in the local area and is not anticipated to have a measureable effect on the ecological functions of the area.
				•
					• Weekly visual inspections to ensure proper sediment control structures are in good repair. Monitoring to occur at storage locations, as necessary.
					• Follow-up monitoring /inspections in the event of an accidental spill/leak. Remedial actions may be required in the event monitoring indicates a negative effect to natural features.
					• Qualified project representatives will ensure protection measures remain in good functional repair through construction.
					• Regular inspection will identify and fix any gaps in the fencing, including areas where erosion and sedimentation is not an issue.
						• 3.2.1

Other Natural	• Direct removal of 1.23 ha not-significant wetland	• Minimize	• Restoring cleared areas with native species following construction.	• Effects are expected	• Vegetation clearing activities	• 3.2.2

Table 4.1: Environmental Effects Monitoring Plan – Construction Phase

Feature	Potential Adverse Effect	Performance Objective	Mitigation Strategy	Net Effects	Monitoring Plan and Contingency Measures	Section Reference
Heritage Features	and 3.4 ha not-significant woodland. • Limited clearing of natural vegetation. • Reduction of available habitat through removal of vegetation. • Some limited mortality of slow-moving wildlife from vehicle collisions. • Increase in the potential for the spread of existing invasive species, and an increase of dust, erosion and sedimentation. • Sensory disturbance to wildlife. • Contamination of natural heritage features through accidental spills and/or leaks and improper waste disposal.	likelihood of spill. • Contain spill material. • Contain sediments in run-off. • Minimize disturbance to wildlife.	• All disturbed areas would be re-vegetated as soon as conditions allow. • All equipment refueling will occur well away from natural features, in designated areas at the main staging/laydown areas. In the event of an accidental spill, the MOE Spills Action Centre will be contacted as appropriate and emergency spill procedures implemented immediately. • Any fuel storage (within certified storage tanks) and activities with the potential for contamination will occur in properly protected and sealed areas well removed from natural features. • Maintaining equipment in good running condition and in compliance with regulatory requirements. • Protecting stockpiles of friable material with a barrier or windscreen and in the event of dry conditions and excessive dust. • Dust suppression (e.g. water) of source areas (water will be obtained via tanker trucks). • Covering loads of friable materials during transport. • Company and construction personnel will avoid idling of vehicles when not necessary for construction activities. • Equipment and vehicles will be turned off when not in use unless required for construction activities and/or effective operation. • All construction equipment will meet the emissions requirements of the MOE and/or MTO. • All engines associated with construction equipment will be equipped with mufflers and/or silencers in accordance with MOE and/or MTO guidelines and regulations and requirements of the Occupational Health and Safety Act. • Noise levels arising from equipment will be compliant with sound levels established by the MOE. • All materials and equipment used for the purpose of site preparation and Project construction shall be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering the water: • Any stockpiled materials will be stored and stabilized away from the water; • Refuelling and maintenance of construction equipment will occur a minimum of 100 m from the water body; • As appropriate, spills will be reported to the MOE Spills Action Centre; • Sediment and erosion control measures will be implemented prior to construction and maintained during the construction phase to prevent entry of sediment into the water: • Silt fencing and/or barriers will be used along the periphery of the Project Location; • No equipment will be permitted to enter any natural areas beyond the silt fencing during construction; • Topsoil stockpiles will be sufficiently distant from the water body to preclude sediment inputs due to erosion of stored soil materials; • If the sediment and erosion control measures are not functioning properly, no further work will occur until the sediment and/or erosion problem is addressed; • Alterations to site drainage will be designed such that there will be no substantial changes to watershed discharge; • All disturbed areas of the construction site will be stabilized immediately and re-vegetated as soon as conditions allow; and • Sediment and erosion control measures will be left in place until all areas of the construction site have been stabilized. • Where vegetation clearing is proposed, including wooded areas, mitigation measures include staking and monitoring the limits of vegetation clearing to prevent encroachment, implementing erosion and sediment controls and restoring cleared	to be short-term in duration and spatially limited to the work areas and their immediate vicinity. • Adverse net effects to wildlife are anticipated to be short-term in duration and intermittent. • No long-term effects to wildlife is anticipated as a result of construction activities. • The relatively small amount of woodland and wetland to be removed represents a very small proportion of the available habitat in the local area and is not anticipated to have a measureable effect on the ecological functions of the area.	would be conducted under observation and monitoring of the Construction Contractor to ensure that vegetation is cleared only from designated areas. • Follow-up monitoring /inspections in the event of an accidental spill/leak. Remedial actions may be required in the event monitoring indicates a negative effect to natural features. Contaminated soils would be removed and replaced as appropriate. • As appropriate, records of waste generation and hauling would be maintained. • All sediment and erosion control measures will be inspected at least weekly and during and immediately following rainfall events to ensure that they are functioning properly and are maintained and/or upgraded as required;	

