

# Memo

Project No. 0983A

**To: Amy Cameron**

**From: Andrew Ryckman**

**Date: November 19, 2012**

**Re: Silvercreek Solar Park Natural Heritage Assessment Addendum**

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Natural Resource Solutions Inc. (NRSI) was retained in October 2009 by ORTECH Environmental, on behalf of Silvercreek Solar Park Inc., to conduct a natural heritage assessment in accordance with the Renewable Energy Approval (REA) Regulation (O. Reg. 359/09 of the Environmental Protection Act). This assessment included a records review, site investigation, evaluation of significance, and impact assessment of any potentially significant natural features at the proposed 10MW solar energy facility in Malahide Township, part of Elgin County, Ontario.

The proposed Silvercreek Solar Park is located approximately 7.5km south of the Town of Aylmer, Ontario and is proposed to consist of a total of 44 solar panel blocks forming 1 array, as well as supporting infrastructure and development activities. This includes access roads, inverters/transformers and electrical cabling, perimeter fencing, a 34.5 kV distribution line, a 115kV transmission line, and transformer substation. As identified in the REA Regulation, the proposed layout of these features is collectively referred to as the 'project location'. For the purposes of this memo, NRSI will refer to the areas within 120m of the project location as the 'project area'.

The records review, site investigation, evaluation of significance, and environmental impact study (EIS) for the Silvercreek Solar Park were completed by NRSI over the course of 2011/2012 as part of the Natural Heritage Assessment (NHA). The Silvercreek Solar Park NHA (NRSI 2012) confirmation was granted on July 9, 2012 by the Ministry of Natural Resources' Renewable Energy Operations Team. As part of this confirmation, some pre-construction commitments were identified, along with the commitment for the proponent to inform the MNR of any changes made to the project that would alter the NHA. This letter of confirmation is provided in Appendix I.

This document identifies and discusses minor layout changes that have been made to the Silvercreek Solar Park project location since receiving the NHA confirmation from the MNR, but before the ultimate REA submission to the MOE. The updated project layout addressed in this report is provided in Figure 1, which compares the updated project components to those presented in the NHA.

## *Staff Roles*

The requirements of the REA process indicate that the name and qualifications of all staff participating in the NHA should be provided. This staffing information is provided in Silvercreek Solar Park NHA (NRSI 2012) and the qualifications and roles of key staff participating in the addendum to this project's NHA have been outlined below.

### Andrew G. Ryckman, B.Sc.

Andrew is a Terrestrial and Wetland Biologist with 8 years of environmental experience. He routinely manages the natural heritage aspects of renewable energy projects, with specific expertise relating to bats and herpetofauna. Andrew is certified in Ecological Land Classification (2010), and has successfully completed a Bat Conservation International (BCI) Acoustic Monitoring Workshop (2008).

Andrew's role was to act as the project manager, overseeing all aspects of the Natural Heritage Assessment, including all associated field work and reporting. He was the main contact point for agency staff and assisted with the preparation of all corresponding reports including this addendum memo.

### Christy Humphrey, B.E.S.

Christy is a Terrestrial and Wetland Biologist with more than 3 years of environmental consulting experience, working on a variety of projects tasks. Her areas of expertise are vegetation mapping and floral inventories, as well as acoustic bat monitoring, but she has experience conducting bird assessments, amphibian studies, and other fauna assessments. Christy is certified in both the ELC for Southern Ontario (2010) and Northeastern ELC (2010), as well as the OMNR Wetland Evaluation System (2012). She has also participated in the Ontario MNR Bat Monitoring Workshop for Wind Power Projects (2010) and has received training in Eastern Bat Acoustic Field Techniques (Bat Conservation and Management Inc. 2012).

Christy assisted in coordinating the field work for the project and was the primary author of the NHA. Christy reviewed changes to the Silvercreek Solar Park's layout and is the primary author of this addendum memo.

### Katie Roth, B.A., GIS-AS

Katie graduated from the University of Guelph with a B.A. in Geography and a minor in GIS and Environmental Analysis. Emphasis for this program was on the physical and environmental forces of the earth including utilizing remote sensing and applied GIS. Katie has also graduated from Fleming College from the geographic information systems, applications specialist program. This post-graduate program allowed for the use of high-end technology and tools to collect, store, manipulate, analyze, interpret and communicate geographic information within a variety of disciplines. As a GIS Analyst, Katie often maps natural features, vegetation communities and aquatic habitats, terrestrial monitoring locations, constraints, and proposed project layouts.

Katie's role for this addendum was as GIS technician. She reviewed and integrated available information to generate the mapping for this addendum memo.

### *Overview of Project Changes*

In the time since MNR confirmation was received for the Silvercreek Solar Park's NHA, a few minor changes have been made to this project's layout, resulting in adjustments to the NHA. The types of changes made and addressed in this memo include:

- Distances from project components to natural features
- Access road layout modifications in the solar park area
- Solar panel mounting system and layout
- Perimeter fence, inverter, and underground cabling layout modifications to accommodate changes in solar panel layout
- Removal of the temporary laydown area at the solar park

The changes to the Silvercreek Solar Park project layout are very minor, with minimal changes to the overall project area. These changes are outlined and discussed in Tables 1 and 2. Figure 1 provides a visual overlay of the differences between the NHA submission layout and the layout presented in this addendum. The Silvercreek Solar Park project layout presented in the original NHA submission is provided for reference in Appendix II.

