



**NORTHLAND  
POWER**

# Crosby Solar Project

## Water Body Records Review Report

April 5, 2011



Northland Power Inc.  
on behalf of  
Northland Power Solar  
Crosby L.P.  
Toronto, Ontario

Water Body  
Records Review Report

Crosby Solar Project

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Project Report

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**Northland Power Inc.  
Crosby Solar Project**

**Water Body Records Review Report**

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## 1. Introduction

### 1.1 Project Description

Northland Power Solar Crosby L.P. (hereinafter referred to as “Northland”) is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Crosby Solar Project (hereinafter referred to as the “Project”). The Project site will be located on approximately 52 hectares (ha) of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville.

### 1.2 Legislative Requirements

Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, (herein referred to as the REA Regulation) made under the *Environmental Protection Act* identifies the Renewable Energy Approval (REA) requirements for renewable energy projects in Ontario. Per Section 4 of the REA Regulation, ground mounted solar facilities with a name plate capacity greater than 10 kilowatts (kW) are classified as a Class 3 solar facility and therefore, require a REA.

Section 30 of the REA Regulation requires proponents of Class 3 solar projects to undertake a water body records review to identify “whether the project is

1. in a water body
2. within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity
3. within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity
4. within 120 m of the average annual high water mark of a permanent or intermittent stream, or
5. within 120 m of a seepage area.” (O. Reg. 359/09, s. 30, Table).

Subsection 2 of Section 30 of the REA Regulation requires the proponent to prepare a report “setting out a summary of the records searched and the results of the analysis” (O. Reg. 359/09). This Water Body Records Review Report has been prepared to meet these requirements.

## 2. Methodology and Results

The following sections document the records that were reviewed and analyzed and the results from this analysis. The focus of the assessment was identifying whether or not the Project was located within or adjacent to any of the water features listed above in Section 1.2. The sections are organized as identified in Column 1 of the table in Section 30 of the REA Regulation.

Records were searched within a minimum distance of 1 km from the Project site. The results are discussed below in relation to the distances specified between the Project and water features as defined in Section 30 of the REA Regulation (see Section 1.2).

There are no Planning Boards, Municipal Planning Authorities, Local Roads Boards or Local Services Boards with jurisdiction in the project study area. Also, the Project study area is not located within the Niagara Escarpment Commission Plan Area. Therefore, records from these agencies were not reviewed.

## **2.1 Ministry of Natural Resources Records**

### **2.1.1 Methodology**

The following Ministry of Natural Resources (MNR) on-line records were reviewed:

- Ontario Base Maps and natural feature layers from Land Information Ontario (LIO) ([www.geographynetwork.ca](http://www.geographynetwork.ca))
- Natural Heritage Information Centre (NHIC) biodiversity explorer (<https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/mainSubmit.do>).

### **2.1.2 Results**

The MNR natural features layer from the LIO indicates the presence of one unnamed watercourse (Watercourse B) on and immediately adjacent to the western Project site boundary and another unnamed watercourse (Watercourse A) approximately 140 m south of the Project area (Watercourse A). Watercourse A approaches the Project area on the southeast side and flows south away from the Project boundary. However, the MNR mapping does not show this watercourse as having a direct hydrological connection to any other watercourse. It is shown as approaching to within 300 m of a tributary of Newboro Lake. Newboro Lake is located approximately 1 km south of the Project site.

The other unnamed watercourse (Watercourse B in Figure 3.1) flows in a northeasterly direction adjacent to the western boundary of the Project site before flowing into Upper Rideau Lake, which is located approximately 600 m north of the Project site.

Information received from the MNR (MNR, 2010) confirmed the presence of these two watercourses and indicated that they may provide fish habitat.

The MNR biodiversity explorer interactive map did not show any watercourses within the proposed Project area.

## **2.2 Ontario Ministry of Agriculture, Food and Rural Affairs Records**

### **2.2.1 Methodology**

The following Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) on-line records were reviewed:

- rural drainage mapping ([http://www.lio.ontario.ca/imf-ows/imf.jsp?site=ads\\_en](http://www.lio.ontario.ca/imf-ows/imf.jsp?site=ads_en)).

