



CITY OF KINGSTON
REPORT TO COUNCIL

Report No.: 12-134

TO: Mayor and Members of Council

FROM: Cynthia Beach
Commissioner, Sustainability and Growth

RESOURCE STAFF: Grant C. Bain
Director, Planning and Development Department

DATE OF MEETING: April 17, 2012

SUBJECT: Renewable Energy Project – Municipal Consultation Form (MCF)
Kingston Gardiner TS Unity Road Solar Energy Project
2490 Unity Road
File No. PLA-D05-004-2011

EXECUTIVE SUMMARY:

This report provides information with respect to the Kingston Gardiner TS Unity Road Solar Energy Project proposed by Axio Power Canada Inc./SunEdison Canada for 2490 Unity Road. As part of the provincial Renewable Energy Approval (REA) process, the developer has submitted all available reports and studies to the municipality for review, and asks that the City complete and return the Municipal Consultation Form (MCF).

In addition to a description of the proposed project and site, this report lists the studies submitted by the developer in support of their project, and the completed MCF, which contains staff comments with respect to the proposal.

RECOMMENDATION:

THAT Council receive the Municipal Consultation Form (MCF) for the Kingston Gardiner TS Unity Road Solar Energy Project, located at 2490 Unity Road, as per the Council adopted Municipal Consultation and Review Process for Renewable Energy Projects; and,

THAT Council direct the Clerk to forward the Municipal Consultation Form (MCF) and Council Report to the developer and the Ministry of Environment.

AUTHORIZING SIGNATURES:

ORIGINAL SIGNED BY COMMISSIONER Cynthia Beach, P.Eng., MCIP, RPP, Commissioner, Sustainability and Growth
ORIGINAL SIGNED BY CHIEF ADMINISTRATIVE OFFICER Gerard Hunt, Chief Administrative Officer

CONSULTATION WITH THE FOLLOWING COMMISSIONERS:

Lanie Hurdle, <i>Community Services</i>	√
Denis Leger, <i>Transportation, Properties & Emergency Services</i>	√
Jim Keech, <i>President and CEO, Utilities Kingston</i>	√

(N/R indicates consultation not required)

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OPTIONS/DISCUSSION:

Axio Power Canada Inc./SunEdison Canada is proposing to develop a 10-megawatt (MW) solar photovoltaic (PV) facility on a parcel of land in Part Lot 12, Concession 6, of the Geographic Township of Kingston. The subject property is 61 hectares (150 acres) in area and is located at 2490 Unity Road (refer to the Key Map in Exhibit 'A'). The proposed facility would be called the Kingston Gardiner TS Unity Road Solar Energy Project. It would cover approximately 34 hectares (84 acres) of the property, and would include the following main components:

- Approximately 35,000 solar PV modules, each 280 to 310 watts (W) and weighing about 23 kg, with approximate dimensions of 1980 mm long by 990 mm wide by 50 mm thick.
- Twenty 500 kW (kilowatt) AC inverters that will convert the direct current supplied by the PV modules to alternating current. Ten pad-mounted 1 MVA (Megavolt-ampere) three-phase, liquid-filled transformers that will 'step up' the voltage to 27.6 kV. Each installation will consist of a pair of 500 kW inverters and a single 1 MVA pad-mounted transformer in one of ten building enclosures (E-House) to protect the equipment from the weather and to reduce noise emissions.
- A gravel substation yard that will house a 10 MVA substation transformer that will 'step up' the voltage from 27.6 kV to 44 kV, switchgear, control and monitoring equipment, and a communication tower. The tower will be approximately 25 metres (82 feet) high.
- A paved site entrance road and several gravel interior access roads.
- Galvanized chain link fence around the perimeter of the Project Location and a gated entrance.
- A temporary laydown / staging area to be used for construction trailers, material and equipment storage and vehicle parking during construction of the Project.
- A surface water drainage system comprised of grassed swales, roadside ditches and culverts.

As part of the provincial Renewable Energy Approval (REA) process, the developer has submitted all available reports and studies to the municipality for review, and asks that the City complete and return the Municipal Consultation Form (MCF).

Land uses surrounding the subject property include: agricultural uses (both cultivated and fallow fields); residential uses; an active aggregate facility; and, a tributary to Collins Creek. The developer's site layout plan is included with this report as Exhibit 'B'.