**Table 1. Summary of the Changes to the Silvercreek Solar Park Layout**

Project Component	Location	Description/ Rationale of Change	Changes in Distance to Natural Features or New Natural Features Within 120m	Reference Figure(s)
Solar Panel	Solar Park Area	The solar panel mounting system being used for this project has changed from a tracking model to a fixed-tilt model. Solar panel layout has changed slightly as a result.	The change in solar panel arrangement results in solar panels being closer to VAL-001 and CAAP-001, however, this is not the closest project component to these features. Solar panels are now further from WOD-011, WOD-040, and WET-004. No new natural features are included in the project area as a result of this change.	1
Perimeter Fence	Solar Park Area	The perimeter fence has shifted slightly to accommodate the change in solar panel layout.	This change in footprint shape does not result in the perimeter fence being closer to or further from any natural features. No new natural features are included in the project area as a result of this change.	1
Access Road	Solar Park Area	The access road layout has been modified to accommodate requests from the Municipality.	This adjustment results in small changes in the distances between the project location and natural features. It is now slightly closer to WOD-040, however, this is not the closest project component to this feature. The access road is now also further from CAAP-001. No new features or habitats are included in the project area as a result of this change.	1
Inverters	Solar Park Area	The locations of inverters have shifted slightly to accommodate the change in solar panel type and layout.	This adjustment results in small changes in the distances between the project location and natural features. Inverters are now closer to VAL-001 and CAAP-001, however, they are not the closest project component to these features. Inverters are now also further from WOD-011. No	1

			new natural features are included in the project area as a result of this change.	
Underground Cabling	Solar Park Area	The arrangement of underground cabling within the solar park area has shifted slightly to accommodate the change in solar panel layout.	This adjustment results in small changes in the distances between the project location and natural features. Underground cabling is now closer to CAAP-001, however it is not the closest project component to this natural feature. Underground cabling is now also further from WOD-011. No new natural features are included in the project area as a result of this change.	1
Laydown Area	Solar Park Area	The laydown area for construction within the solar park area has been removed.	This adjustment results in no changes in the distances between the project location and natural features. Previously, the perimeter fence was closer to natural features than the laydown area, and this will still be the case with the laydown area removed. No new natural features are included in the project area as a result of this change.	1

#### *Amendments to the Records Review*

The study area initially examined for the Silvercreek Solar Park Records Review Report extended beyond the previously proposed project area to help compensate for any later changes in the project's layout. Upon review of the changes to the project's layout, all project areas of the current layout were previously studied and included with the Records Review submission to the MNR. Thus, there are no new habitats of seasonal concentrations of animals, rare vegetation communities or specialized habitats for wildlife, species of conservation concern, or other natural features that need to be amended in the NHA.

#### *Amendments to the Site Investigation*

By reviewing the changes made to the Silvercreek Solar Park layout since its NHA confirmation, it has been verified that these alterations have only led to minor changes in distances between project components and natural features. These changes have not resulted in any new features being included in the project area. Since there are no new features that need to be studied, it has been determined that further site investigation is unnecessary.

Given the changes in project location, described and mapped above, NRSI has identified that there are several instances where the project location is now closer to or further from a natural feature that had been identified as being within 120m of the project location. Each of these specific instances has been outlined below (Table 2), including feature identification number, feature type, and comparison of distances from project location to natural feature between the presented layouts.

In addition, NRSI biologists have also reviewed the potential for additional generalized candidate wildlife habitat that may be present within 120m of the updated project location. Due to the very small changes in the distances between project components and natural features, no addendums to generalized habitats were identified.