### **2.2.2 Results**

Rural drainage mapping identified Watercourse B, but Watercourse A was not present in the database. The drainage mapping indicated that drainage was poor on the site. A portion of the Project site and the adjacent field to the west have systematic tile drainage. The landsat layer of this



map indicates that the Project site consists primarily of two agricultural fields separated by a hedgerow.

## 2.3 Federal Government Records

### 2.3.1 Methodology

The following federal government websites were reviewed to determine if any records regarding water features on or adjacent to the property were available:

- Fisheries and Oceans Canada (DFO) website (<http://www.dfo-mpo.gc.ca/index-eng.htm>)
- DFO Species at Risk Distribution Map (<http://www.conservation-ontario.on.ca/projects/DFO.html>)
- Natural Resource Canada (NRCan) ([http://ess.nrcan.gc.ca/mapcar/index\\_e.php](http://ess.nrcan.gc.ca/mapcar/index_e.php)).

### 2.3.2 Results

The review of the DFO website resulted in references to invasive aquatic plant species in Newboro Lake. Otherwise, there was no site-specific information regarding waterbodies on the Project site.

A review of the Species at Risk Distribution Map does not indicate any Species at Risk or of Special Concern in the watercourses adjacent to the Project site. However, a tributary of Newboro Lake, located approximately 1 km south of the Project site was noted as having aquatic Species at Risk present. Watercourse A appears to drain toward this tributary, although available mapping does not show any direct hydrological linkage between the two.

The NRCan mapping review resulted in a general environment map that did show Watercourse B, Upper Rideau Lake and Newboro Lake but no other water features were identified on or within 120 m of the Project site.

## 2.4 Conservation Authority Records

### 2.4.1 Methodology

The proposed Project is situated primarily within the jurisdiction of the Rideau Valley Conservation Authority (RVCA), although a very small portion (< 5%) is situated within the Cataraqui Region Conservation Authority (CRCA) area. The majority of the Project site ultimately drains north toward Upper Rideau Lake, which is in the RVCA jurisdiction, while the small portion of the Project site within the CRCA jurisdiction drains south toward Newboro Lake.

A Property Inquiry letter was requested from the RVCA to identify natural features on and within 120 m of the Project site. The RVCA's "Rideau Lakes Watershed Plan" (RVCA, 2009a) was examined for information pertaining to the water body features of the Project site. Other information reviewed on the RVCA website included the Watershed Information System and Regulated Areas mapping overview.

The CRCA website was also reviewed for information pertaining to the Project site. Relevant information sources included mapping and the Source Water Protection Program documentation.

## 2.4.2 Results

Mapping from the RVCA Property Inquiry (2010) identified both Watercourses A and B and permanent streams on and within 120 m of the Project site. Mapping in the RVCA Rideau Lakes Watershed Plan (RVCA, 2009a) identifies Watercourse B, which drains Newboro Lake into Upper Rideau Lake. The Regulated Areas mapping did not indicate the presence of any Regulated river or stream valleys with identified Flood or Erosion Hazards in proximity to the Project site. As discussed in Section 2.1.2, the RVCA database does not show Watercourse A draining into the unnamed tributary of Newboro Lake. No RVCA stream assessment data was available for either of the watercourses within 120 m of the Project site.

The RVCA Property Inquiry (2010) indicated that the Bog Marsh Provincially Significant Wetland (PSW) is located approximately 800 m southwest of the Project site. The RVCA Regulated Area buffer, which encompasses the area within 120 m of the PSW boundary, is located on the property adjacent to the Project site, but it does not encroach within 120 m of the Project site (Figure 3.1).

The portion of the Project area within the CRCA jurisdiction is located in the Newboro Lake watershed, which is part of the overall Great Cataraqui River watershed. The CRCA's Draft Assessment Report: Cataraqui Source Protection Area (Volume 1) (CRCA, 2010) indicates that the Project site is in close proximity to significant groundwater recharge areas.

