

# RE SMITHS FALLS 1 SOLAR PROJECT

Water Body Records Review Report

July 8, 2011

RECURRENT  
ENERGY





RE Smiths Falls 1 ULC

Water Body  
Records Review Report

RE Smiths Falls 1 Solar Project

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Project Report

July 8, 2011

**RE Smiths Falls 1 ULC**  
**RE Smiths Falls 1 Solar Project**

**Water Body Records Review Report**

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## 1. Introduction

### 1.1 Project Description

RE Smiths Falls 1 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 48-hectare (ha) parcel of land located about 3 km south of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville; herein referred to as “RE Smiths Falls 1” or the “Project”.

### 1.2 Legislative Requirements

Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, made under the *Environmental Protection Act* (herein referred to as the REA Regulation) identifies the Renewable Energy Approval (REA) requirements for green energy projects in Ontario. As 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 an 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 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. It has also been prepared in accordance with the Ministry of Environment’s DRAFT Technical Bulletin – Guidance for Preparing the Water Assessment and Water Body Reports (dated January 238, 2011).

## 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 on 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 by the governing bodies identified in Column 1 of the Table in Section 30 of the REA Regulation.

The results of the Records Review 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, 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.com](http://www.geographynetwork.com))
- Natural Heritage Information Centre (NHIC) on-line mapping (<http://nhic.mnr.gov.on.ca/MNR/nhic/queries/nhic.mwf>).

The Kemptville District MNR office was also asked to provide any information they had available regarding water features on or adjacent to the Project site. This information was received on July 7, 2010.

### 2.1.2 Results

Mapping data obtained from LIO indicates that there are three small unnamed watercourses (noted as Tributaries A, B and C in Figure 3.1) within the Project site, all of which flow in a southerly direction before discharging into Otter Creek. The low-lying shoreline around Otter Creek is designated as a Provincially Significant Wetland (PSW). Two small portions of the PSW are on the Project site. Otter Creek is a tributary of the Rideau River, located approximately 1 km northwest of the Project site.

Information received from the MNR indicates that the two watercourses (Tributaries B and C) connected to Otter Creek serve as fish spawning habitat for Largemouth Bass (*Micropterus salmoides*), Yellow Perch (*Perca flavescens*), and Northern Pike (*Esox lucius*). Tributary A may also contain fish spawning habitat but the MNR has no records pertaining to this watercourse (MNR, 2010).

No additional water features were identified on the mapping available on the NHIC website.

## 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 the three watercourses and Otter Creek noted in Section 2.1.2. No other watercourses or drains were present within 120 m of the Project site. No tile drainage is located within 120 m of the Project site.

## 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 ([www. http://www.dfo-mpo.gc.ca/regions/central/habitat/os-ee/index-eng.htm](http://www.dfo-mpo.gc.ca/regions/central/habitat/os-ee/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 a reference to the vibrant smallmouth bass fishery in the Rideau Lakes area, although no site specific information was available, with respect to the water features on and in proximity to the Project site. A review of the Species at Risk Distribution Map does not show any species at risk in any of the tributaries of Otter Creek, or within Otter Creek itself. However, only Tributary A is shown on the Distribution Map.

The NRCan mapping review resulted in a general environment map showing the Rideau River, Otter Creek PSW and tributaries in the general Project area, but there was no additional information on those tributaries on and in proximity to the Project site.

## 2.4 Conservation Authority Records

### 2.4.1 Methodology

The proposed project is situated within the jurisdiction of the Rideau Valley Conservation Authority (RVCA). RVCA maintains an on-line mapping database showing its regulated area under O. Reg. 174/06 (Regulation for Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses). The Regulated Areas map for the project area was downloaded and reviewed. The RVCA was also asked to provide any information they had available regarding the water features on or adjacent to the Project site, including Flood Hazard Areas and Regulation Limits.

RVCA also provided additional information regarding the fish community in the Otter Creek subwatershed (based on survey work conducted by the RVCA), as part of their review of this document during the 60-day review period. This Report was updated following completion of the review period to include the additional information from RVCA.