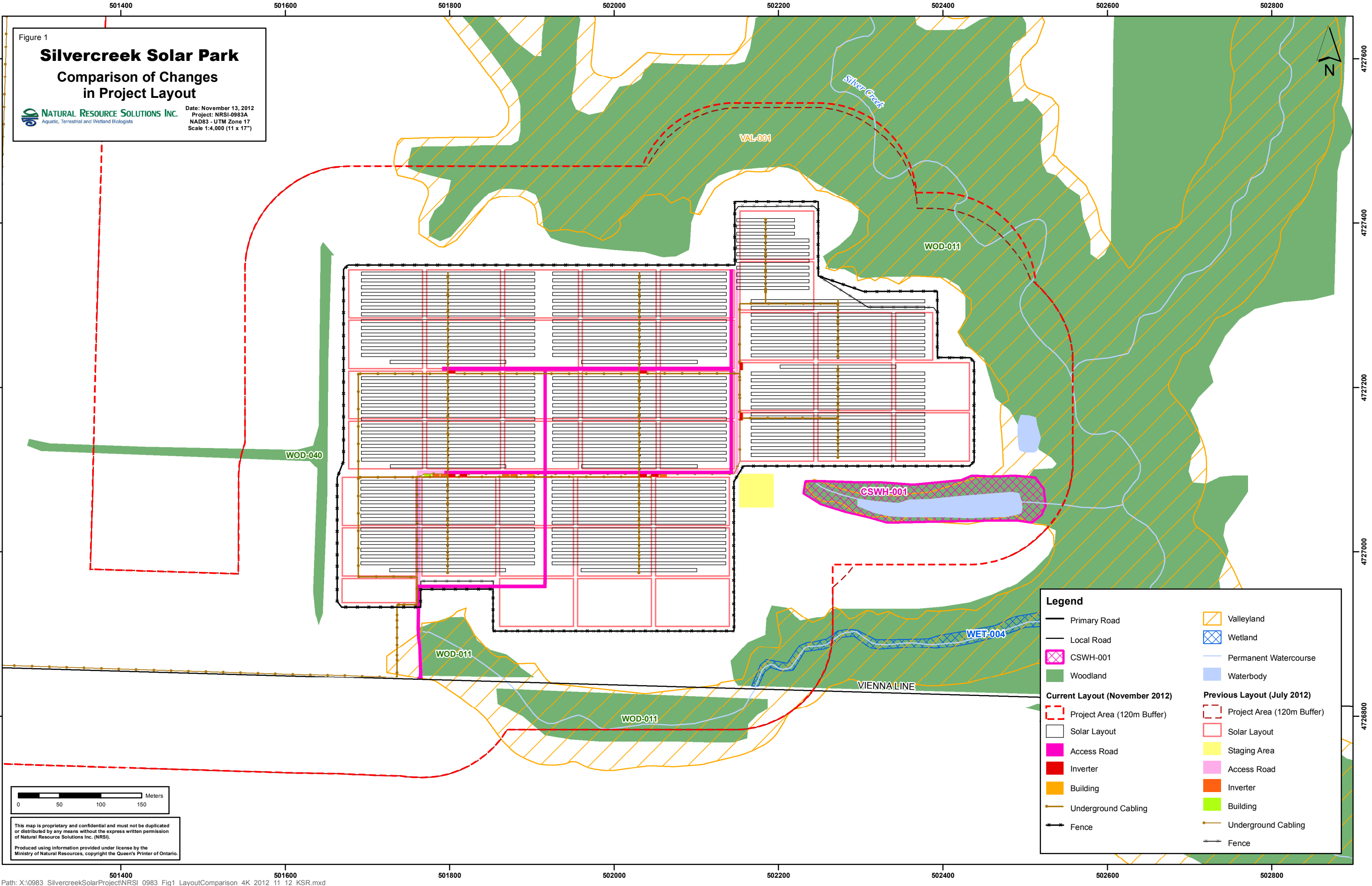
**Table 2. Summary of the Updated Distances between Project Components and Natural Features in the Silvercreek Solar Park Project Area**

Feature ID	Feature Type	Distances Presented in NHA Submission (m)	New Layout Distances (m)	Project Location Closer to Natural Feature (Y/N)	Amendment to the EOS and/or EIS Required? (Y/N)
WOD-011	Woodland	SP – 14 AR – >0.1 UL – 12 OL – >120 BU – 108 BO – 5	SP – 16 AR – >0.1 UL – 20 OL – >120 BU – >120 BO – 5	No	No - EOS completed with NHA. Distances did not change enough to warrant amendment to the EIS.
WOD-040	Woodland	SP – 35 AR – >120 UL – 39 OL – >120 BU – >120 BO – 12	SP – 41 AR – 114 UL – 39 OL – >120 BU – >120 BO – 12	No	No - EOS completed with NHA. Distances did not change enough to warrant amendment to the EIS.
WET-004	Wetland	SP – 79 AR – >120 UL – >120 OL – >120 BU – >120 BO – 51	SP – >120 AR – >120 UL – >120 OL – >120 BU – >120 BO – 51	No	No - EOS completed with NHA. Distances did not change enough to warrant amendment to the EIS.
VAL-001	Valleyland	SP – 67 AR – overlapping UL – overlapping OL – >120 BU – 115 BO – 9	SP – 20 AR – overlapping UL – overlapping OL – >120 BU – 109 BO – 9	No	No - EOS completed with NHA. Distances did not change enough to warrant amendment to the EIS.
CAAP-001 (Mapped as CSWH-001)	Appalachian Sedge Habitat	SP – 32 AR – 40 UL – >120 OL – >120 BU – >120 BO – 12	SP – 30 AR – 88 UL – 29 OL – >120 BU – 108 BO – 12	No	No - EOS completed with NHA. Distances to components with an operational effect (Access Road) and to project location did not change enough to warrant amendment to the EIS.

**Legend**

SP: Solar Panel  
AR: Access Road  
UL: Underground Line  
OL: Overhead Line  
BU: Building or Inverter  
BO: Construction Activity or Balance of Operations

EOS: Evaluation of Significance  
EIS: Environmental Impact Study



### *Amendments to the Evaluation of Significance*

As part of this addendum, NRSI biologists have reviewed the potential for changes to the Evaluation of Significance phase of this project. After examining the changes in distances between project components and natural features, it has been determined that there are no new natural features or wildlife habitats that potentially exist within 120m of the project location that were not previously studied and discussed in the approved NHA. Therefore, no additional features require evaluation of significance.

No additional Evaluation of Significance is required for the Silvercreek Solar Park as a result of these minor modifications.

### *Amendments to the Environmental Impact Study*

As part of the Silvercreek Solar Park NHA addendum preparation, construction plans were reviewed and the changes to the presented project location have been summarized above. These proposed changes include minor modifications to several aspects of the project layout, including access roads, solar panels, perimeter fence, inverter, and underground cabling layouts, as well as removal of a laydown area. Although very minor adjustments have been noted, the construction details as presented in the original Natural Heritage Environmental Impact Study (i.e. site preparation and servicing, construction, operation, decommissioning, and approach to impact assessment) still provide relevant information pertaining to the type, extent, duration, and details of the proposed construction activities associated with the Silvercreek Solar Park.