## 2.5 Municipal Records

### 2.5.1 Methodology, Township of Rideau Lakes

The Project is located within the lower tier municipality of the Township of Rideau Lakes. The Township website (<http://www.twprideaulakes.on.ca/>) was examined to find any records that may identify water features in the Project area. The Official Plan for the Township of Rideau Lakes (2004) was also reviewed.

### 2.5.2 Results, Township of Rideau Lakes

The Official Plan natural features mapping did not identify any significant natural features in proximity to the Project site. The map did identify Watercourse B northwest of the Project site but did not depict Watercourse A. No other information on water body features in proximity to the Project site was available.

### 2.5.3 Methodology, United Counties of Leeds and Grenville

The United Counties of Leeds and Grenville website ([http://www.uclg.ca/en/community/locations\\_regional\\_maps.asp](http://www.uclg.ca/en/community/locations_regional_maps.asp)) was examined for any information pertaining to water body features on or in proximity to the Project site, including a community map that was present on the website.

### 2.5.4 Results, United Counties of Leeds and Grenville

The community map identified Watercourse B, but did not note the presence of Watercourse A or any other water body features not already discussed.



### 3. Summary of Results and Next Steps

#### 3.1 Summary of Results

Table 3.1 summarizes the results of the records review according to the features identified in Section 1.2. A map depicting the identified water features on and in proximity to the site is provided in Figure 3.1.

**Table 3.1 Summary of Records Review Determinations**

Determination to be Made	Yes/No	Description
Is the Project in a water body?	No	The Project is not located in a water body.
Is the Project within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity?	No	No lake is present within 120 m of the Project site.
Is the Project within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity?	No	No lake trout lakes are present within 300 m of the Project site.
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	There is one watercourse located within 120 m of the Project site.
Is the Project within 120 m of a seepage area?	No	No seepage areas are present within the Project area.

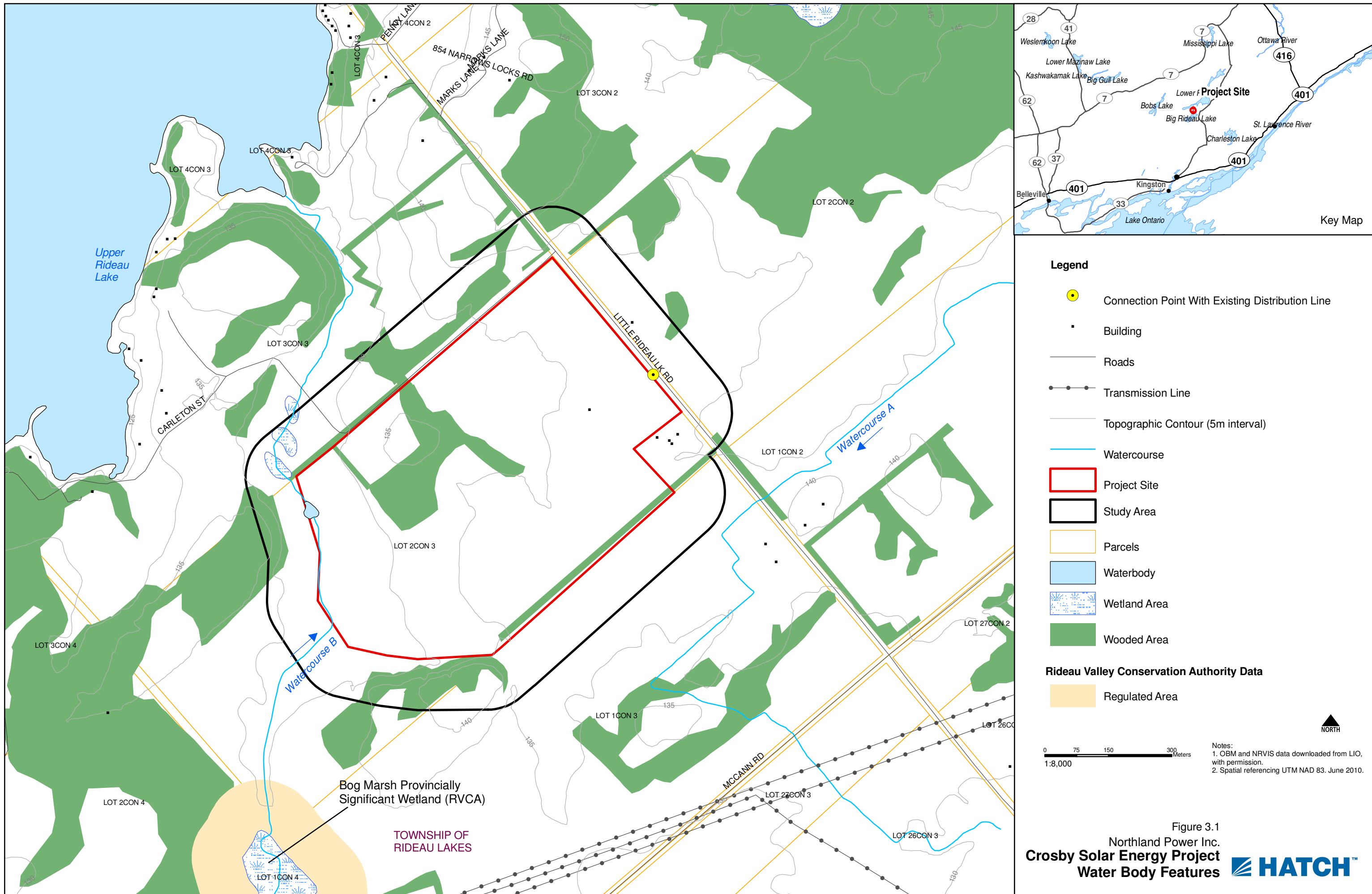
Therefore, depending on the layout of the proposed Project, some components of the Project could potentially be located within 120 m of the average annual high water mark of a permanent stream (Watercourse B).