Although planning documents, such as the Official Plan and Zoning By-Law, are not applicable to renewable energy projects because of the *Green Energy Act* (GEA), the following is provided for information purposes:

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- The property is designated as Rural on Schedule 3-B (Land Use) of the City of Kingston Official Plan (OP);
 - Schedule 4 (Transportation) of the OP designates Unity Road as an Arterial Road;
 - Schedule 5 (Pathways) of the OP indicates that a portion of the Rideau Trail runs in front of the subject property;
 - Schedule 6 (Major Infrastructure) indicates that the subject property is located within the Collins Creek Watershed;
 - Schedule 8-B (Natural Heritage Area 'B') of the OP indicates that portions of the subject property contain significant woodland and linkages and corridors;
 - Schedule 11 (Constraint Mapping) of the OP indicates that the subject property is located in an area with moderate to very high groundwater sensitivity; and,
 - Schedule 12 (Mineral and Aggregate Reserve Areas) of the OP indicate that the subject property is located on a limestone plain.

The subject property is in the General Agricultural (A2) Zone of Zoning By-Law No. 76-26 of the former Township of Kingston. Permitted uses in the A2 Zone include:

- An accessory dwelling house;
- A converted dwelling house;
- A single-family dwelling house;
- A cemetery;
- A church;
- A conservation use;
- A crematorium;
- A farm, including a specialized farm;
- A forestry use;
- A fraternal lodge;
- A home occupation;
- A kennel;
- A livestock sales barn;
- A public use;
- A riding stable; and,
- A seasonal fruit, vegetable, flower or farm produce sales outlet, provided such produce is the product of the farm on which such sales outlet is located.

According to the Canada Land Inventory (CLI) Soil Capability Classification for Agriculture (1969), the subject property appears to have mostly Class 6 soils, which have a low capability for agricultural production.

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The developer held their initial public meeting on September 14, 2010, and held the second (final) public meeting on December 7, 2011. As part of the second (final) public meeting, a series of reports, studies and letters were made available on the project website at www.sunedison.ca/unity, and were submitted to the City for review. These included:

- Executive Summary Report;
- Project Description Report;
- Construction Plan Report;
- Design and Operations Report;
- Decommissioning Plan Report;
- Site Plan;
- Noise Study Report;
- Water Body Records Review Report;
- Water Body Site Investigation Report;
- Natural Heritage Assessment Records Review Report;
- Natural Heritage Assessment Site Investigation Report;
- Natural Heritage Assessment Evaluation of Significance Report;
- Natural Heritage Assessment Environmental Impact Study Report;
- Ministry of Natural Resources (MNR) Letter of Confirmation;
- Stage 1 & 2 Archaeological Assessment Report;
- Ministry of Tourism and Culture (MTC) Comment Letter;
- Traffic Impact Study Report;
- Conceptual Stormwater Management Report;
- Groundwater Monitoring Scoping Report; and,
- MNR Reply Letter Re: Change In Technology.

The City undertook a technical review of the documents and circulated the applicable internal departments, as well as the Cataraqui Region Conservation Authority (CRCA). The comments regarding the proposed project and submitted reports have been included on the Municipal Consultation Form (MCF) that is attached to this report as Exhibit 'C'. The largest concerns are related to groundwater protection and the mitigation of visual impacts through appropriate landscaping measures. Details regarding these matters are outlined in the MCF.

EXISTING POLICY/BY LAW:

Renewable energy projects are exempt from most approvals under the *Planning Act*. However, as part of the provincial Renewable Energy Approval (REA) process, the municipality receives all documentation from the developer of a proposed renewable energy project and is required to fill out the Municipal Consultation Form (MCF), which is then submitted by the developer to the Province as part of their REA application.

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Developers of renewable energy projects are still required to obtain permits and approvals for other aspects of the development that fall under other provincial legislation, such as Tree Permits and Site Alteration Permits, which are under the authority of the *Municipal Act, 2001*. The municipal review has been conducted as per the City's Municipal Consultation and Review Process for Renewable Energy Projects (refer to Report No. 12-078).

NOTICE PROVISIONS:

N/A

ACCESSIBILITY CONSIDERATIONS:

This report is available in alternate formats upon request.

FINANCIAL CONSIDERATIONS:

N/A

CONTACTS:

Grant Bain, Director, Planning and Development (613-546-4291, ext. 3252)
Cherie Mills, Manager, Policy Planning, Planning and Development (613-546-4291, ext. 3289)
Sonya Bolton, Senior Policy Planner, Planning and Development (613-546-4291, ext. 3237)

OTHER CITY OF KINGSTON STAFF CONSULTED:

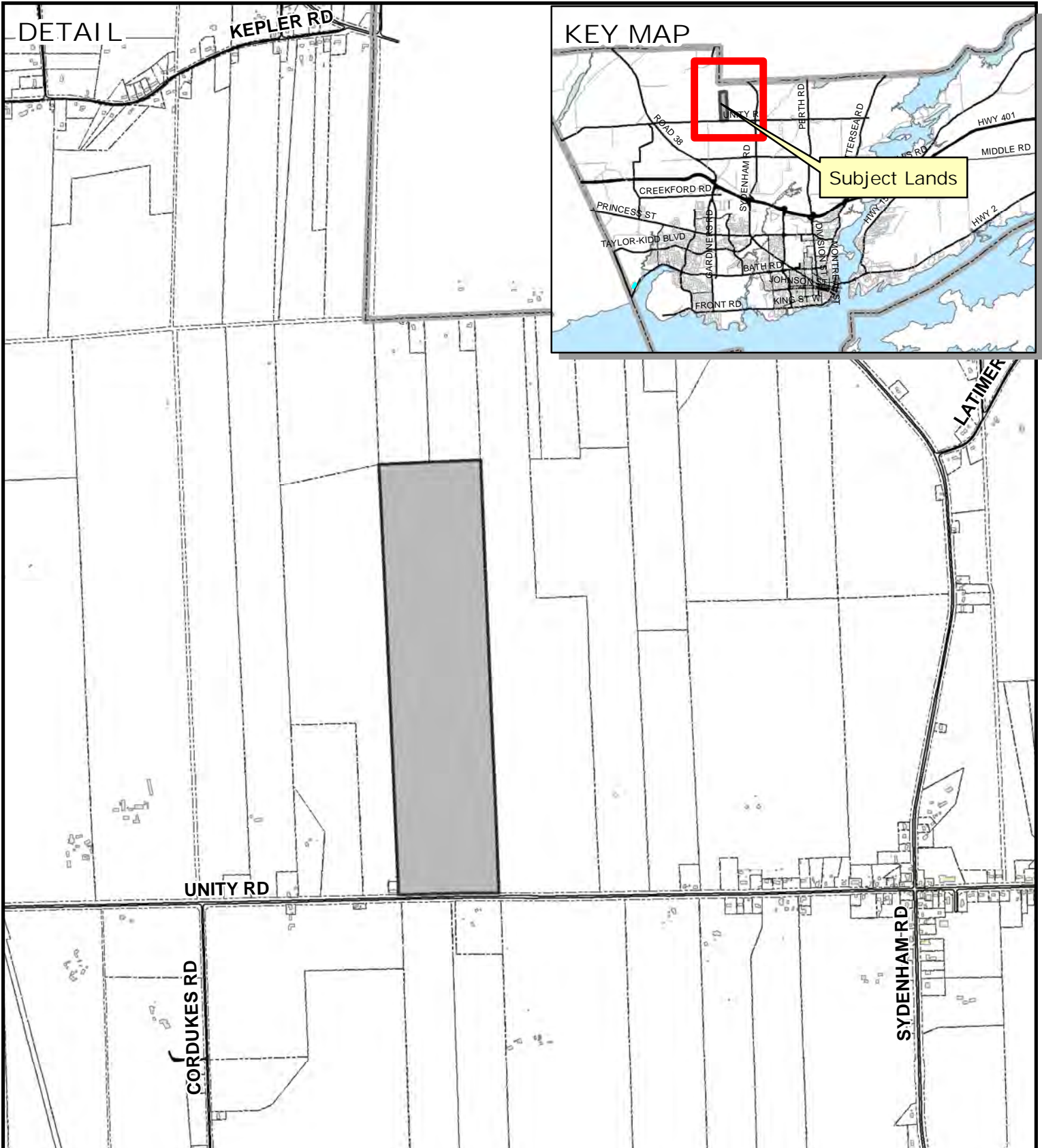
Kim Brown, Manager, Infrastructure and Development, Engineering
Brodie Richmond, Environmental Engineer and Geoscientist, Env. and Sustainable Initiatives
Hal Linscott, Director of Legal Services & City Solicitor
Chantal Chiddle, Utilities Engineer, Utilities Kingston
Terry Willing, Director, Building and Licensing
Lindsay Lambert, Planner - Heritage, Planning and Development Department
Robb Kidd, Assistant Chief & Director of Fire Prevention, Fire & Rescue
Kristine Jarron-Hebert, Parks and Open Space Planning Coordinator, Parks Development

EXHIBITS ATTACHED:

Exhibit 'A' – Key Map

Exhibit 'B' – Site Layout Plan

Exhibit 'C' – Municipal Consultation Form for the Kingston Gardiner TS Unity Road Solar Energy Project



THE CORPORATION OF THE CITY OF KINGSTON
PLANNING & DEVELOPMENT DEPARTMENT


KEY MAP: Renewable Energy Project Municipal Consultation Form (MCF)

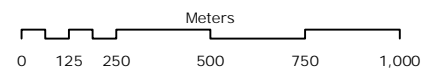
Planning & Development
a department of
Sustainability & Growth