For the purposes of this addendum, NRSI has reviewed three separate aspects relating to the potential for changes to the EIS, as follows:

- Changes to Mitigation Measures (i.e. project location now closer to natural features)
- New Mitigation Measures (i.e. project location within 120m of a new feature)
- Changes to Monitoring Requirements

#### Changes to Mitigation Measures

NRSI biologists have reviewed the changes in project location, including the distances of the project location to the significant natural features, and have determined that the mitigation measures presented in the Natural Heritage Environmental Impact Study (NRSI 2012) are still suitable for the protection of the significant natural features from permanent and adverse impacts that may result from the development of the Silvercreek Solar Park.

Some access roads, underground cabling, and inverters have been added to the project layout. However, these components are all contained within the existing planned solar park area and result in very minor changes in distances to project location. Mitigation included in the EIS will cover these additional construction activities within the solar park area.

#### New Mitigation Measures

It was concluded that there are no additional significant natural features within the project area; therefore, no new mitigation measures need to be implemented for this project.



### Changes to Monitoring Requirements

Based on the minor changes in project location, NRSI has determined that the monitoring requirements identified in the Natural Heritage Environmental Impact Study are suitable for the monitoring of potential environmental effects of the proposed Silvercreek Solar Park as described in this addendum.

### *Summary of Natural Heritage Addendum*

In accordance with the REA Regulation, NRSI biologists have completed a comprehensive records review, site investigation, evaluation of significance, and EIS of the Silvercreek Solar Park project area (NRSI 2012). Following the review of proposed adjustments to the project location (as discussed above), NRSI has re-considered all aspects of the Natural Heritage Assessment within this memo to determine if there are new natural features, changes in distances to project location, or new mitigation measures or monitoring commitments required to ensure that potential permanent or adverse environmental impacts are mitigated or studied appropriately. The summary of the result of this review of changes to the project location is summarized in Table 3 below.

**Table 3. Summary of Natural Heritage Addendum for the Silvercreek Solar Park**

Addendum Changes	Addendum Result
Significant Features	NRSI has not identified any additional significant natural features or wildlife habitats within the project area. No previously identified significant natural features have been removed from the project area.
Changes in Distances to Project Location	<p>The distances from the project location to candidate and significant natural features and wildlife habitats have changed due to minor adjustments to the project layout. These changes in distances to project location are associated with a total of 5 significant natural features.</p> <p>Changes in distances from the project location to significant natural features are shown in Table 2 of this memo.</p>
Mitigation Measures	Based on the minor adjustments of the project location, NRSI biologists have identified no additional significant features within 120m of the project location that require mitigation measures to be applied. All other mitigation measures, as outlined in the Natural Heritage Environmental Impact Study (NRSI 2012) will provide the appropriate protection to significant natural features to ensure any potential permanent and adverse impacts are mitigated.
Monitoring Commitments	NRSI has identified that, based on the minor shifts in project location, the monitoring commitments outlined in the Natural Heritage Environmental Impact Study (NRSI 2012) are still appropriate to monitor any potentially adverse impacts of this project.

With this addendum, it is maintained that with the implementation of the planned mitigation measures, monitoring programs, and contingency plans as presented in the Silvercreek Solar Park: Natural Heritage Environmental Impact Study (NRSI 2012), along with any additional mitigation measures and monitoring commitments provided above, there is unlikely to be any significant impacts to natural heritage features, including woodlands, wetlands, valleylands, or significant wildlife habitat.

### *References*

Natural Resource Solutions Inc. (NRSI). 2012. Silvercreek Solar Park Natural Heritage Assessment. July 2012.



**Appendix I**

Silvercreek Solar Park NHA Letter of Confirmation

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July 9, 2012

Silvercreek Solar Park Inc.  
49588 Vienna Line  
Aylmer, ON  
N5H 2R2

**RE: NHA Confirmation for Silvercreek Solar Park**

Dear Dave Moerman:

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals (REA) Regulation (O.Reg.359/09), the Ministry of Natural Resources (MNR) has reviewed the Silvercreek Solar Park Natural Heritage Assessment and Environmental Impact Study for the Silvercreek Solar Park near Aylmer submitted by Silvercreek Solar Park Inc. in July 2012.

In accordance with Section 28(2) and 38(2)(b) of the REA regulation, MNR provides the following confirmations following review of the natural heritage assessment:

1. The MNR confirms that the determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established or accepted by MNR.
2. The MNR confirms that the site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNR, if no natural features were identified.
3. The MNR confirms that the evaluation of the significance or provincial significance of the natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNR.
4. The MNR confirms that the project location is not in a provincial park or conservation reserve.
5. The MNR confirms that the environmental impact study report has been prepared in accordance with procedures established by the MNR.

In accordance with Section 28(3)(c) and 38(2)(c), MNR also offers the following comments in respect of the project.

Preconstruction Monitoring

In accordance with Appendix D of MNR's NHA Guide, a commitment has been made to complete pre-construction assessment(s) of habitat use for the following candidate significant wildlife habitats: Species of Conservation Concern – Appalachian Sedge. MNR has reviewed and confirmed the assessment methods and the range of mitigative options. Pending completion of the assessments and determination of significance, the appropriate mitigation is expected to be implemented, as committed to in the environmental impact study.