Table 4.1: Environmental Effects Monitoring Plan – Construction Phase

Feature	Potential Adverse Effect	Performance Objective	Mitigation Strategy	Net Effects	Monitoring Plan and Contingency Measures	Section Reference
			areas with native species following construction. • Any vegetation removal will avoid the breeding bird window if possible (approximately May 15 to July 31); if the avoidance window cannot be observed, a qualified biologist will be sent to conduct nest surveys and any regulated nest will be avoided in accordance with the federal Migratory Birds Convention Act. • All tree cutting will be conducted in compliance with the any municipal tree-cutting by-laws, if applicable. • All disturbed areas would be re-vegetated as soon as conditions allow. • All equipment refueling will occur well away from natural features, in designated areas at the main staging/laydown areas. • In the event of an accidental spill, the MOE Spills Action Centre will be contacted as appropriate and emergency spill procedures implemented immediately. • Any fuel storage (within certified storage tanks) and activities with the potential for contamination will occur in properly protected and sealed areas well removed from natural features			

Groundwater	• In the event that groundwater seepage was encountered during construction activity, such as grubbing, stripping, earth moving or fill placement, dewatering would be completed on an as-required basis.
	• Some dewatering activities may be required
	• Potential for accidental spills infiltrating groundwater supplies.
		• No spills.
		• Minimize disturbance to ground water.
			• Existing clay and silt overburden material is expected to remain in place and act as an aquitard layer protecting the underlying bedrock aquifer.
			• Any water pumped from excavated areas will be directed away from surface water features and allowed to re-infiltrate.
			• In the event of a well interference complaint, Saturn Power will complete the following actions:
			  ◦ Resample groundwater quality and document groundwater levels at BH12-10;
			  ◦ Collect a water quality sample from private well(s), as applicable; and
			  ◦ Retain a third party consultant to review data and determine if adverse effects have occurred as a result of construction activity.
			  ◦ If adverse effects have occurred due to construction, Saturn Power would provide a temporary potable water supply until corrective measures are taken and will comply with MOE Guideline B-9: Resolution of Groundwater Interference Problems.
			• Systematic collection and separation of waste materials within on-site storage areas in weather-protected areas located at the main staging/laydown areas.
			• Systematic collection and separation of waste materials within on-site storage areas in weather-protected areas located at the main staging/laydown areas.
			• Transportation of all waste materials and recycling off-site by private waste material collection contractors licensed with a Certificate of Approval – Waste Management System.
			• Requirement for contractors to remove their excess materials from the site (e.g. extra cable, formwork, scrap metals, pallets, etc.).
			• Excess materials generated during construction would be handled in accordance with the MOE's Protocol for the Management of Excess Materials in Road Construction and Maintenance.
			• Excess excavated soils may be reused elsewhere on the property with landowner permission.
			• All hazardous and liquid wastes will be properly labelled and stored in a secure area.
			• As per s.13 of the Environmental Protection Act, all spills that could potentially have an adverse environmental effect, are outside the normal course of events, or are in excess of the prescribed regulatory levels would be reported to the MOE's Spills Action Centre.
			• Dumping or burying wastes within the Project sites would be prohibited.
			• Should contaminated soil be encountered during the course of earth moving, the contaminated material would be disposed of in accordance with the current
				• Any potential effects are anticipated to be short term in nature and have little to no effect on groundwater quality and adjacent private water wells.	• Saturn Power will undertake a baseline groundwater monitoring program within the on-site monitoring wells to characterize existing groundwater quality prior to construction.
					• Monitoring of the adjacent residential well will only be completed with the owner's permission.
					• Adherence to Complaint Response Protocol if a concern is submitted to Saturn Power.
						• 3.3.1