Proponent Axio Power/SunEdison
Project: Kingston Gardiner TS Unity Road Solar Energy Project
File Number: D05-004-2011
Address: 2490 Unity Road
ARN: 101108024002800

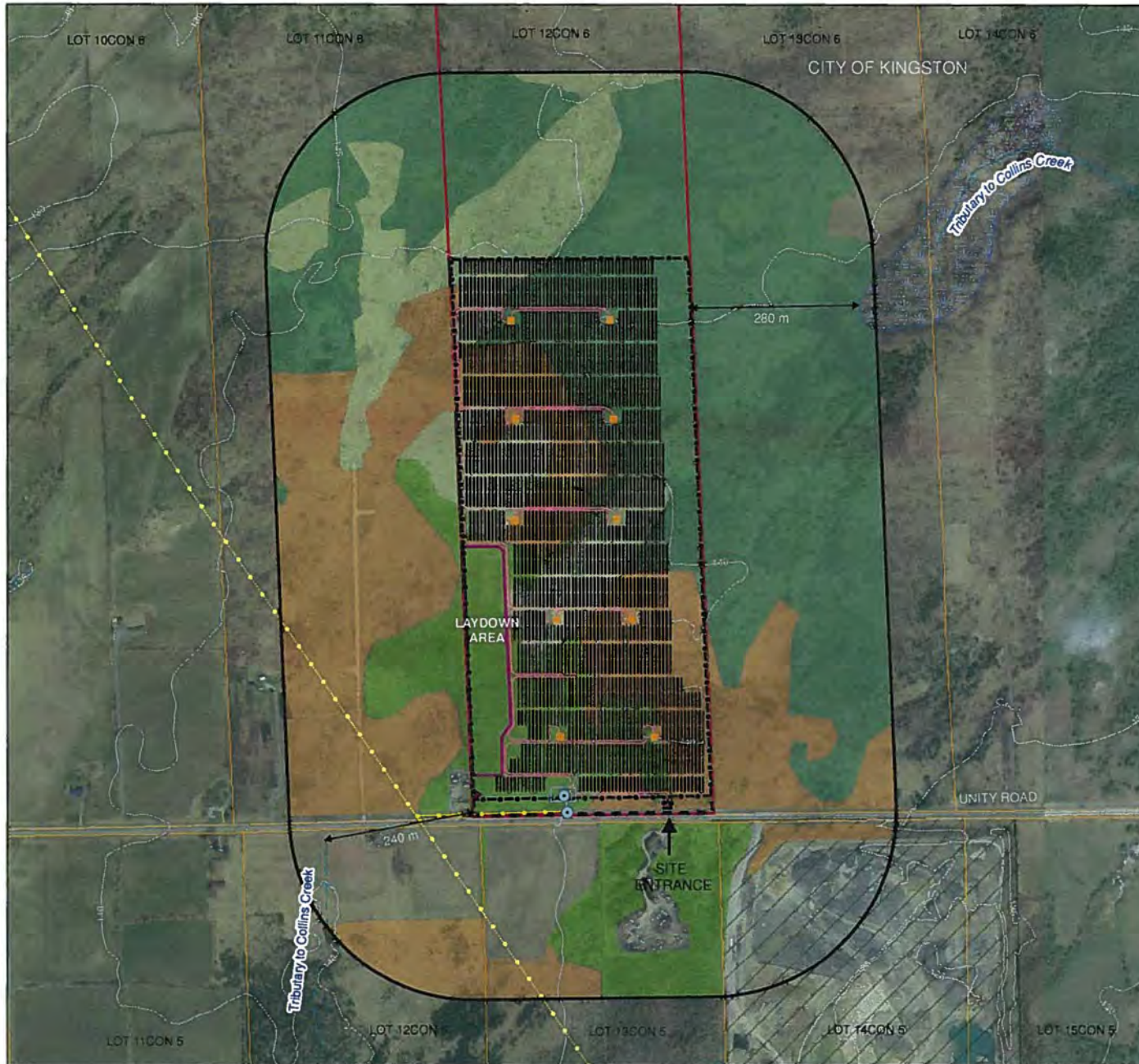
Prepared By: A. Dowker
Printing Date: 3/29/2012
Map Document: K:\D05_Natural Resources\Renewable Energy\Solar Farm Projects\Axio SunEdison - Kingston Gardiner TS Solar Energy Project (2490 Unity Rd.)\Map\D05-004-2011_KeyMap.mxd

Legend

 Subject Lands



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LEGEND

Existing Features

- Road
- Topographic Contour (5m Interval)
- Transmission Line
- - - Watercourse, Intermittent
- Watercourse, Permanent
- Authorized Aggregate Site
- Project Location
- 300 m from Project Location
- Project Site
- Unevaluated Wetland