#### Post-Construction Monitoring

If the Appalachian Sedge candidate Significant Wildlife Habitat (CAAP-001) is deemed significant through pre-construction surveys, a commitment has been made in the Environmental Effects Monitoring Plan, part of the Design and Operations Report, to conduct post-construction monitoring and if determined necessary, implement mitigation measures.

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study, including those sections describing the Environmental Effects Monitoring Plan and Construction Plan Report. Should any changes be made to the proposed project that would alter the NHA, MNR may need to undertake additional review of the NHA.

Where specific commitments have been made by the applicant in the NHA/EIS with respect to project design, construction, rehabilitation, operation, mitigation, or monitoring, MNR expects that these commitments will be considered in MOE's Renewable Energy Approval decision and, if approved, be implemented by the applicant.

In accordance with S.12 (1) of the Renewable Energy Approvals Regulation, this letter must be included as part of your application submitted to the MOE for a Renewable Energy Approval.

Please be aware that your project may be subject to additional legislative approvals as outlined in the Ministry of Natural Resources' *Approvals and Permitting Requirements Document*. These approvals are required prior to the construction of your renewable energy facility.

If you wish to discuss any part of this confirmation or additional comments provided, please contact Amy Cameron at [amy.cameron@ontario.ca](mailto:amy.cameron@ontario.ca) or 705-875-7481.

Sincerely,



Amy Cameron  
Coordinator  
Renewable Energy Operations Team  
Southern Region MNR

cc     Emily Gryck, Renewable Energy Operations Team, Project Manager, MNR  
Erin Cotnam, Renewable Energy Operations Team, Project Manager, MNR  
Mitch Wilson, District Manager, Aylmer District, MNR  
Narren Santos, Environmental Approvals Branch, MOE  
Zeljko Romic, Environmental Approvals Branch, MOE  
Leah Deveaux, Environmental Assessment Specialist, ORTECH Consulting

**Appendix II**

Silvercreek Solar Park Layout Submitted with NHA

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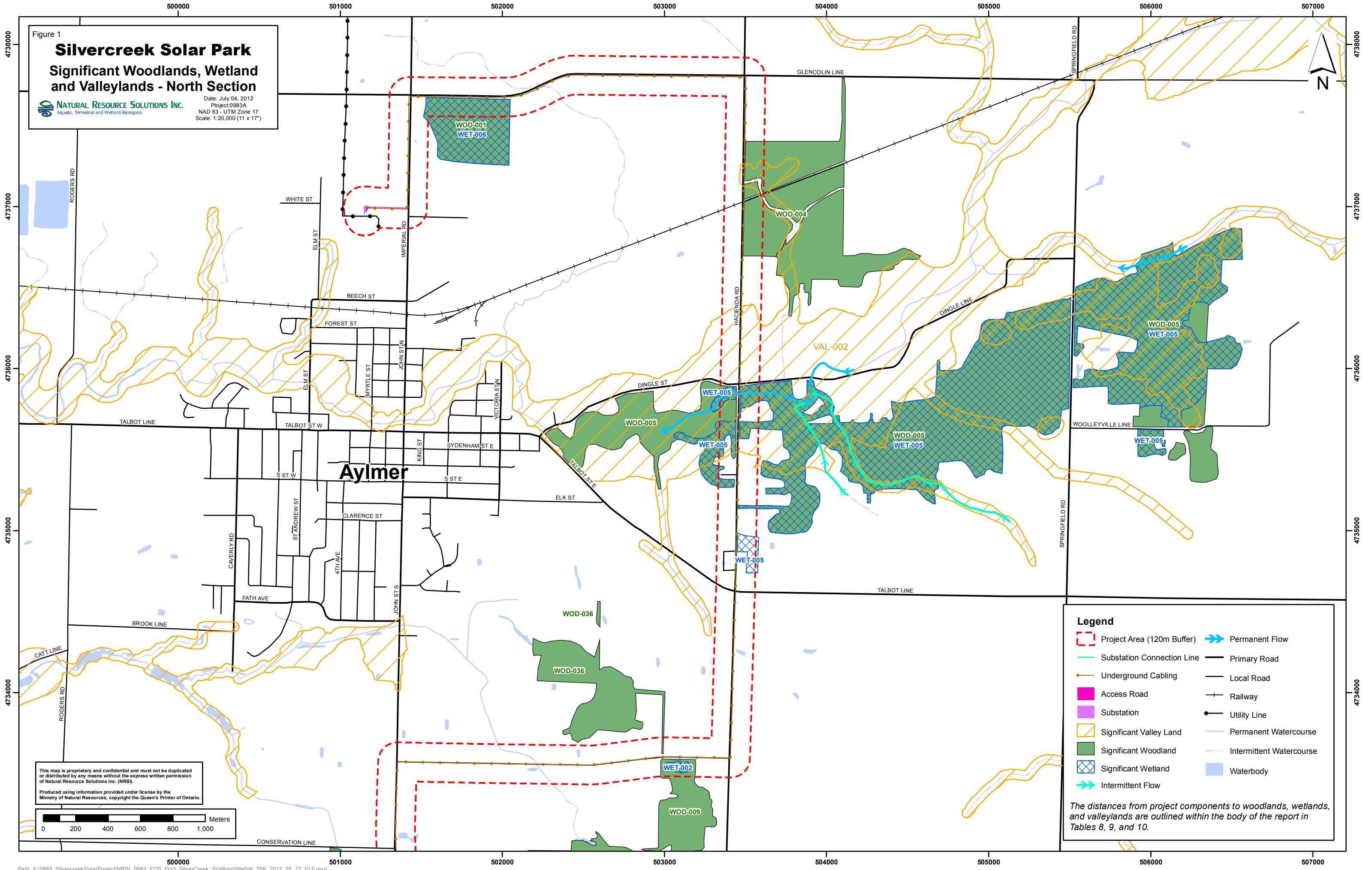