### 2.4.2 Results

The watershed regulation map provided by the RVCA (2010) identifies the same watercourses shown by the LIO mapping noted in Section 2.1.2. RVCA also indicates a large flood hazard zone (corresponding to the 1:100-yr flood hazard) adjacent to Otter Creek, which covers approximately 30% of the Project site. The flood hazard appears to be due to the high water level of Otter Creek, which would inundate much of the southern section of the low lying Project site under the 1:100-yr flood conditions.

The two tributaries at the southern end of the property (Tributaries B and C – Figure 3.1) are located within the flood hazard zone of Otter Creek. The third tributary (Tributary A in Figure 3.1), which runs through the Project site, is not within the RVCA's Regulated Area, until after it leaves the Project site boundary.

RVCA (2010) also noted that the Otter Creek shorelines on the Project site are considered to be Largemouth Bass and Northern Pike spawning areas.

RVCA (2011) provided additional information on the fish community of the Otter Creek subwatershed. This information is provided in Table 2.1.

**Table 2.1 Fish Community in the Otter Creek Subwatershed (RVCA, 2011)**

MNR Code	Common Name	Scientific Name	Recreational Fishery	Commercial Fishery	Bait Fishery	Reproductive Guild	Thermal Class	Trophic Guild
163	White Sucker	Catostomus commersoni				(non guarder) Lithophils	Cool	Insectivore / omnivore
182	Northern Redbelly Dace	Phoxinus eos			X	(non guarder) phytophils	Cool / warm	Herbivore
141	Central Mudminnow	Umbra limi			X	(non guarder) phytophils	Cool / warm	Insectivore / omnivore
281	Brook Stickleback	Culaea inconstans			X	(guarders) Ariadnophils	Cool	Insectivore
198	Common Shiner	Luxilus cornutus			X	(guarders) Lithophils	Cool	Insectivore
261	Banded Killifish	Fundulus diaphanous			X	(non guarder) phytophils	Cool	Insectivore
314	Bluegill	Lepomis macrochirus	X			(nest spawners) Lithophils	Cool / warm	Insectivore
313	Pumpkinseed	Lepomis gibbosus	X			(nest spawners) Polyphils	Cool / warm	Insectivore
311	Rock Bass	Ambloplites rupestris	X			(nest spawners) Lithophils	Warm	Insectivore
317	Largemouth Bass	Micropterus salmoides	X	Past		(nest spawners) Polyphils	Warm	Insectivore / Piscivore
331	Yellow Perch	Perca flavescens	X	X		(non guarder) Phyto- lithophils	Cool	Insectivore / Piscivore
342	Logperch	Percina caprodes			X	(non guarder) Psammophils	Cool	Insectivore
131	Northern Pike	Esox lucius	X			(non guarder) phytophils	Cool	Piscivore
194	Golden Shiner	Notemigonus crysoleucas			X	(non guarder) phytophils	Cool / warm	omnivore
233	Brown Bullhead	Ameiurus nebulosus	X	limited	X	(guarder) Speleophils	warm	Insectivore

## 2.5 Municipal Records

### 2.5.1 Methodology

#### **County of Leeds and Grenville**

The Project is located within the upper tier municipality of United County of Leeds and Grenville.

The County maintains an on-line mapping database

([http://www.uclg.ca/en/community/locations\\_regional\\_maps.asp](http://www.uclg.ca/en/community/locations_regional_maps.asp)) showing the general features of the area.

#### **Township of Rideau Lakes**

The Project is located within the lower tier municipality of the Township of Rideau Lakes. Their website (<http://www.twprideaulakes.on.ca/>) was reviewed for any information related to water features on or in proximity to the Project site. The Official Plan for the Township (Novatech Engineering Consultants Ltd., 2004) was also examined.

## 2.5.2 Results

### *County of Leeds and Grenville*

The County of Leeds and Grenville website was reviewed for relevant information. A map showing the general water features of the County was examined as part of the Records Review. None of the three tributaries pertaining to the Project site are present on the map, although Otter Creek and the Rideau River were noted. No other water features that have not already been discussed were observed on the mapping.