Significant Natural Features / Significant Wildlife Habitat (within 120 m of Project Location)

- Significant Woodland / Significant Wildlife Habitat [Species of Conservation Concern (Juniper Hairstreak, Milksnake)]
- Non-Significant Woodland / Significant Wildlife Habitat [Species of Conservation Concern (Juniper Hairstreak, Milksnake)]
- Cultural Thicket / Significant Wildlife Habitat [Shrub / Early Successional Bird Breeding Habitat] / [Species of Conservation Concern (Juniper Hairstreak, Milksnake)]
- Cultural Meadow / Significant Wildlife Habitat [Species of Conservation Concern (Juniper Hairstreak, Milksnake)]

Proposed Project Components

- ▲ Communication Tower
- Inverter
- Substation
- Connection Point
- Panel Layout
- Access Road
- Fence
- Transmission Line
- Laydown Area

Notes:
 1. OSM and NRTS data downloaded from LIC, with permission.
 2. Spatial referencing UTM NAD 83, August 2010.
 3. Air photos obtained from Caledonia Region Conservation Authority, flown in 2008, scale 1:2000. Imagery to the east of the site from Google Earth Pro, 2005 and 2008.
 4. Significant natural features and wildlife habitat depicted within 120 m of Project Location obtained from Ecological Services (2011d).



Figure 2.1
 Axio Power Canada Inc./SunEdison Canada
 Kingston Gardiner TS Unity Road
 Site Layout Plan



EXHIBIT 'B'

**PART A: TO BE COMPLETED BY THE APPLICANT BEFORE SUBMITTING TO
 MUNICIPALITY OR LOCAL AUTHORITY**
Section 1 - Project Description
1.1 - Renewable Energy Project

 Project Name (*Project identifier to be used as a reference in correspondence*)

Kingston Gardiner TS Unity Road

Project Location

 Same as Applicant Physical Address? Yes No (If no, please provide site address information below)

 Civic Address- Street information (*includes street number, name, type and direction*)

 Unit Identifier (*i.e. apartment number*)

 Survey Address (*Not required if Street Information is provided*)

 Lot and Conc.:
 used to indicate location within a subdivided township
 and consists of a lot number and a concession
 number.

 Part and Reference:
 used to indicate location within unorganized territory, and consists of a part and a reference plan
 number indicating the location within that plan. Attach copy of the plan.

Lot

Conc.

Part

Reference Plan

 Location Information (*includes any additional information to clarify physical location*)(e.g. municipality, ward/ township)

 Geo Reference (*e.g. southwest corner of property*)

Map Datum

Zone

Accuracy Estimate

Geo Referencing Method

UTM Easting

UTM Northing

 Georeferenced CAD file
 brought into ArcGIS,
 airphotos are orthorectified

 Project Phasing (*outline construction, operation and decommissioning activities*)

1.2 - Environmental Context

 Describe any negative environmental effects that may result from engaging in the project (*consider construction, operation and decommissioning activities.*)

Propose early avoidance/prevention/mitigation concepts and measures.

1.3 - Renewable Energy Generation Facility

Type of Facility / Operation (select all that apply & complete all appropriate sections)

<input type="checkbox"/>	Wind Facility (Land Based)	<input type="checkbox"/>	Biofuel Facility
<input type="checkbox"/>	Wind Facility (Off-Shore)	<input type="checkbox"/>	Solar Photo Voltaic Facility
<input type="checkbox"/>	Biogas Facility (Anaerobic Digesters)	<input type="checkbox"/>	Other Describe :
<input type="checkbox"/>	Biomass Facility (Thermal Treatment)	<input type="checkbox"/>	Class (if applicable) :

Name Plate Capacity	Expected Generation	Service Area	Total Area of Site (hectares)

Provide a description of the facilities equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity.

1.4 – Renewable Energy Generation Activities

Describe the activities that will be engaged in as part of the renewable energy project

Section 2 – Supporting Documents

2.1 – Requirement	Name of Draft documents distributed for consultation	Date available to Municipal or Local Authority Contact
DRAFT Project Description Report		
DRAFT Design and Operations Report		
DRAFT Construction Plan Report		
DRAFT Decommissioning Plan Report		
List of other Documents		

Location where written draft reports can be obtained for public inspection (physical location for viewing and the applicants project website if one is available):

Section 3 – Applicant Address and Contact Information

3.1 - Applicant Information (Owner of project/facility)				
Applicant Name (legal name of individual or organization as evidenced by legal documents)				Business Identification Number
Business Name (the name under which the entity is operating or trading - also referred to as trade name) <input type="checkbox"/> same as Applicant Name				
Civic Address- Street information (includes street number, name, type and direction)			Unit Identifier (i.e. apartment number)	
Survey Address (Not required if Street Information is provided)				
Lot and Conc.: used to indicate location within a subdivided township and consists of a lot number and a concession number.		Part and Reference: used to indicate location within an unsubdivided township or unsurveyed territory, and consists of a part and a reference plan number indicating the location within that plan. Attach copy of the plan.		
Lot	Conc.	Part	Reference Plan	
Municipality	County/District	Province/State	Country	Postal Code

