



**NORTHLAND
POWER**

Belleville North Solar Project

Draft Water Body Records Review Report

February 11, 2011



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

DRAFT Water Body
Records Review Report

Belleville North Solar Project

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Project Report

February 11, 2011

**Northland Power Inc.
Belleville North Solar Project**

DRAFT Water Body Records Review Report

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1. Introduction

1.1 Project Description

Northland Power Solar Belleville North L.P. (hereinafter referred to as “Northland”) is proposing to develop a 10-megawatt (MW) solar photovoltaic (PV) Project titled Belleville North Solar Project (hereinafter referred to as the “Project”). The Project site will be located on approximately 40 hectares (ha) of land, located at Lot 65 of Concession V Bay Side in the single-tier municipality of the Corporation of the County of Prince Edward.

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,

- i. in a water body
- ii. 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
- iii. within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity
- iv. within 120 m of the average annual high water mark of a permanent or intermittent stream, or
- v. 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 within the jurisdiction of the Project area. Also, the Project site 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.com)
- Natural Heritage Information Centre (NHIC) biodiversity explorer (<https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/mainSubmit.do>).

2.1.2 Results

According to the MNR natural features layers from the LIO Map, a tributary of Melville's Creek (Watercourse A in Figure 3.1) originates south of the Project site and appears to flow in a channelized manner along the southwestern Project boundary. Another tributary (Watercourse B in Figure 3.1) flows into Watercourse A approximately 120 m west of the Project site. Watercourse B drains a large wetland area approximately 1 km northwest of the Project site.

LIO mapping also identifies an unnamed wetland on the southwestern corner of the Project site. Watercourse A flows through this wetland. Crofton Marsh Evaluated Non-Provincially Significant Wetland is located approximately 250 m east of the Project site.

The MNR also had a biodiversity explorer interactive map available on-line. Watercourses A and B (as described above) are shown on the map. Huff Island Coastal Wetland Life Science Area of Natural and Scientific Interest (ANSI) is located approximately 2 km north of the Project area. Sawguin Creek Marsh Provincial Significant Wetland (PSW) is located approximately 2.2 km north of the 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).

2.2.2 Results

Rural drainage mapping shows Watercourses A and B. No other watercourses or drains were present within 120 m of the Project area. The drainage of the Project site is considered fair in the majority of the site with a smaller poor draining portion in the southeast side of the Project site. The aerial photography layer of the map appears to indicate that the majority of the Project site consists of agricultural fields.

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>)
- Natural Resource Canada (NRCan) (http://ess.nrcan.gc.ca/mapcar/index_e.php)
- DFO Species at Risk Distribution Map (<http://www.conservation-ontario.on.ca/projects/DFO.html>).

2.3.2 Results

The review of the DFO website resulted in several references to the significant fish communities of the Bay of Quinte, which is located approximately 2.5 km northeast of the Project site. The Sawguin Creek Marsh PSW and the Huff Island Coastal Wetland Life Science ANSI are both associated with the Bay of Quinte.

The NRCan mapping review resulted in a general environment map showing the same two water courses within the Project area as well as the wetland areas off the Bay of Quinte to the north of the Project site. It did not provide any new information on water features other than those discussed in Section 2.1.2.

A review of the Species at Risk Distribution Map did not reveal any species at risk in the Project area.

2.4 Conservation Authority Records

2.4.1 Methodology

The Project is situated within the jurisdiction of the Quinte Conservation Authority (QCA). QCA had available an on-line map entitled "Prince Edward Region Watershed". As well, QCA has commissioned a groundwater survey, with maps showing groundwater discharge and recharge areas and wetlands. QCA was also contacted to provide any additional information.

2.4.2 Results

The QCA watershed map clearly shows Watercourses A and B within and adjacent to the Project area, respectively. The groundwater survey indicates that the Project area is within a potential groundwater discharge area (Quinte Conservation Authority, 2009). An email dated June 28, 2010, indicated that the Project site lies within the regulated area for Consecon Creek.

2.5 Municipal Records

2.5.1 Methodology

The Project is located within the single-tier municipality of the Corporation of the County of Prince Edward. The Township website (<http://www.pecounty.on.ca/index.php>) was examined to find any records that may identify water features in the Project area. The official plan for the County of Prince Edward County was available on-line (County of Prince Edward, 2008). Schedule A of this plan identified environmentally sensitive areas.

2.5.2 Results

The Project area is identified as rural in the official plan map, which also shows Watercourses A and B. Schedule A of the official site plan displays environmentally sensitive areas, including a groundwater discharge area west of the Project site, although there is no specific information for the Project area.

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.