Figure 1

# Silvercreek Solar Park

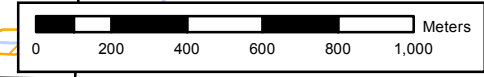
## Significant Woodlands, Wetland and Valleylands - North Section

**NATURAL RESOURCE SOLUTIONS INC.**  
Aquatic, Terrestrial and Wetland Biologists

Date: July 04, 2012  
Project: 0983A  
NAD 83 - UTM Zone 17  
Scale: 1:20,000 (11 x 17")

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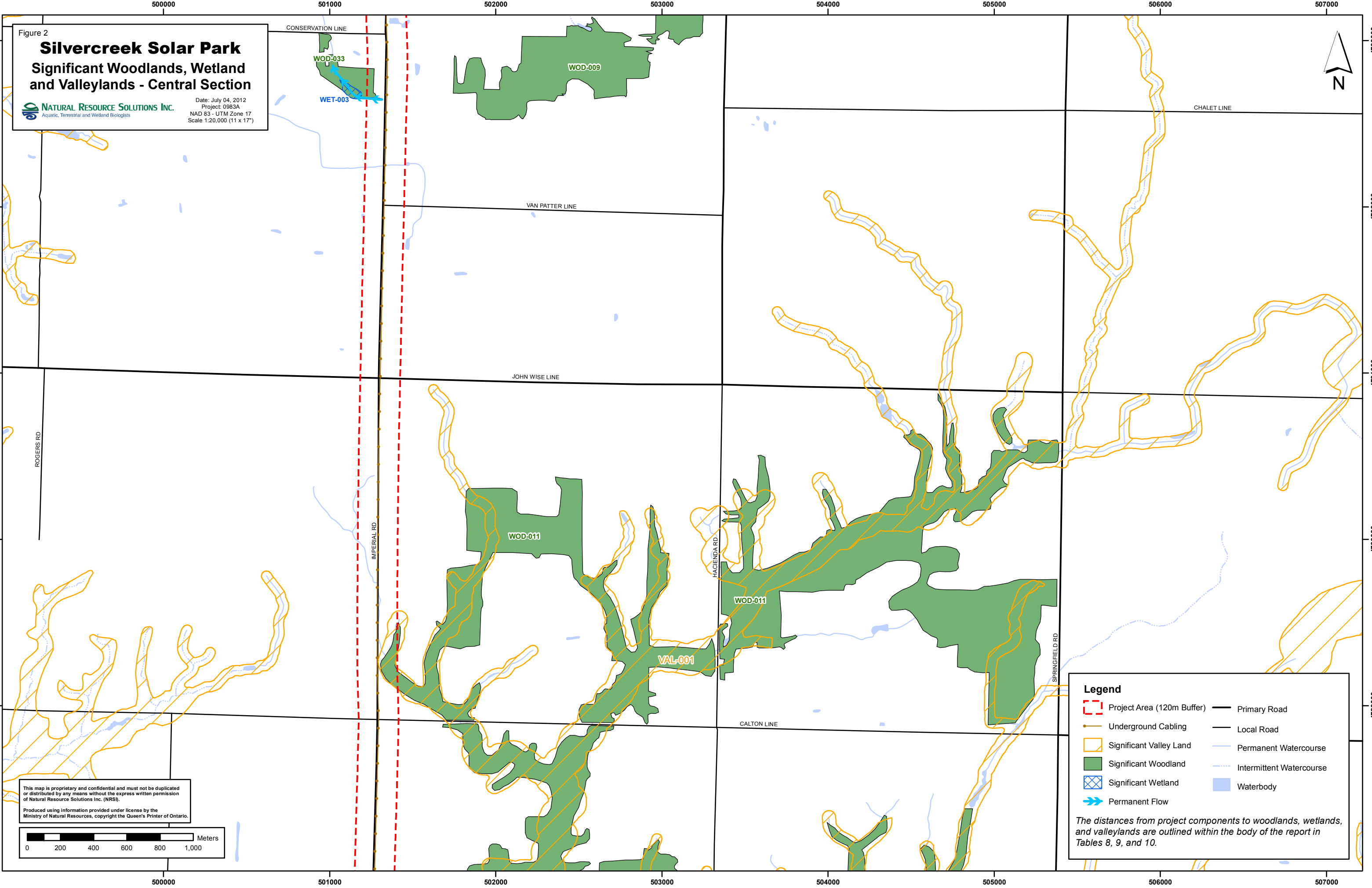
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### Legend

Project Area (120m Buffer)	Permanent Flow
Substation Connection Line	Primary Road
Underground Cabling	Local Road
Access Road	Railway
Substation	Utility Line
Significant Valley Land	Permanent Watercourse
Significant Woodland	Intermittent Watercourse
Significant Wetland	Waterbody
Intermittent Flow	

The distances from project components to woodlands, wetlands, and valleylands are outlined within the body of the report in Tables 8, 9, and 10.