Table 4.1: Environmental Effects Monitoring Plan – Construction Phase

Feature	Potential Adverse Effect	Performance Objective	Mitigation Strategy	Net Effects	Monitoring Plan and Contingency Measures	Section Reference
			appropriate provincial legislation, such as Ontario Regulation 347, the General – Waste Management Regulation. • Disposal of non-hazardous waste at a registered waste disposal site(s). • If waste is classified as waste other than solid non-hazardous, a Generator Registration Number is required from the MOE and the generator would have obligations regarding manifesting of waste. Compliance with Schedule 4 of Regulation 347 is mandatory when determining waste category. • Implementation of an on-going waste management program consisting of reduction, reuse, and recycling of materials. • A washout location will be provided on-site to rinse concrete trucks prior to leaving the construction site. • Sanitary waste generated during the construction phase would be collected via portable toilets and wash stations supplied by a licensed third party who would be retained prior to the start of major construction activities. • Standard containment facilities and emergency response materials would be maintained on-site as required. • Refueling, equipment maintenance, and other potentially contaminating activities would occur in designated areas. • The Construction Contractor will develop a detailed Construction Emergency Response and Communications Plan, which will contain procedures for spill contingency and response plans, spill response training, notification procedures, and necessary cleanup materials and equipment. • As per s.13 of the Environmental Protection Act, all spills that could potentially have an adverse environmental effect, are outside the normal course of events, or are in excess of prescribed regulatory levels should be reported to the MOE Spills Action Centre.			

Surface Water, Fish and Fish Habitat	• Short-term increase in turbidity from runoff and soil erosion;
	• Potential change in discharge resulting from improper grading;
	• Water quality and habitat disturbance effects to aquatic habitat;
	• Changes to riparian vegetation during maintenance activities within road allowance and vicinity can reduce shoreline cover, shade and food production areas.
	• Erosion and sedimentation from site disturbance and dewatering (if required);
	• Collapse of the punch or bore hold under the water body(if applicable);
	• Disturbing riparian vegetation can reduce shoreline cover, shade and food production areas; and
	• Spill/leaks into water bodies of deleterious substances such as fuel or lubricating oil.
		• No erosion, sediment transport or surface water turbidity.
		• No spills.
			• All in-water work would be completed within MNR timing windows to protect local fish populations during their spawning and egg incubation periods. A typical construction timing window for warmwater streams is July 1 to March 15 (period during which in-water work is permitted).
			• All materials and equipment used for the purpose of site preparation and Project construction shall be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering the water:
			  • Any stockpiled materials will be stored and stabilized away from the water;
			  • Refuelling and maintenance of construction equipment will occur a minimum of 100 m from the water body;
			  • As appropriate, spills will be reported to the MOE Spills Action Centre;
			  • Any part of equipment entering the water should be free of fluid leaks and externally cleaned/degreased to prevent any deleterious substance from entering the water; and
			  • Only clean material, free of fine particulate matter should be placed in the water.
			• Sediment and erosion control measures will be implemented prior to construction and maintained during the construction phase to prevent entry of sediment into the water:
			  • Silt fencing and/or barriers will be used along the periphery of the Project Location;
			  • No equipment will be permitted to enter any natural areas beyond the silt fencing during construction;
			  • All sediment and erosion control measures will be inspected at least weekly and during and immediately following rainfall events to ensure that they are functioning properly and are maintained and/or upgraded
				• None.	• Environmental monitoring will occur at least weekly during construction.
					• Monitoring during the following spring run-off the year after construction (first year of operations), to review the effectiveness of the site stabilization and re-vegetation, to check bank and slope stability, and to ensure surface drainage has been maintained.
					• In the event that adverse effects are noted, appropriate remedial measures will be completed as necessary (i.e. site rehabilitation and re-vegetation) and additional follow-up monitoring conducted as appropriate, under the direction of a qualified project representative.
					• Follow-up monitoring /inspections in the event of an accidental spill/leak. Remedial actions may be required in the event monitoring indicates a
						• 0