#### 3.2 Next Steps

A site investigation, as required in Section 31 of the REA Regulation will be completed to (i) confirm the features identified during this records review, (ii) identify if any corrections to the information presented herein are required, (iii) determine whether any additional waterbodies exist in the Project area, (iv) confirm the boundaries of any water feature within 120 m of the Project and (v) determine the distance from the Project to the water boundary.

## 4. References

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- Rural Drainage Mapping. Available on-line at [http://www.lio.ontario.ca/imf-ows/imf.jsp?site=ads\\_en](http://www.lio.ontario.ca/imf-ows/imf.jsp?site=ads_en) Accessed May 10, 2010.
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- RVCA. 2009b. Rideau Valley Conservation Authority: Ecological Land Classification. Available on-line at [http://209.5.125.108/rvcawims/public/Eco\\_land\\_class/viewer.htm](http://209.5.125.108/rvcawims/public/Eco_land_class/viewer.htm) Accessed May 11, 2010.
- Township of Rideau Lakes. 2004. Township of Rideau Lakes: Official Plan 2004. Available on-line at <http://www.twprideaulakes.on.ca/development/official-plan.html> Accessed May 11, 2010.
- United Counties of Leeds and Grenville. 2003. Local and Regional Maps. Available on-line at [http://www.uclg.ca/en/community/locations\\_regional\\_maps.asp](http://www.uclg.ca/en/community/locations_regional_maps.asp). Accessed May 11, 2010.



- Legend**
- Connection Point With Existing Distribution Line
  - Building
  - Roads
  - Transmission Line
  - Topographic Contour (5m interval)
  - Watercourse
  - ▭ Project Site
  - ▭ Study Area
  - ▭ Parcels
  - ▭ Waterbody
  - ▭ Wetland Area
  - ▭ Wooded Area

**Rideau Valley Conservation Authority Data**

- ▭ Regulated Area

0 75 150 300 Meters  
1:8,000

Notes:  
1. OBM and NRVIS data downloaded from LIO, with permission.  
2. Spatial referencing UTM NAD 83. June 2010.



Figure 3.1  
Northland Power Inc.  
**Crosby Solar Energy Project**  
Water Body Features