### *Township of Rideau Lakes*

The Township of Rideau Lakes website provides a general overview map showing the water features associated with Otter Creek, although it does not show any of the three tributaries relating to the Project site or any other water features not already discussed.

The Official Plan (Novatech Engineering Consultants Ltd., 2004), Schedule A5 (South Elmsley Ward) showed Otter Creek, but none of the tributaries on the Project site. Parts of Otter Creek are identified as Natural Heritage Land Use features. The Project site is identified as Agricultural.

## 3. Summary of Results and Next Steps

### 3.1 Summary of Results

Table 3.1 summarizes the results of the Record 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 located 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	Two small streams (Tributaries B and C) originate on the Project site and one larger stream (Tributary A) transects the Project site. These three watercourses are tributaries of Otter Creek, which is a tributary of the Rideau River.
Is the Project within 120 m of a seepage area?	No	No groundwater seepage areas were identified during the records review.

Therefore, depending on the layout of the proposed solar facility, some components of the Project could potentially be located within 120 m of the average annual high water mark of three permanent or intermittent streams (all of which are on the Project site), as well as Otter Creek.

### 3.2 Next Steps

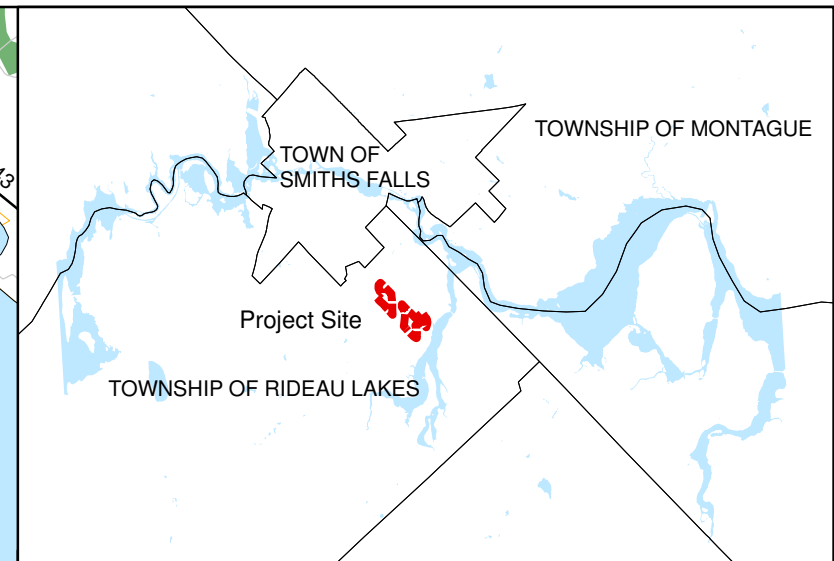
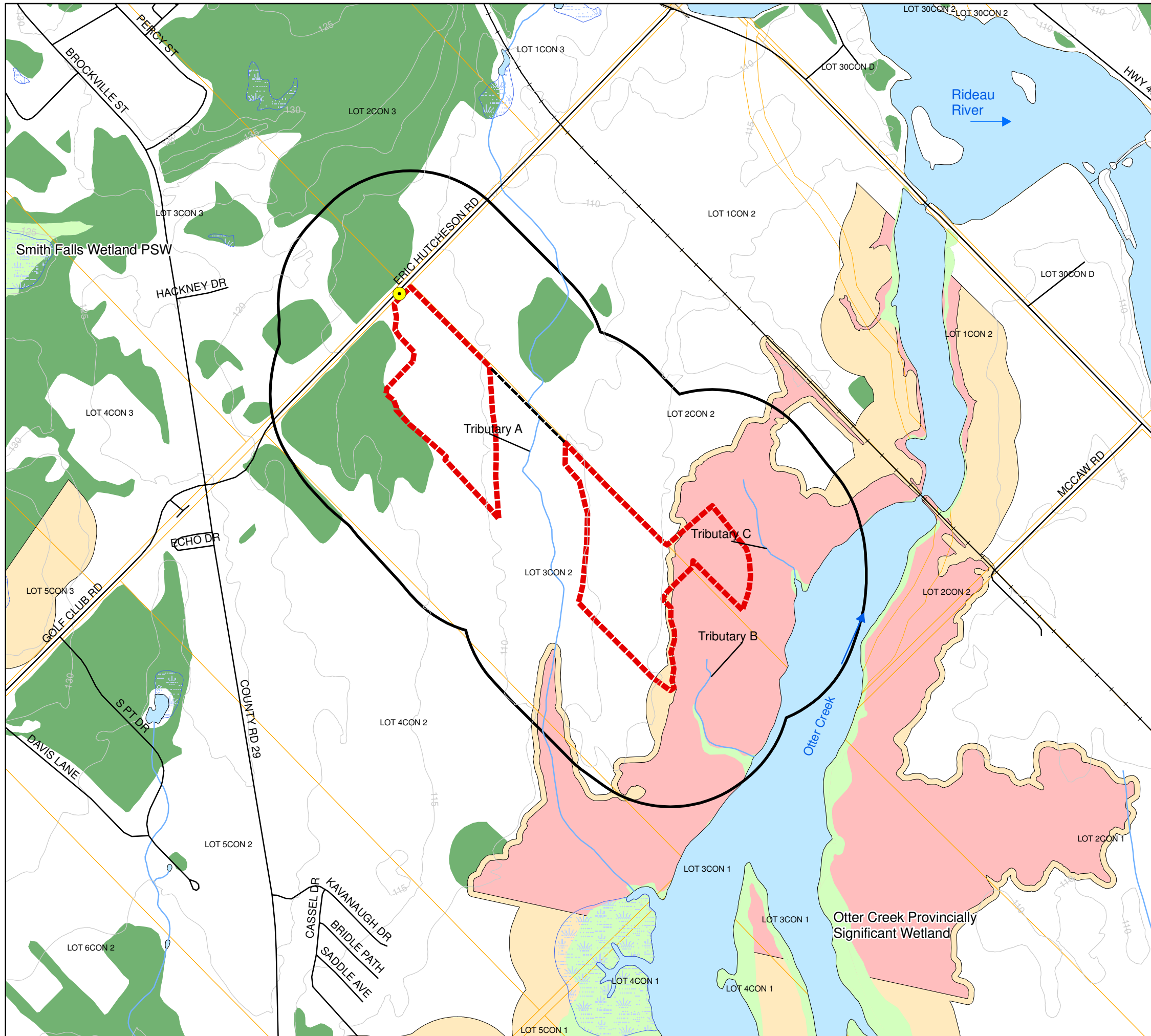
A site investigation, as required in Section 31 of the REA Regulation will be completed to (i) confirm the features identified during this records review, (ii) identify if any corrections to the information presented herein are required, (iii) determine whether any additional waterbodies exist in the 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