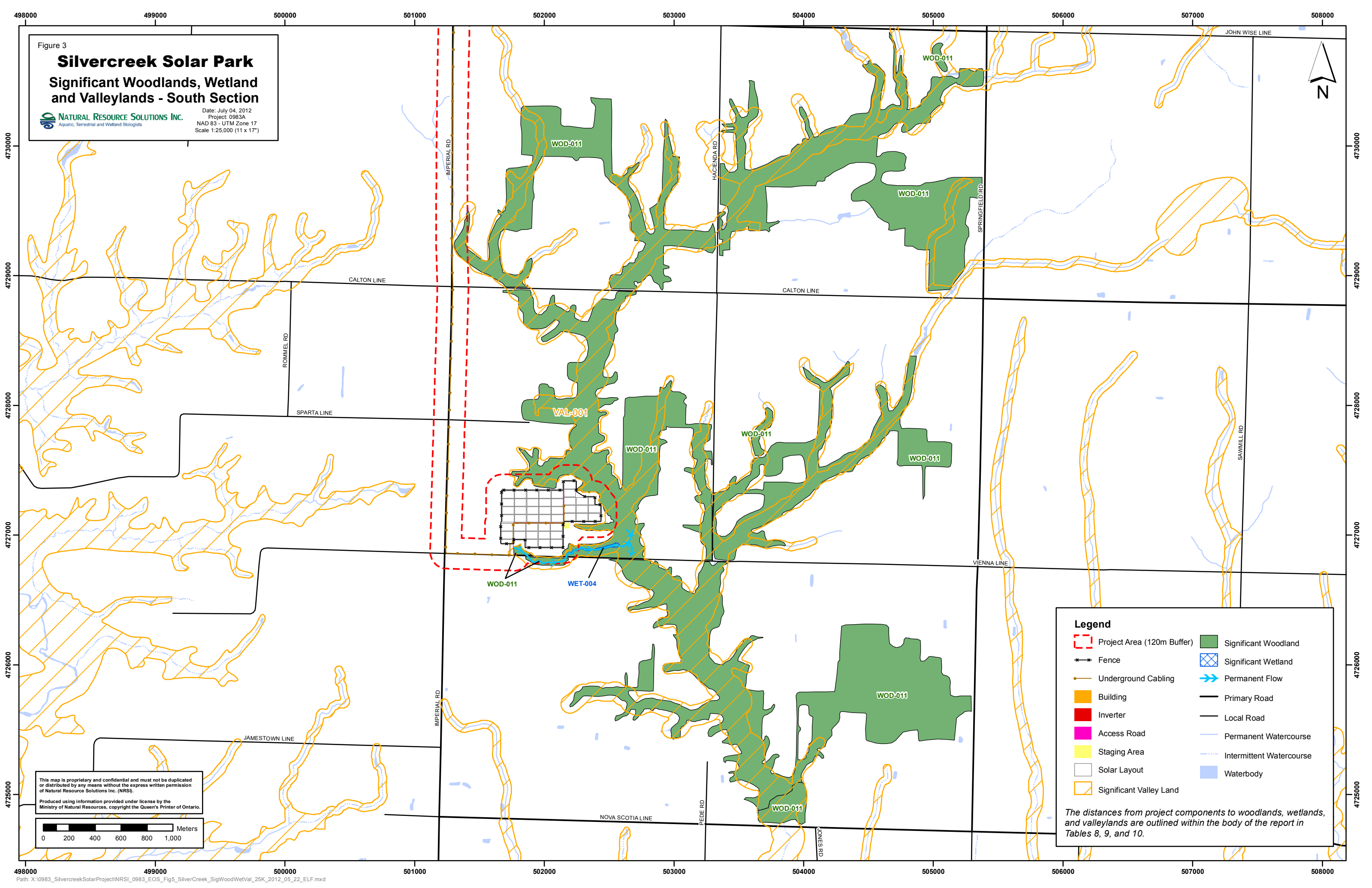


Figure 3

# Silvercreek Solar Park

## Significant Woodlands, Wetland and Valleylands - South Section

Date: July 04, 2012  
Project: 0983A  
NAD 83 - UTM Zone 17  
Scale 1:25,000 (11 x 17")

**NATURAL RESOURCE SOLUTIONS INC.**  
Aquatic, Terrestrial and Wetland Biologists

**Legend**

Project Area (120m Buffer)

Fence

Underground Cabling

Building

Inverter

Access Road

Staging Area

Solar Layout

Significant Valley Land

Significant Woodland

Significant Wetland

Permanent Flow

Primary Road

Local Road

Permanent Watercourse

Intermittent Watercourse

Waterbody

*The distances from project components to woodlands, wetlands, and valleylands are outlined within the body of the report in Tables 8, 9, and 10.*

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Meters

0 200 400 600 800 1,000

Figure 4

# Silvercreek Solar Park












## Candidate Significant Wildlife Habitats - North Section

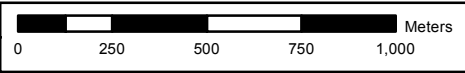
**NATURAL RESOURCE SOLUTIONS INC.**  
Aquatic, Terrestrial and Wetland Biologists