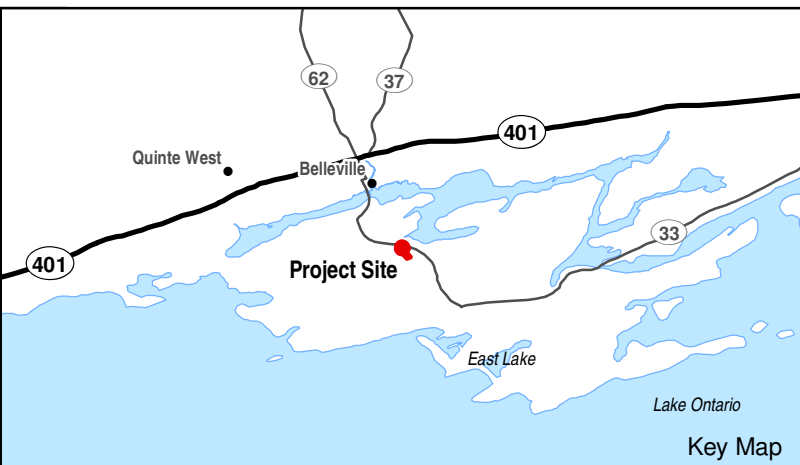
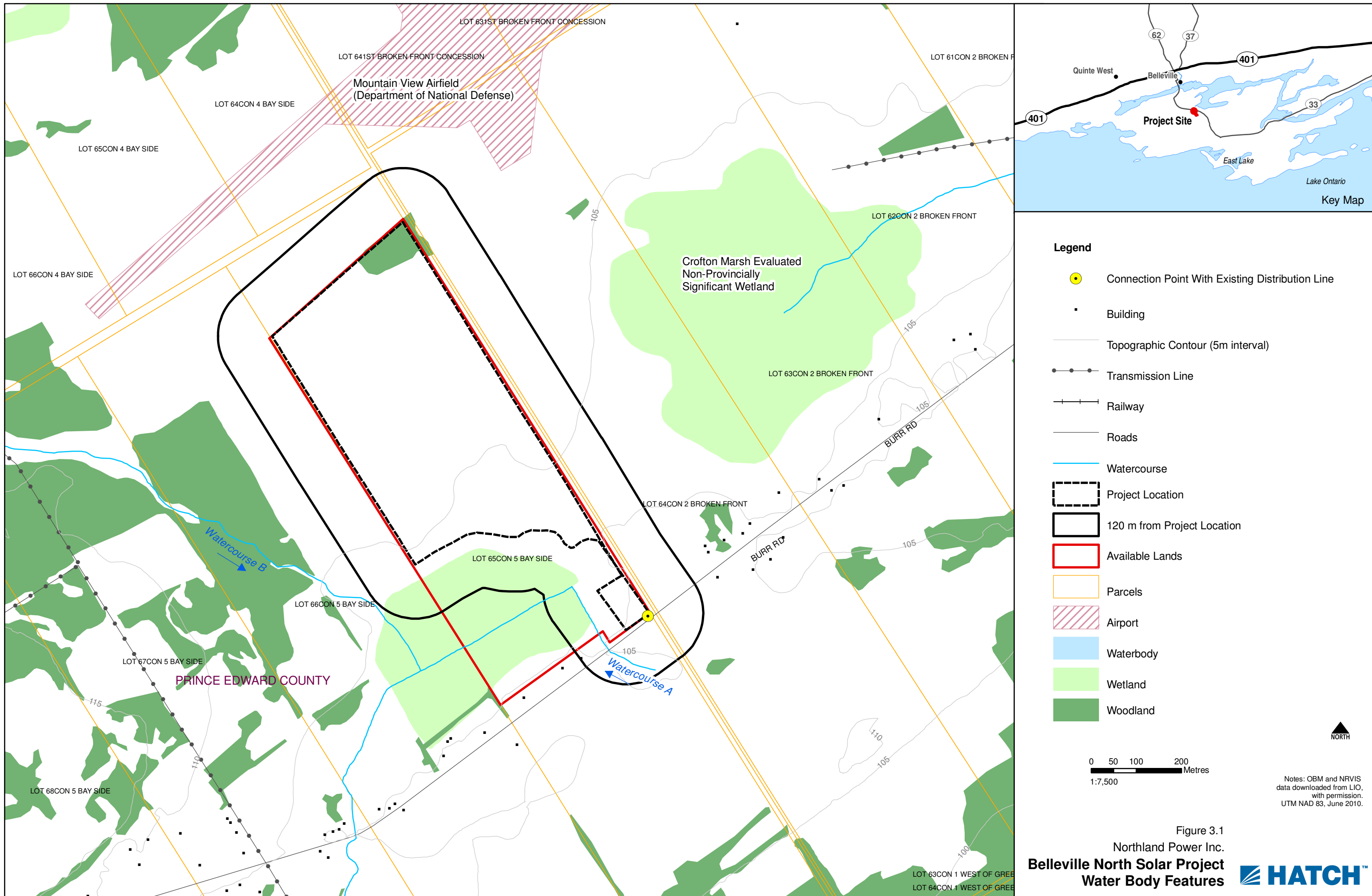
Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in a water body?	No	No part of the Project will be constructed within 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 lakes are present in 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 in the Project site
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	Two small tributaries of Melville's Creek are present within 120 m of the Project site.
Is the Project within 120 m of a seepage area?	Yes	The entire Project site is identified as a potential groundwater discharge area, although actual seepage areas on the site have not been identified.

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 two tributaries of Melville's Creek. In addition, there is potential that seepage areas may be found on the Project site, given that the entire area has been identified as a potential groundwater discharge zone.

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 water bodies 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.



- Legend**
- Connection Point With Existing Distribution Line
 - Building
 - Topographic Contour (5m interval)
 - Transmission Line
 - +— Railway
 - Roads
 - Watercourse
 - ⬜ Project Location
 - ⬜ 120 m from Project Location
 - ⬜ Available Lands
 - ⬜ Parcels
 - ▨ Airport
 - ⬜ Waterbody
 - ⬜ Wetland
 - ⬜ Woodland

0 50 100 200 Metres
1:7,500

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

Figure 3.1
Northland Power Inc.
Belleville North Solar Project
Water Body Features

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4. References

County of Prince Edward. 2008. Official Plan. Accessed May 14, 2010. On-line at http://www.pecounty.on.ca/government/planning_services/planning.php.

Quinte Conservation Authority. 2009. Groundwater Study. Accessed May 14, 2010. On-line at http://quinteconservation.ca/web/index.php?option=com_content&task=view&id=100&Itemid=85