PART B: TO BE COMPLETED BY THE MUNICIPALITY OR LOCAL AUTHORITY

Section 4 - Municipal or Local Authority Contact Information (check the one that applies)

Local Municipality (include each local municipality in which project location is situated) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Name of Municipality	Address	Phone	Clerk's Name	Clerk's Phone/Fax	E-Mail Address
City of Kingston	216 Ontario Street Kingston, ON K7L 2Z3	613-546-4291	John Bolognone	Phone Ext. 1247 Fax 613-546-5232	jbolognone@ cityofkingston.ca
Upper Tier Municipality (include each upper tier municipality in which project location is situated) <input type="checkbox"/> Yes <input type="checkbox"/> No					
Name of Municipality	Address	Phone	Clerk's name	Clerk's Phone/Fax	E-Mail Address
Local roads area (include each local roads area in which project location is situated) <input type="checkbox"/> Yes <input type="checkbox"/> No					
Name of local roads board	Address	Phone	Secretary-treasurer's Name	Secretary-treasurer's Phone/Fax	E-Mail Address
Board Area (include each board area in which project location is situated) <input type="checkbox"/> Yes <input type="checkbox"/> No					
Name of Local Service Board	Address	Phone	Secretary's name	Secretary's Phone/Fax	E-Mail Address

Section 5: Consultation Requirement

5.1 - Project Location
Provide comment on the project location with respect to infrastructure and servicing.
The subject property is not located within the County of Frontenac as noted above, as the City of Kingston is a single tier municipality. The property is located in Con. 6, Pt. Lot 12 of the Geographic Township of Kingston, City of Kingston. A civic address of 2490 Unity Road has been assigned to the property, which should be used for all future permit applications and correspondence regarding the site. The site is situated on Unity Rd., which is in a rural setting, and thus has no municipal services such as water and sewer. The site is supported by roadside ditches for stormwater drainage.
5.2 - Project Roads
Provide comment on the proposed project's plans respecting proposed road access.
An entrance permit will be required from the City of Kingston. If any works (e.g. connection to the existing electrical system, etc.) are required in the municipal right-of-way, the proponent will be required to obtain a cut permit from the City. Detailed drawings of the works within the right-of-way will be a requirement of the cut permit application. [Comments continued in the next box...]
Identify any issues and provide recommendations with respect to road access
If any deliveries to and from the site are oversized loads, the proponent will be required to obtain an oversized load permit from the City. The proponent will be required to adhere to any half load postings specific to their determined haul routes.
Provide comment on any proposed Traffic Management Plans
The developer will be required to install temporary signage on Unity Road to both sides of the site that warn motorists that there are heavy vehicles turning in and out of the access to the site. The proponent should be advised that Unity Road is a designated Emergency Detour Route in the event of Highway 401 closures. [Comments continued in the next box...]
Identify any issues and provide recommendations with respect to the proposed Traffic Management Plans
The developer is required to strongly encourage trucks leaving the site to travel east on Unity Road, such that the trucks would make a right turn at a signalized intersection (Unity Road and Sydenham Road), instead of the westbound left turn at Unity Road and Highway 38 (unsignalized).

5.3 – Municipal or Local authority Service Connections

Provide comment on the proposed project plans related to the location of and type of municipal service connections, other than roads.

There are no other municipal service connections at this location. However, please refer to comments regarding stormwater management under Section 5.5 below.

Identify any issues and provide recommendations with respect to the type of municipal service connections, other than roads.

There are no other municipal service connections at this location. However, please refer to comments regarding stormwater management under Section 5.5 below.

5.4 – Facility Other

Identify any issues and recommendations with respect to the proposed landscaping design for the facility

It is requested that all panels and structures associated with the facility be setback from all property lines and public road rights-of-way a minimum of 20 m (66 ft.). Where the facility is visible from a public road or adjacent property, appropriate screening and buffering should be employed to mitigate the presence of the facility through a combination of landforming, vegetation and fencing. A full landscape plan, prepared by a Landscape Architect, should be submitted to the City for review and comment.

Provide comment on the proposed project plans for emergency management procedures / safety protocols.

See comments in the box below.

Identify any issues and recommendations with respect to the proposed emergency management procedures / safety protocols.

