



**NORTHLAND
POWER**

Burk's Falls East Solar Project Water Body Records Review Report

August 15, 2011



Northland Power Inc.
on behalf of
Northland Power Solar
Burk's Falls East L.P.
Toronto, Ontario

Water Body
Records Review Report

Burk's Falls East Solar Project

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Project Report

August 15, 2011

**Northland Power Inc.
Burk's Falls East Solar Project**

Water Body Records Review Report

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1. Introduction

1.1 Project Description

Northland Power Solar Burk's Falls East L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls East Solar Project (hereinafter referred to as the "Project"). The Project location will be located on approximately 80 hectares (ha) of land, located on Chetwynd Road in the single tier Municipality of Armour Township.

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 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 30(2) 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 of this report are organized as identified in Column 1 of the table in Section 30 of the REA Regulation.

Records covering areas within a minimum distance of 1 km from the Project location were searched. 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 Conservation Authorities, Local Roads Boards or Local Services Boards with jurisdiction over 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)
- Natural Heritage Information Centre (NHIC) biodiversity explorer (<https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/mainSubmit.do>).

2.1.2 Results

The natural features layer from the LIO indicates the presence of five unnamed watercourses on and within 120 m of the Project location. All of these watercourses ultimately flow into the Magnetawan River, approximately 1 km west of the Project location.

One of the unnamed watercourses (Tributary A in Figure 3.1) runs within 120 m south of the Project location, entering from the east and exiting in the southwest. LIO mapping indicates that this tributary is bordered by an approximately 75 m wide wetland.

Tributary B originates in the agricultural field on the property north of the Project location and flows through the northwest corner of property on which the Project is located, within 120 m of the Project location. Tributary C is shown on LIO mapping as running for approximately 150 through the property on which the Project is located, within 30 m of the Project location, draining into Tributary A (Figure 3.1). Tributary D originates within a woodlot on the property on which the Project is located and flows for approximately 120 m before draining into Tributary A. Tributary F runs into Tributary A within 120 m southeast of the Project location.

Kernick Lake (also called Pike Lake on other mapping) is located approximately 1 km northeast of the Project location and Three Mile Lake is located approximately 1.3 km east of the Project location.

The MNR biodiversity explorer interactive map did not have any additional information on 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).

2.2.2 Results

Rural drainage mapping (OMAFRA, 2010) identified Tributaries A, B and F as discussed in Section 2.1.2. The mapping also identified Tributary C, but showed it as extending farther upstream into the woodlot on and adjacent to the Project location. As discussed previously, the mapping showed Tributary D draining into Tributary A south of the Project location. The mapping also showed an additional tributary on the Project location (Tributary E) not present on the LIO mapping (see Figure 3.1). This tributary is evident as a feature on the aerial photography on the drainage mapping but it appears to flow through the agricultural fields and it is unclear from these records if it would be defined as a watercourse. This will have to be confirmed during the site investigation.

No tile drains are located on or within 120 m of the Project location. No Fisheries and Oceans Canada (DFO) drain classification information was available for any of the watercourses on or within 120 m of the Project location.

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).

2.3.2 Results

The review of the DFO website and Species at Risk distribution mapping resulted in several references to Lake Sturgeon (*Acipenser fulvescens*) potentially being found in the Magnetawan River, although their proximity to the Project location is unknown (DFO, 2008). No specific information was found for the Project location.

The NRCan mapping review resulted in a general environment map showing only one of the five watercourses previously discussed (Tributary A).

2.4 Southeast Parry Sound District Planning Board

The Southeast Parry Sound District Planning Board was contacted to obtain any records they had regarding waterbodies on or within 120 m of the Project location.

2.4.1 Results

Representatives from the Planning Board indicated that they did not have any information regarding waterbodies on or within 120 m of the Project location and they recommended that the Township and MNR be contacted.

2.5 Township of Armour

2.5.1 Methodology

The Project is located within the single tier municipality of the Township of Armour. The Township website (<http://www.armourtownship.ca/>) was examined to find any records that may identify water features in the Project area.

2.5.2 Results

Schedule A (Land Use Plan) in the Armour Township Official Plan (2009) identifies all of the watercourses on and adjacent to the site that have been previously discussed in this Report. Schedule A identifies Pike Lake and Three Mile Lake as a warm water lake (Armour Township, 2009). The Land Use Plan map does not identify any wetlands on or within 120 m of the Project location.

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.