Table 4.1: Environmental Effects Monitoring Plan – Construction Phase

Feature	Potential Adverse Effect	Performance Objective	Mitigation Strategy	Net Effects	Monitoring Plan and Contingency Measures	Section Reference
			as required; • Topsoil stockpiles will be sufficiently distant from the water body to preclude sediment inputs due to erosion of stored soil materials; • If the sediment and erosion control measures are not functioning properly, no further work will occur until the sediment and/or erosion problem is addressed; • Alterations to site drainage will be designed such that there will be no substantial changes to watershed discharge; • All disturbed areas of the construction site will be stabilized immediately and re-vegetated as soon as conditions allow; and • Sediment and erosion control measures will be left in place until all areas of the construction site have been stabilized. • In addition, the Operational Statement provided by the Department of Fisheries and Oceans will be applied.		negative effect to natural features. Contaminated soils would be removed and replaced as appropriate.	
Air and Dust Emissions	• Minor localized air emissions from operating heavy equipment and vehicles. • Short-term nuisance dust effects.	• Minimize duration and magnitude of emissions.	• Maintaining equipment in good running condition and in compliance with regulatory requirements. • Protecting stockpiles of friable material with a barrier or windscreen and in the event of dry conditions and excessive dust. • Dust suppression (e.g. water) of source areas (water will be obtained via tanker trucks). • Covering loads of friable materials during transport. • Company and construction personnel will avoid idling of vehicles when not necessary for construction activities. • Equipment and vehicles will be turned off when not in use unless required for construction activities and/or effective operation. • All construction equipment will meet the emissions requirements of the MOE and/or MTO.	• Net effects are expected to be short-term in duration and highly localized.	• All vehicles identified through a monitoring program that fail to meet the minimum emission standards would be repaired immediately or replaced as soon as practicable from the construction area. • Adherence to Complaint Response Protocol if a concern is submitted to Saturn Power.	• 3.4.1
Environmental Noise	• Noise will be generated by the operation of heavy equipment and vehicles on-site and from increased vehicular traffic on County Road 29.	• Sound level of construction equipment to meet MOE guidelines	• All engines associated with construction equipment will be equipped with mufflers and/or silencers in accordance with MOE and/or MTO guidelines and regulations and requirements of the Occupational Health and Safety Act. • Noise levels arising from equipment will be compliant with sound levels established by the MOE. • On-site construction activities would be limited to the hours between 7:00 a.m. and 11:00 p.m. (9:00 a.m. to 11:00 p.m. on Sundays and Statutory holidays).	• Any net effects are expected to be limited to short-term, intermittent noise increases during daylight hours at the work areas and/or along the haul routes.	• Monitoring and maintenance of noise abatement devices on construction and support equipment would also take place to keep noise levels within MOE and Municipal guidelines (if applicable). • Adherence to Complaint Response Protocol if a concern is submitted to Saturn Power.	• 3.4.2
Residential Land Use	• Temporary increase in noise and dust levels around the work and haul areas resulting in potential effects to adjacent residential land uses.	• Minimize duration and magnitude of emissions.	• All engines associated with construction equipment will be equipped with mufflers and/or silencers in accordance with MOE and/or MTO guidelines and regulations and requirements of the Occupational Health and Safety Act. • Noise levels arising from equipment will be compliant with sound levels established by the MOE. • On-site construction activities would be limited to the hours between 7:00 a.m. and 11:00 p.m. (9:00 a.m. to 11:00 p.m. on Sundays and Statutory holidays). • Maintaining equipment in good running condition and in compliance with regulatory requirements. • Protecting stockpiles of friable material with a barrier or windscreen and in the event of dry conditions and excessive dust. • Dust suppression (e.g. water) of source areas (water will be obtained via tanker trucks). • Covering loads of friable materials during transport. • Company and construction personnel will avoid idling of vehicles when not	• Disturbance is expected to be short-term in duration, temporary, and would be minimized through the implementation of good site practices, transportation planning and communication with the community.	• All vehicles identified through the monitoring program that fail to meet the minimum emission standards would be repaired immediately or replaced as soon as practicable from the construction area. • Adherence to Complaint Response Protocol if a concern is submitted to Saturn Power.	• 0