Kingston Fire and Rescue requires that access roads be constructed to a standard capable of accommodating a standard sized pumper truck (the starting point for access routes is usually the requirements of the *Ontario Building Code*).

Identify any issues and recommendations with respect to any Easements or Restrictive Covenants associated with the Project Location

The municipality's review does not show any easements or restrictive covenants in favour of the City, nor does it show any easements or restrictive covenants in favour of a third party.

5.5 Project Construction

Identify any issues and recommendations with respect to the proposed rehabilitation of any temporary disturbance areas and any municipal or local authority infrastructure that could be damaged during construction.

The proponent is advised that they will be required to comply with the City's Noise By-Law as it relates to hours of construction. Any damage to municipal roads must be repaired by the proponent. The City will require a video survey of the existing road infrastructure and haul routes prior to construction as a benchmark for existing conditions prior to construction, to assist in determining impact after construction.

Identify any issues and recommendations with respect to the proposed location of fire hydrants and connections to existing drainage, water works and sanitary sewers

For the stormwater documents, the runoff coefficient used for gravel should be 0.9, and the post-development drawing should show the road-crossing culvert where flows exit the site. Proposed changes to the drainage pattern must not impact the neighbouring properties' drainage. Prior to any on-site works, the proponent will be required to obtain a site alteration permit, and the detailed drawing required for this permit application must illustrate how stormwater runoff will be addressed with the altered property.

Identify any issues and recommendations with respect to the proposed location of buried kiosks and above-grade utility vaults

All solar energy facility buildings and accessory structures, including, but not limited to, equipment shelters, storage facilities, transformers and substations, should be screened from view, particularly when adjacent to a public road or residential property, using a combination of landscaping elements. Where buildings or accessory structures are visible from a public road or adjacent property, and cannot be appropriately screened, additional architectural treatments should be used to help the structure blend into the surrounding landscape.

Identify any issues and recommendations with respect to the proposed location of existing and proposed gas and electricity lines and connections

There are no municipal gas or electricity lines and connections at this location.

Union Gas and Hydro One are the service providers in the area.

Provide comment on the proposed project plans with respect to Building Code permits and licenses.

The *Ontario Building Code* does not recognize free-standing solar panels as a designated structure. However, Building Permits will be required for the proposed 9 m x 5 m electrical substation building and the ten 6.4 m x 4 m building enclosures that will house the inverters and pad-mounted transformers. Any other proposed buildings that exceed 108 sq. ft. would also require a Building Permit. If any of the temporary structures noted in the report for construction purposes are tents or buildings greater than 108 sq. ft., then a temporary use permit will be required. If signage is proposed for the site, then a permit may be required for that as well.

Identify any issues and recommendations related to the identification of any significant natural features and water bodies within the municipality or territory.

The Cataraqui Region Conservation Authority (CRCA) considers the natural heritage assessment reports to be sound, as they address the appropriate concerns related to significant features, mitigation measures, and a monitoring plan. Mapping protocols used by the CRCA indicate that the site is not subject to *Ontario Regulation 148/06: Development, Interference with Wetlands, and Alterations to Shoreline and Watercourses*.

Tree removal from the property will require a Tree Permit in accordance with the City of Kingston Tree By-Law.

Identify any issues and recommendations related to the identification any archaeological resource or heritage resource.

The subject property is not on the municipal heritage properties register and is not adjacent to any properties on the municipal heritage properties register. No concerns from a built heritage perspective. There are also no concerns from a perspective of archaeological potential. The City's standard archaeological conditions should be applied for any tree permit or site alteration permit issued for the subject property. These standard conditions relate to what to do in the event that deeply buried or previously undiscovered archaeological deposits or human remains are discovered on the site.

Comments and concerns with respect to the Noise Study

The report has not been sealed and signed by the appropriate professional.

The report references clause 1.(4)4 of *Ontario Regulation 521/10*, which indicates that subject to subsection (6), for the purpose of the definition of "noise receptor" in subsection (1), the following locations are noise receptors: a location on a vacant lot, other than an inaccessible vacant lot, that has been zoned to permit a building mentioned in paragraph 1 or 2 and in respect of which no approval or building permit mentioned in paragraph 3 has been issued and at which a building would reasonably be expected to be located, having regard to the existing zoning by-law and the typical building pattern in the area. Based on zoning and the typical building pattern in the area, a proposed residence located on parcel PR01 will in all likelihood be located within the 40-dBA contour. This is to be addressed in the report.

The report is based on certain pieces of equipment being utilized. Should the applicant propose different equipment, or relocate the equipment, the report will have to be revised to demonstrate that recommendations in the report are still valid, or that the report is revised to reflect the variance in the proposed equipment.

