

# WELLAND RIDGE ROAD SOLAR PROJECT

**PART OF LOTS 14 AND 15, CONCESSION 7, CITY OF WELLAND, ON**

# SOLAR ELECTRIC SYSTEM PROJECT - 10.0 MW AC

### VICINITY MAP:



### PROJECT SCOPE:

## SOLAR ELECTRIC SYSTEM

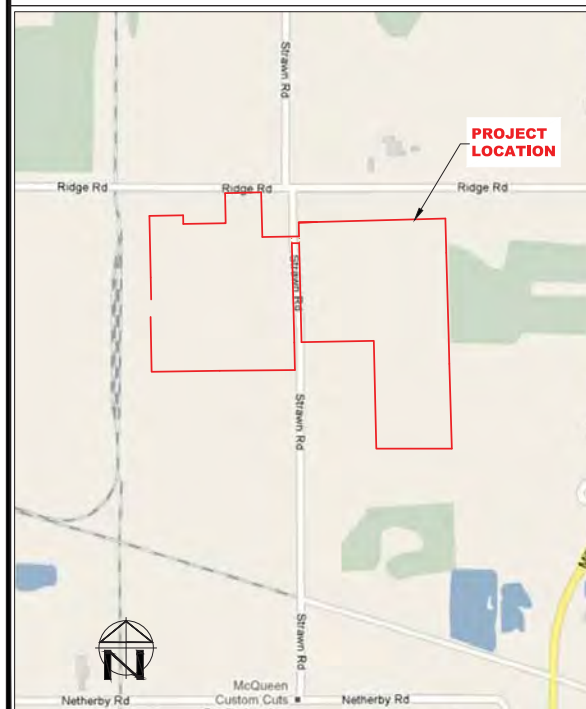
THE PROPOSED PROJECT IS A RENEWABLE ENERGY GENERATION FACILITY WHICH WILL USE SOLAR PHOTOVOLTAIC TECHNOLOGY TO GENERATE ELECTRICITY. ELECTRICITY GENERATED BY SOLAR PHOTOVOLTAIC PANELS WILL BE CONVERTED FROM DIRECT CURRENT (DC) TO ALTERNATING CURRENT (AC) BY INVERTERS, WHICH WILL ALSO STEP-UP THE VOLTAGE TO 27.6 KV PRIOR TO BEING CONNECTED TO THE EXISTING LOCAL DISTRIBUTION LINE. TO MEET ONTARIO POWER AUTHORITY'S (OPA) FEED-IN-TARIFF (FIT) PROGRAM REQUIREMENTS, A SPECIFIC PERCENTAGE OF EQUIPMENT WILL BE MANUFACTURED IN ONTARIO. THIS PROJECT IS CLASSIFIED AS A CLASS 3 SOLAR FACILITY AND THEREFORE REQUIRES A RENEWABLE ENERGY APPROVAL (REA).

THE SYSTEM WILL BE INTERCONNECTED AND WILL BE OPERATED IN PARALLEL WITH THE ENERGY PROVIDER'S ELECTRIC GRID AS PER THE REQUIREMENTS OF THE ONTARIO ELECTRICAL SAFETY CODE (OESC).