Table 4.1: Environmental Effects Monitoring Plan – Construction Phase

Feature	Potential Adverse Effect	Performance Objective	Mitigation Strategy	Net Effects	Monitoring Plan and Contingency Measures	Section Reference
			necessary for construction activities. • Equipment and vehicles will be turned off when not in use unless required for construction activities and/or effective operation. • All construction equipment will meet the emissions requirements of the MOE and/or MTO.			
Agricultural Lands and Operations	• The current landowner does not utilize the property for agricultural activities however, the potential use of the site for agricultural activities will cease with the onset of construction activities. • Movement of heavy machinery on wet soil may cause rutting, compaction, and mixing of topsoil and subsoil. • Erosion of exposed soils.	• Minimize disturbance to soils.	• Construction activities will be restricted to the delineated construction areas and following the completion of construction, as appropriate, temporary workspaces would be graded and de-compacted (if required), the topsoil replaced, and the area left as close to pre-existing condition as possible. Minimal grading and earth moving is anticipated for construction of the Project. • Vegetation ground cover will be established as soon as practicable by the Construction Contractor at the end of the construction phase.	• While the potential for the site for use as agricultural land will be eliminated with the onset of construction, the effects to the agricultural soils are expected to be temporary and spatially limited and there are no anticipated significant effects.	• Saturn Power will implement a vegetation management plan related to the ground cover beneath the solar panels following construction.	• 3.5.2
Mineral, Aggregate and Petroleum Resources	• None.	• n/a	• n/a	• None.	• n/a	• 3.5.3
Hunting, Fishing and Gathering Resources	• Sensory disturbance to game species due to noise and increased traffic and human activity. • Reduce amount of land for gathering/harvesting of traditionally significant plants identified by the Mohawks of Akwesasne.	• Minimize disturbance to game and fishery resources. • Maximize potential for gathering prior to construction.	• All engines associated with construction equipment will be equipped with mufflers and/or silencers in accordance with MOE and/or MTO guidelines and regulations and requirements of the Occupational Health and Safety Act. • Noise levels arising from equipment will be compliant with sound levels established by the MOE. • On-site construction activities would be limited to the hours between 7:00 a.m. and 11:00 p.m. (9:00 a.m. to 11:00 p.m. on Sundays and Statutory holidays). • Mohawks of Akwesasne Environmental Office will be informed in advance of land clearing activities for construction and community members will have the option of harvesting plants.	• Construction noise effects are anticipated to be temporary and intermittent. • Net effects to gathering resources will be for the life of the project but across a small portion of land relative to the scale of the local landscape.	• Monitoring and maintenance of noise abatement devices on construction and support equipment would also take place to keep noise levels within MOE and Municipal guidelines (if applicable).	• 3.5.4
Local Traffic	• Increase in traffic. • Noise from increased traffic. • Minor localized air emissions from operating heavy equipment and vehicles. • Short-term nuisance dust effects.	• Minimize disturbance to local traffic.	• The Construction Contractor will implement a detailed Traffic Management Plan to identify and deal with specific planning issues and the delivery of materials. • Truck traffic would be restricted to pre-determined times to the greatest extent possible. • All engines associated with construction equipment will be equipped with mufflers and/or silencers in accordance with MOE and/or MTO guidelines and regulations and requirements of the Occupational Health and Safety Act. • Noise levels arising from equipment will be compliant with sound levels established by the MOE. • On-site construction activities would be limited to the hours between 7:00 a.m. and 11:00 p.m. (9:00 a.m. to 11:00 p.m. on Sundays and Statutory holidays). • Maintaining equipment in good running condition and in compliance with regulatory requirements. • Protecting stockpiles of friable material with a barrier or windscreen and in the event of dry conditions and excessive dust. • Dust suppression (e.g. water) of source areas (water will be obtained via tanker	• Limited, short term effect on traffic during construction.	• Adherence to Complaint Response Protocol if a concern is submitted to Saturn Power.	• 3.6