Comments and concerns with respect to Decommissioning

In the absence of Site Plan Approval for the infrastructure (e.g. road/driveway network and the drainage system), it is probable that as part of any decommissioning, these items would also have to be removed and the area reinstated to original conditions. Note, Section 2.1.3 states "unless retained for other purposes...", which could not be retained without planning approval under today's regulations. See also the comments under Section 5.5 Project Construction.

Comments and concerns with respect to the Rideau Trail

A portion of the Rideau Trail runs directly in front of the proposed facility. While the City does not anticipate that the proposed solar energy facility will impact the functionality of the trail, landscaping elements for screening and buffering are requested. Please refer to the landscaping comments above in Section 5.4.

Comments and concerns with respect to groundwater and hydrogeology

For comments with respect to groundwater and hydrogeology, please refer to Attachment 'A' to this MCF.

Comments and concerns with respect to the communications tower

The proposed communications tower is to be approximately 25 m (82 ft) high, and according to the Site Layout Plan, is to be located in the southwest corner of the property. This location is adjacent to a 0.5 acre residential property. An alternate location for the tower should be chosen, so that it is not directly next to any residential properties.

Attachment 'A' – Municipal Consultation Form
Project Name: Kingston Gardiner TS Unity Road
Municipality: City of Kingston

Comments and Concerns with Respect to Groundwater and Hydrogeology

The City of Kingston has reviewed the Draft Groundwater Monitoring Report for the proposed Axio/Sun-Edison solar PV farm on Unity Road to evaluate the potential for adverse impacts on groundwater quantity or quality and impacts to neighbours on private services. The subject property is situated in an area of the municipality having moderate to high sensitivity for groundwater, as identified in the Regional Groundwater Study, and as shown on Schedule 11 of the City of Kingston Official Plan.

The proponent's report does not anticipate impacts to surrounding well water users, but nevertheless proposes a program that monitors well water quality pre and post project construction. Staff believe that the proposed well water monitoring program will be capable of identifying changed conditions, which may be indicative of impacts to well water users due to the construction or operation of the proposed solar farm.

With respect to the potential for impacts to groundwater quality or quantity due to the proposed solar farm development, staff have examined the project description information available at <http://www.sunedison.ca/unity/> and provide the following opinions:

There are a limited number of mechanisms that could impose a risk to groundwater quality or quantity.

On groundwater quantity: Groundwater taking by the project would pose the greatest risk to groundwater quantity, but to our knowledge there is no plan to extract groundwater for use during operations or construction, and there are no excavations of a scale that would cause a dewatering of the groundwater aquifer (such as a quarry). Hardening of the surface such that infiltration of precipitation is reduced could pose a risk to groundwater quantity, if local sources relied upon the recharge supplied by the project lands. There is no indication that any significant amount of hardening (i.e. increasing of imperviousness to infiltration) will take place as a result of the solar project.

On groundwater quality: Risk to groundwater quality is most often presented by the introduction of contaminants such as bacterial (i.e. from septic systems) or chemical (i.e. from petroleum distribution, agricultural pesticide/fertilizer use, etc.) materials that may enter the groundwater. With the exception of transformer cooling oils and fuels from service vehicles and construction equipment, the project descriptions do not indicate that significant sources of potential contaminants to the groundwater would be present and where present (i.e. contents of transformers) the proponents have proposed construction of containment structures that would mitigate impacts due to accidental spills.

Risk to groundwater quality may be posed when physical conduits for rapid surface water infiltration into the aquifer are created by constructed features. The construction of thousands of mounting poles up to a depth of 3 metres into the ground may provide such a conduit. Mitigation of this risk would be easily accomplished by proper grading around the bases of the mounting poles and should be considered as a requirement within any permits provided as part of the project's compliance with the Site Alteration By-Law. The project information also indicates that disturbed ground surfaces will be restored using native grasses or other vegetative cover, which will continue to allow infiltration of

surface water with benefits of filtration through soils and vegetation. Another risk to groundwater is the potential for drilling through a perched groundwater table during construction providing a conduit to a deeper confined aquifer. Information provided in the groundwater monitoring report and the archaeological investigations indicate that overburden at the site is between 0.3 and 1.4 metres below grade and therefore we feel this risk is very low.

Some discussion has been reported regarding the potential use of herbicides and detergents during the operational phase of the project. Project information indicates that no significant herbicide use will be undertaken during operation of the project and that no cleaning agents other than water will be required to maintain the solar panels.

Based on all of the above and the documentation available on the proponent's project website we do not feel there are significant risks to groundwater quality or quantity posed by the proposed project and are satisfied that the proposed well water monitoring program will be sufficient to identify changed conditions that may indicate unanticipated impacts. We also recognize that the Ontario Ministry of the Environment is a more senior authority on matters of protection of the groundwater resource and may provide additional opinion.