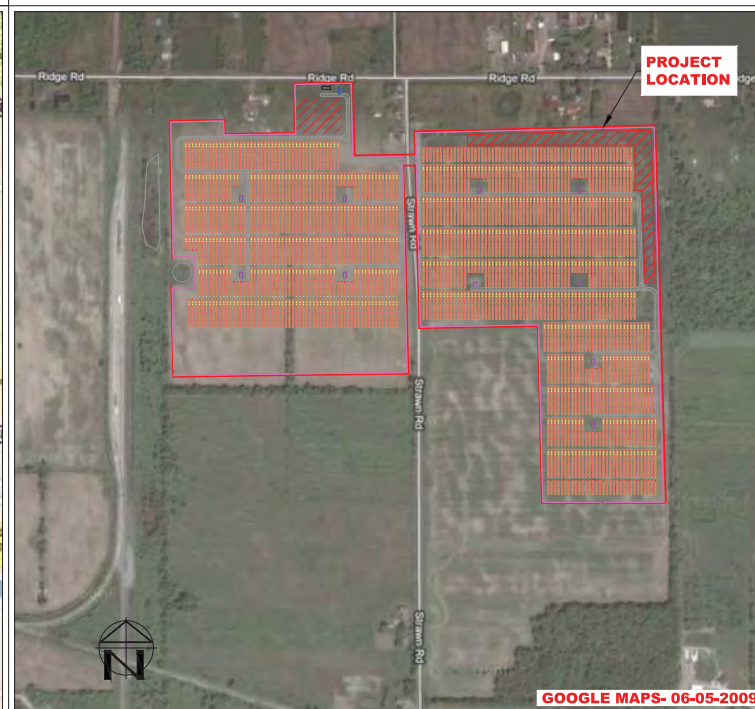
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EP-701	EQUIPMENT SPECIFICATIONS
EP-801	SINGLE LINE DIAGRAM
S-101	TRACKER DETAILS

## STREET MAP:



### AERIAL VIEW:



**PROJECT TEAM:**

PROJECT CONTACT:

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DESIGN ENGINEERING FIRM:

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DAVIS, CA 95618  
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ELECTRICAL ENGINEER:

**PRELIMINARY DRAWING**  
**FOR REVIEW ONLY**  
**NOT FOR CONSTRUCTION**

DATE: X-XX-XXXX

[illegible]

Axio Power Canada Inc/  
SunEdison Canada

945 PRINCESS STREET, SUITE 252  
KINGSTON, ON K7L 3N6

PROJECT SITE:

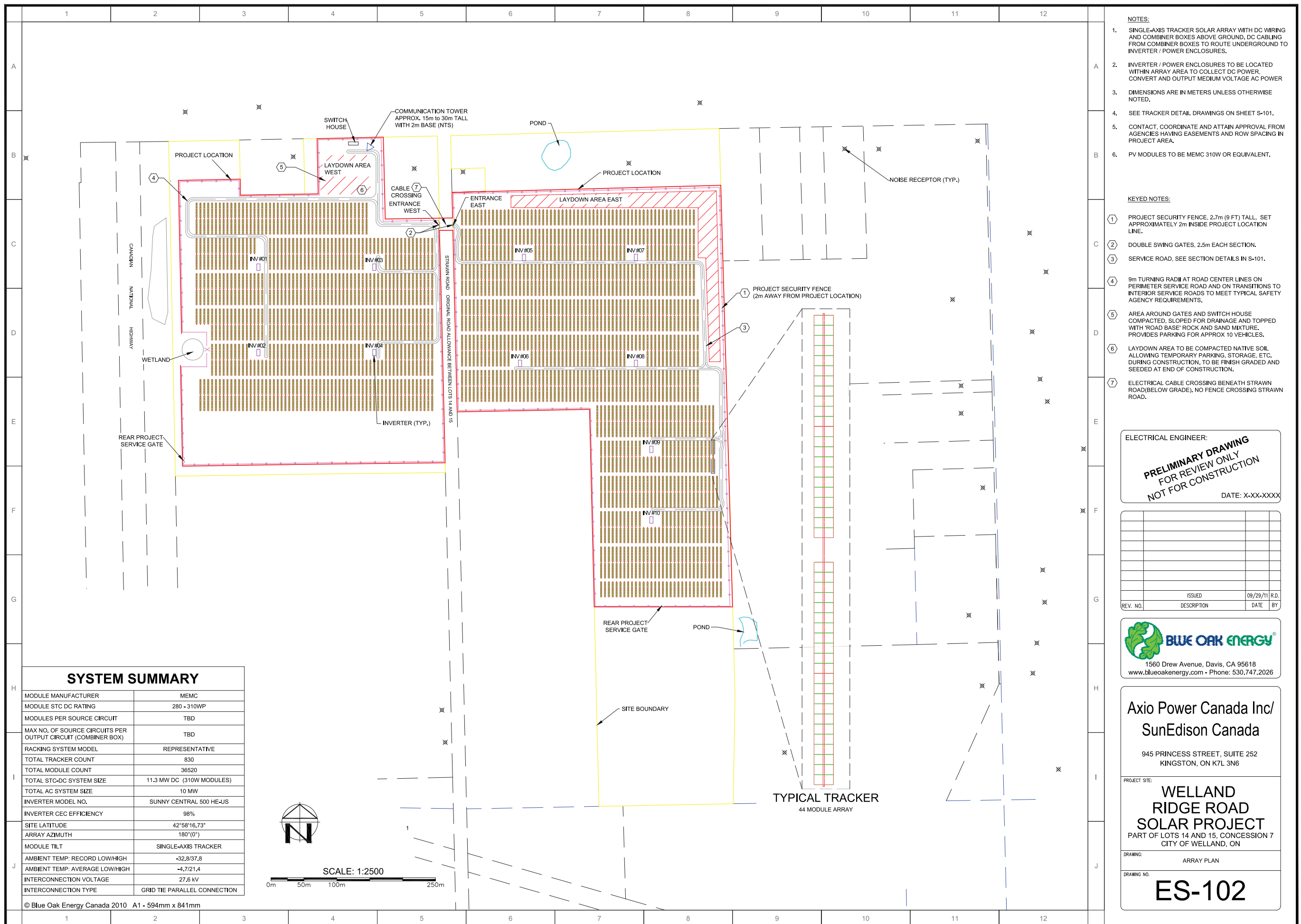
**WELLAND  
RIDGE ROAD  
SOLAR PROJECT**