Table 4.1: Environmental Effects Monitoring Plan – Construction Phase

Feature	Potential Adverse Effect	Performance Objective	Mitigation Strategy	Net Effects	Monitoring Plan and Contingency Measures	Section Reference
			trucks). • Covering loads of friable materials during transport. • Company and construction personnel will avoid idling of vehicles when not necessary for construction activities. • Equipment and vehicles will be turned off when not in use unless required for construction activities and/or effective operation. • All construction equipment will meet the emissions requirements of the MOE and/or MTO.			
Local Economy	• Indirect and induced employment (positive). • To the extent possible Saturn Power and/or the Construction Contractor would source required goods and services from local qualified suppliers where these items are available in sufficient quantity and at competitive prices (positive) especially among the Mohawks of Akwesasne community for steel fabrication and operation/maintenance services. • Local hiring would be maximized (positive).	• Create positive effects on local economy.	• None.	• Positive.	• None required.	• 3.7
Municipal Infrastructure	• Transportation of excess loads and large components may produce abnormal wear on Dickinson Road. • Site grading has potential to impact site drainage and impact municipal drains.	• Minimize disturbance to municipal infrastructure.	• Saturn Power will enter into a Road Use Agreement with the County and/or municipality for the Project which will include a requirement for Saturn Power to repair any road damage at their own cost. • Consultation with the County and municipality regarding any potential effects to municipal interests. • A meeting will be held between Saturn Power, the Construction Contractor and municipal staff prior to the start of construction. • Drainage plans will be engineered to maintain site drainage and will be distributed to Township of South Stormont and United Counties of Stormont, Dundas and Glengarry for review.	• Anticipated to have a limited, short term effect on municipal roads.	• Potential monitoring to be determined during development of Road Use Agreement with County and/or municipality.	• 3.8.1
Other Infrastructure	• Potential for utility lines to be discovered during construction and risk of damage. • Potential for change in drainage to impact use of CN Railway and Highway 401.	• Minimize impacts on utilities. • Maintain same drainage patterns.	• Construction Contractor will be responsible for completing utility locates prior to the start of construction. • Design will ensure that drainage patterns are maintained. • Provide drainage plans to CN Railway and Highway 401 for review.	• None.	• None required.	• 3.8.2
Waste Material Disposal & Spills	• Improper disposal of waste material generated during construction may result in contamination to soil, groundwater, and/or surface water resources on and off Project lands. • Litter generated during construction may also become a nuisance to nearby residences if not appropriately contained and allowed to blow off the construction site. • Some materials, such as fuel, lubricating oils and other fluids associated with construction, have the potential for discharge to the on-site environment through accidental spills.	• Ensure proper disposal of waste. • No spills.	• Systematic collection and separation of waste materials within on-site storage areas in weather-protected areas located at the main staging/laydown areas. • Transportation of all waste materials and recycling off-site by private waste material collection contractors licensed with a Certificate of Approval – Waste Management System. • Requirement for contractors to remove their excess materials from the site (e.g. extra cable, formwork, scrap metals, pallets, etc.). • Excess materials generated during construction would be handled in accordance with the MOE's Protocol for the Management of Excess Materials in Road Construction and Maintenance. • Excess excavated soils may be reused elsewhere on the property with landowner permission. • All hazardous and liquid wastes will be properly labelled and stored in a secure area. • As per s.13 of the Environmental Protection Act, all spills that could potentially have an adverse environmental effect, are outside the normal course of events, or are in excess of the prescribed regulatory levels would be reported to the MOE's Spills Action Centre. • Dumping or burying wastes within the Project sites would be prohibited.	• None.	• Follow-up monitoring /inspections in the event of an accidental spill/leak. Remedial actions may be required in the event monitoring indicates a negative effect to natural features. Contaminated soils would be removed and replaced as appropriate.	• 3.9

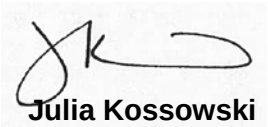
Table 4.1: Environmental Effects Monitoring Plan – Construction Phase

Feature	Potential Adverse Effect	Performance Objective	Mitigation Strategy	Net Effects	Monitoring Plan and Contingency Measures	Section Reference
			• Should contaminated soil be encountered during the course of earth moving, the contaminated material would be disposed of in accordance with the current appropriate provincial legislation, such as Ontario Regulation 347, the General – Waste Management Regulation. • Disposal of non-hazardous waste at a registered waste disposal site(s). • If waste is classified as waste other than solid non-hazardous, a Generator Registration Number is required from the MOE and the generator would have obligations regarding manifesting of waste. Compliance with Schedule 4 of Regulation 347 is mandatory when determining waste category. • Implementation of an on-going waste management program consisting of reduction, reuse, and recycling of materials. • A washout location will be provided on-site to rinse concrete trucks prior to leaving the construction site. • Sanitary waste generated during the construction phase would be collected via portable toilets and wash stations supplied by a licensed third party who would be retained prior to the start of major construction activities. • Standard containment facilities and emergency response materials would be maintained on-site as required. • Refueling, equipment maintenance, and other potentially contaminating activities would occur in designated areas. • The Construction Contractor will develop a detailed Construction Emergency Response and Communications Plan, which will contain procedures for spill contingency and response plans, spill response training, notification procedures, and necessary cleanup materials and equipment. • As per s.13 of the Environmental Protection Act, all spills that could potentially have an adverse environmental effect, are outside the normal course of events, or are in excess of prescribed regulatory levels should be reported to the MOE Spills Action Centre.			
Public Health and Safety	• Increased construction related traffic. • Unauthorized access of the public to the construction site.	• Prevent unauthorized access to the construction site. • Ensure worker safety.	• The Construction Contractor will implement a detailed construction plan, including plans for traffic management, health and safety, and emergency response and communications • The Construction Contractor would employ good site safety practices. • Public access to the construction site will be prevented primarily through the use of perimeter fencing, gate, and security procedures including signage. • Other measures include the use of personal protective equipment, accident reporting, and equipment operation. • Discussions with local emergency services personnel shall take place prior to construction to address concerns of local emergency services personnel.	• Minimal increased new risk to public health and safety.	• Adherence to Complaint Response Protocol if a concern is submitted to Saturn Power.	• 3.10