Date: July 04, 2012  
Project: 0983A  
NAD 83 - UTM Zone 17  
Scale 1:20,000 (11 x 17")



**Legend**

-  Project Area (120m Buffer)
-  Substation
-  Access Road
-  Substation Connection Line
-  Underground Cabling
-  Primary Road
-  Local Road
-  Permanent Watercourse
-  Intermittent Watercourse
-  Waterbody
-  Generalized Candidate Significant Wildlife Habitat



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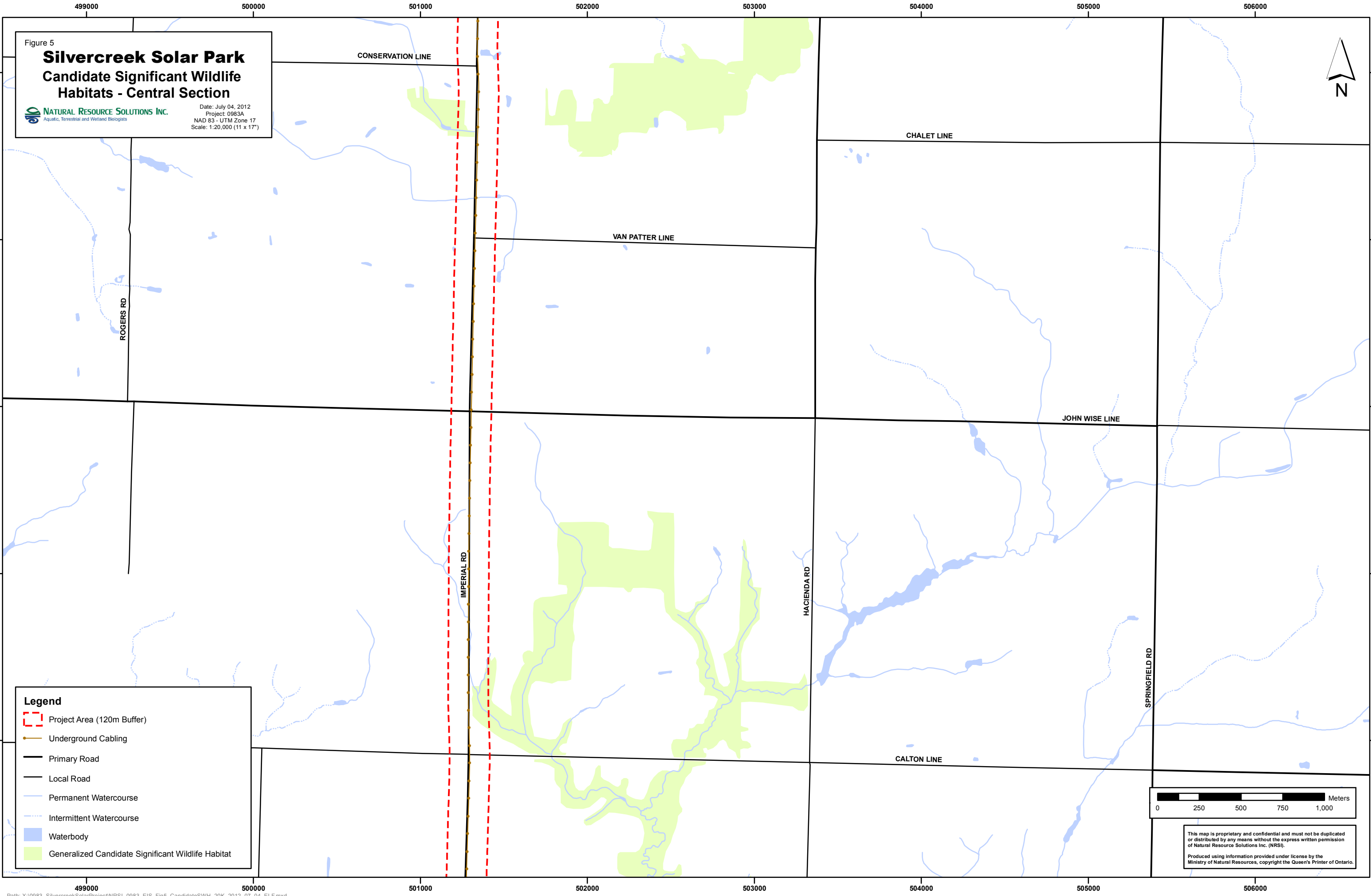


Figure 5









# Silvercreek Solar Park

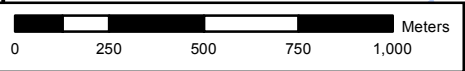
## Candidate Significant Wildlife Habitats - Central Section

**NATURAL RESOURCE SOLUTIONS INC.**  
Aquatic, Terrestrial and Wetland Biologists

Date: July 04, 2012  
Project: 0983A  
NAD 83 - UTM Zone 17  
Scale: 1:20,000 (11 x 17")

### Legend

-  Project Area (120m Buffer)
-  Underground Cabling
-  Primary Road
-  Local Road
-  Permanent Watercourse
-  Intermittent Watercourse
-  Waterbody
-  Generalized Candidate Significant Wildlife Habitat



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