PART OF LOTS 14 AND 15, CONCESSION 7  
CITY OF WELLAND, ON

DRAWING:	TITLE SHEET
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DRAWING NO. **G-001**

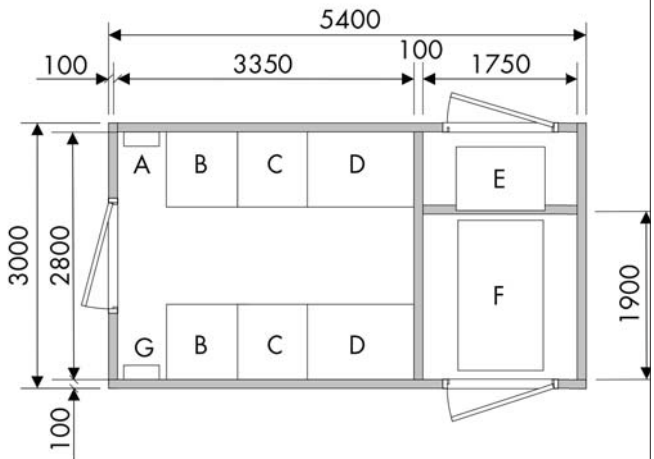
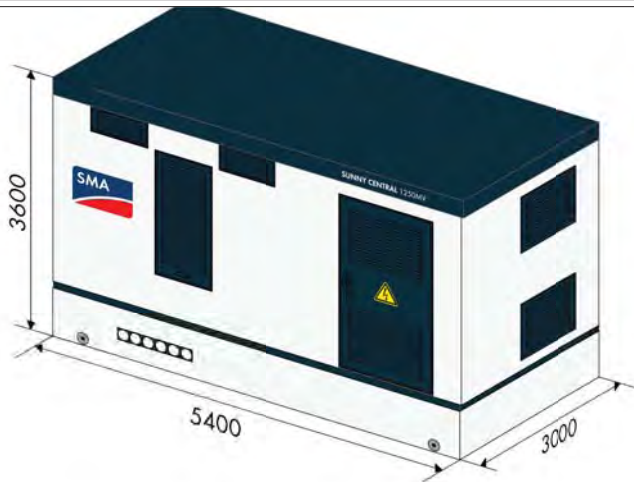