5.0 Closure

This report has been prepared by Stantec Consulting Ltd. for the sole benefit of Saturn Power Inc., and may not be used by any third party without the express written consent of Saturn Power Inc. and Stantec Consulting Ltd. The data presented in this report are in accordance with Stantec's understanding of the Project as it was presented at the time of report preparation.

STANTEC CONSULTING LTD.



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Stantec. 2012. Geotechnical Investigation David Brown Solar Project, Highway 401 & Dickinson Drive, Ingleside, ON.

Appendix A

Figures

499000

500000

4984000

4983000

Eamon Road

Morgan Road

County Road 14

Highway 401 West

Highway 401 East

Railway Street

Industrial Drive

45th Parallel Drive

Dickinson Drive

Dafoe Road

Farran Drive

College Street

N

0 100 200 m

1:7,500

Legend

- Road
- Railway Line
- Subject Property
- Project Location
- 120 m Zone of Investigation
- 300 m Zone of Investigation
- Construction Laydown Area
- Potential Constructible Area
- Inverter Station
- Fence
- Access Road
- Communication Tower
- Proposed Distribution Line
- Transformer Substation
- Solar Panel
- Point of Common Coupling

Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Aerial imagery provided by First Base Solutions, Stormont Dundas and Glengarry, 2008.

Stantec

January 2013
161011028

Client/Project

Saturn Power Inc.
David Brown Solar Park
Highway 401, Stormont Township, Ontario

Figure No.

1

Title

Project Location and Project Layout

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Revised: 2013-01-24 By: mkirkpatrick

499000

500000

4984000

4983000

Morgan Road

County Road 14

Eamon Road

N

Highway 401 West

Highway 401 East

Dafoe Road

Railway Street

Industrial Drive

45th Parallel Drive

Dickinson Drive

Farran Drive

College Street

Ingleside Swamp

1

2

3

4

0 100 200 m

1:7,500

Legend

- Subject Property
- Project Location
- 120 m Zone of Investigation
- 300 m Zone of Investigation
- Watercourse
- Waterbody
- Road
- Woodland Feature
- Surveyed Wetland Boundary (Stantec)
- Provincially Significant Wetland - Ingleside Swamp
- REA Waterbody
- Natural Features
- Significant Natural Features

Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Aerial imagery provided by First Base Solutions, Stormont Dundas and Glengarry, 2008.

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January 2013
161011028

Client/Project
Saturn Power Inc.
David Brown Solar Park
Highway 401, Stormont Township, Ontario

Figure No.
2

Title
Natural Features and Water Bodies

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Revised: 2013-01-24 By: mkirkpatrick

499000

500000

4984000

4983000

Morgan Road

County Road 14

Eamon Road

Highway 401 West

Highway 401 East

Dafoe Road

Railway Street

Industrial Drive

45th Parallel Drive

Dickinson Drive

Farran Drive

College Street

0 100 200 m

1:7,500

Legend

- Subject Property
- Project Location
- 120 m Zone of Investigation
- 300 m Zone of Investigation
- Noise Receptor
- MOE Water Well
- Road
- Ontario Ministry of Transportation Ultimate Highway Limit
- Railway Line
- Natural Gas Pipeline
- Topographic Contour (mAMSL)
- Transmission Line
- Property Boundary
- Construction Laydown Area
- Potential Constructible Area
- Inverter Station
- Fence
- Access Road
- Communication Tower
- Proposed Distribution Line
- Transformer Substation
- Solar Panel
- Point of Common Coupling

Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Aerial imagery provided by First Base Solutions, Stormont Dundas and Glengarry, 2008.

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Client/Project

Saturn Power Inc.
David Brown Solar Park
Highway 401, Stormont Township, Ontario

Figure No.