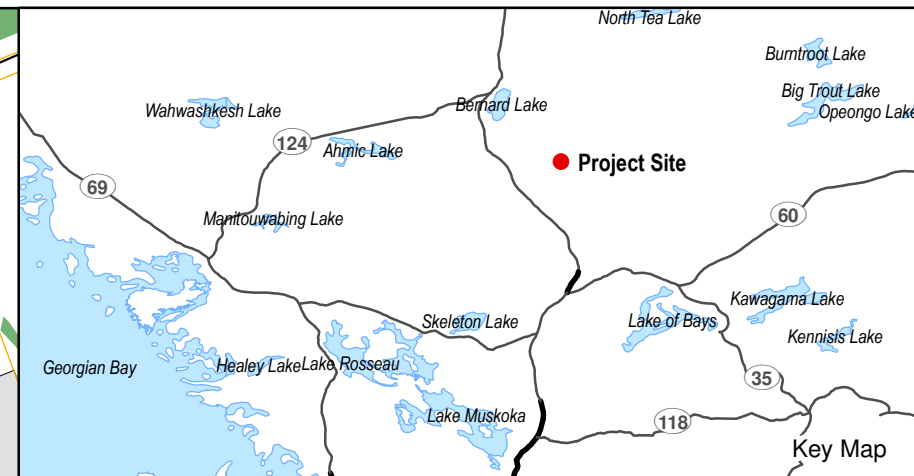
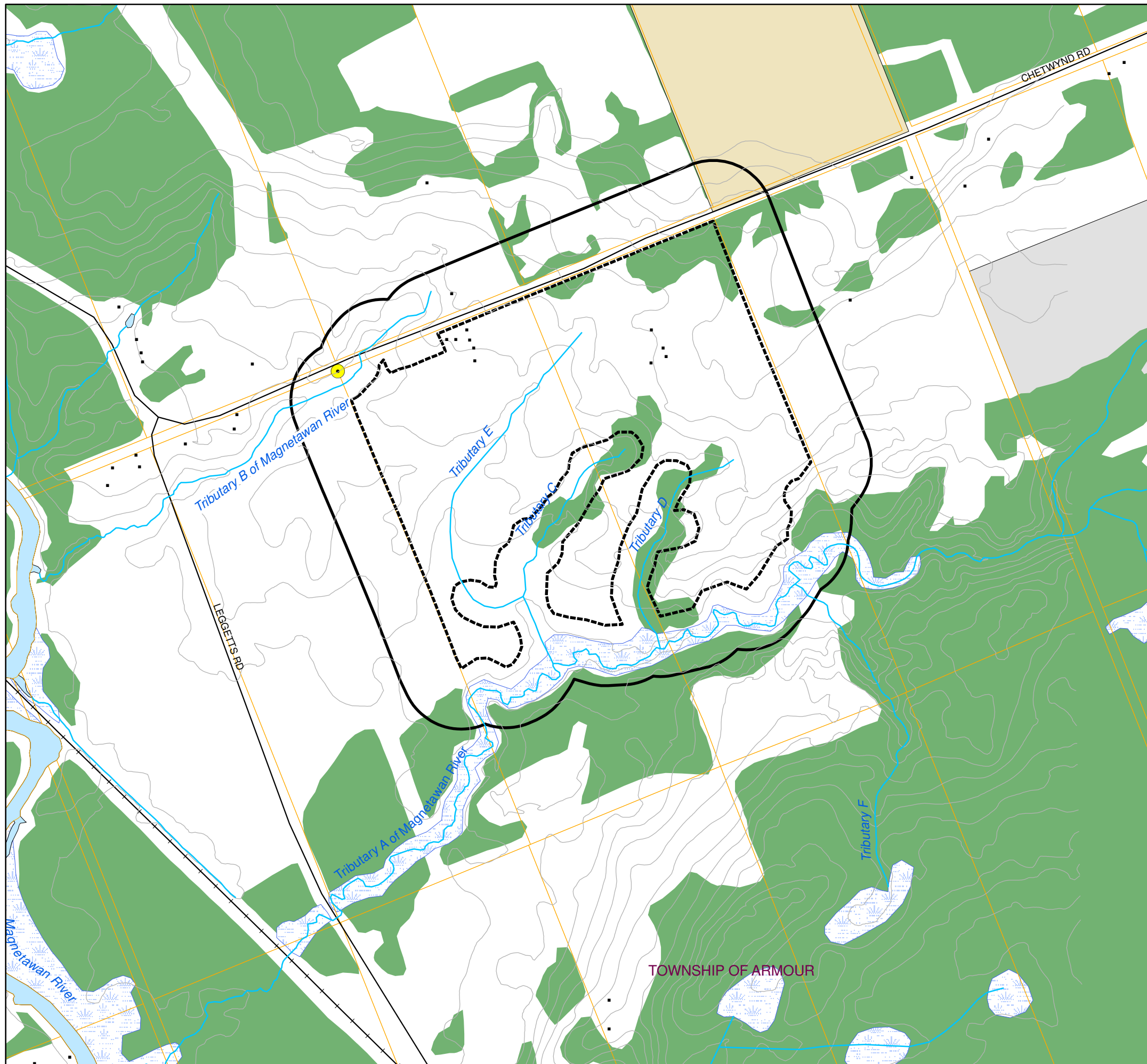
Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in a water body?	No	The Project will not be 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 lakes are present within 120 m of the Project location.
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 location.
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	There are six watercourses located on and within 120 m of the Project location
Is the Project within 120 m of a seepage area?	No	No seepage areas are known to be present on or within 120 m of the Project location.

Therefore, some components of the proposed Project will be located within 120 m of the average annual high water mark of six watercourses.

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



- Legend**
- Connection Point With Existing Distribution Line
 - Building
 - Roads
 - Rail
 - Watercourse
 - Topographic Contour (5m interval)
 - Project Location
 - 120 m from Project Location
 - Parcels
 - Authorized Aggregate Site
 - Crown Leased Land
 - Waterbody
 - Unevaluated Wetland
 - Wooded Area



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

Figure 3.1
 Northland Power Inc.
Burk's Falls East Solar Energy Project
 Water Body Features

Back of Fig 3.1

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

Armour Township. 2009. Armour Township Official Plan. Available on-line at <http://www.armourtownship.ca/documents.htm>. Accessed May 6, 2010.

Fisheries and Oceans Canada (DFO). 2008. Recovery Potential Assessment of Great Lakes and St. Lawrence River Watersheds (Designatable Unit 8) Lake Sturgeon (*Ascipenser fulvescens*) Populations. Canadian Science Advisory Secretariat, Science Advisory Report 2008/042.

Ministry of Agricultural, Food and Rural Affairs (OMAFRA). 2010. Rural Drainage Mapping. Available on-line at http://www.lio.ontario.ca/imf-ows/imf.jsp?site=ads_en. Accessed May 10, 2010.

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