- High Yields**
  - 98% CEC efficiency
  - Suitable for ambient temperatures of up to 60 °C (140 °F)
  - OptiCool™ intelligent temperature management
- Low System Costs**
  - Outdoor-rated enclosure
  - Couples to medium-voltage external transformer
  - Available as integrated solution
- Strong Peripherals**
  - Optional DC & AC disconnects
  - Optional combiner boxes with string monitoring
  - Sunny WebBox, Modbus® & OPC compatible
- UL Certified**
  - UL 1741 / IEEE-1547 compliant



- All figures in mm.
- |   |                                 |
|---|---------------------------------|
| A | COM-B, optional                 |
| C | Sunny Central, inverter cabinet |
| E | Medium-voltage switchgear       |
| G | Station sub-distribution        |
- |   |                           |
|---|---------------------------|
| B | Sunny Central, DC cabinet |
| D | Sunny Central, AC cabinet |
| F | Transformer               |

Technical data	Sunny Central 500HE-US
<b>Input data</b>	
Max. DC power	565 kWp <sup>1)</sup>
MPP voltage range	330 V - 600 V
Max. DC voltage	600 V
Feed starting at [U] / [P]	380 V / 5000 W
Max. DC current	1600 A
Number of DC inputs	6 - 9
<b>Output data</b>	
Nominal AC power	500 kVA @ 45 °C (113 °F)
Max. AC current	1470 A @ 200 V
AC grid frequency	60 Hz
AC voltage range	180 V - 220 V
AC voltage range, full active power	196 V - 210 V
Power factor (cos φ)	> 0.99
Max. THD	< 5%
<b>Efficiency <sup>2)</sup></b>	
Max. efficiency	98.6%
CEC efficiency	98.0%
Euro-eta	97.9%
<b>Ambient conditions</b>	
Operating temperature range	-25 °C ... +60 °C (-13 °F ... +140 °F)
Max. temperature for nominal conditions	+45 °C (+113 °F)
Protection rating	NEMA 3R
Installation indoors / outdoors	● / ●
Rel. humidity	15% ... 95%
Fresh air consumption	3000 m³/h
Internal consumption at nominal power	< 1600 W
Standby consumption (P <sub>night</sub> )	< 110 W
<b>Dimensions and weight</b>	
Height	2277 mm (90 in)
Width	2562 mm (101 in)
Depth	956 mm (38 in)
Weight	< 1800 kg (3970 lb)
<b>Certificates / listings</b>	
Certificates	UL 1741, UL 1998, IEEE 1547
EMC conformity	FCC, Part 15, Class A
<b>Interfaces</b>	
RS485 / Ethernet / analog	○ / ○ / ○
Display: text line / graphic	- / ●
Communication protocols	Modbus / TCP
SSM-US connection	RS485
Plant monitoring	Sunny Portal

EQUIPMENT SPECIFICATIONS  
SCALE: NTS

- NOTES:
1. NONE.
- KEYED NOTES:
- ①. NONE.

ELECTRICAL ENGINEER:

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DATE: X-XX-XXXX

REV. NO.	ISSUED	09/29/11	R.D.
	DESCRIPTION	DATE	BY

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**Axio Power Canada Inc/  
SunEdison Canada**

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KINGSTON, ON K7L 3N6

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DRAWING:  
EQUIPMENT SPECIFICATIONS

DRAWING NO.  
**EP-701**

MODULE	MEMC 310W (TYPICAL)	
MODULE STC POWER	280 ~ 310WP	
MODULE TILT	SINGLE-AXIS TRACKER	
ARRAY AZIMUTH	180°	
	GENERATOR, TYPICAL OF 10	SITE TOTAL
GENERATOR MANUFACTURER	SMA	SMA
GENERATOR MODEL	SUNNY CENTRAL 500HE	SUNNY CENTRAL 500HE
NUMBER OF MODULES PER GENERATOR	3,652	36,520
DC RATING	1.13 MW	11.3 MW
AC NAMEPLATE RATING	1.0 MW	10 MW
NUMBER OF SOURCE CIRCUITS	332	3320
SOURCE CIRCUIT COMBINERS	22	220

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