3

Title

Socio-Economic Features

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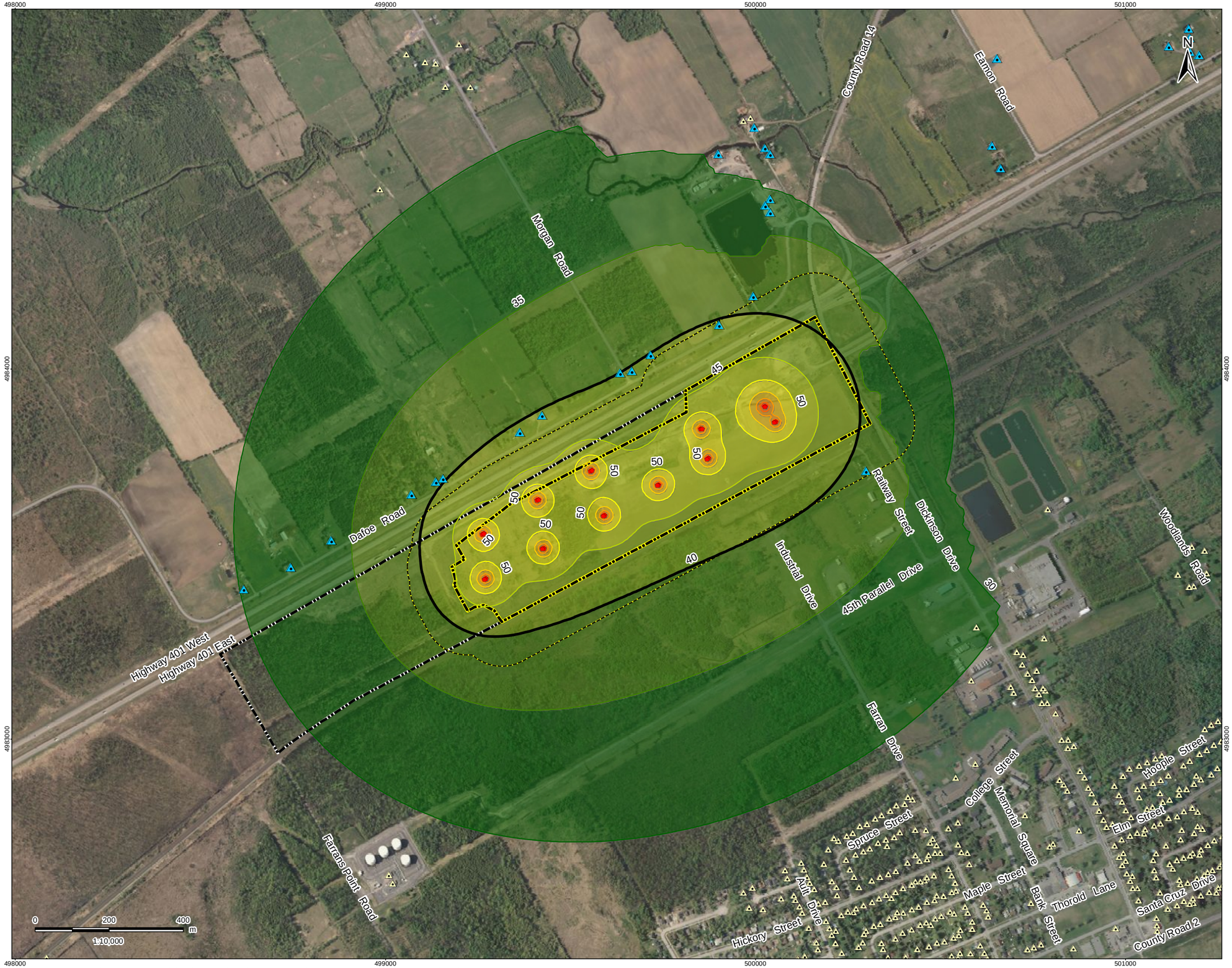
Revised: 2013-01-24 By: mkirkpatrick



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Revised: 2013-01-24 By: mkirkpatrick

Legend

- Subject Property
- Project Location
- 120 m Zone of Investigation
- Receptors outside 500 m setback from HWY 401 (Class 3 Receptors)
- Receptors eithin 500 m setback from HWY 401 (Class 2 Receptors)
- Source

Sound Level (dB)

- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75+

Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2012.
3. Aerial imagery provided by First Base Solutions, Stormont Dundas and Glengarry, 2008.

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Client/Project
Saturn Power Inc.
David Brown Solar Park
Highway 401, Stormont Township, Ontario

Figure No.
4

Title
Noise Assessment Results