Ministry of Natural Resources (MNR). 2010. Letter. L. Melvin (Resource Management Planner, MNR) to S. Male (Terrestrial Ecologist, Hatch Ltd.). July 7, 2010.

Novatech Engineering Consultants Ltd. 2004. Official Plan of the Township of Rideau Lakes. Prepared for the Township of Rideau Lakes, April 2, 2004. On-line at <http://www.twprideaulakes.on.ca/plan/trl-official-plan-2004-web.pdf>. Accessed April 5, 2010.

Rideau Valley Conservation Authority (RVCA). 2010. Letter regarding "Property Inquiry for the renewable energy project located at Lot 3, Concession 2, in the Township of South Elmsley, Township of Rideau Lakes, municipally known as 57 Eric Hutcheson Rd." M. Waters (Resources Specialist, RVCA) to N. Boucher (Aquatic Biologist, Hatch). March 29, 2010.

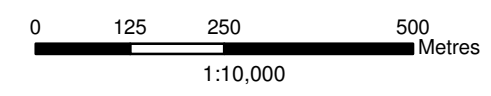


**Legend**

- Connection Point With Existing Distribution Line
- Road
- Rail
- Topography Contour (5m Interval)
- Watercourse
- Project Location Joining Line
- Project Location
- 300m from Project Location
- Parcels
- Water body
- Wetland
- Otter Creek Provincially Significant Wetland (PSW)
- Wooded Area

**Rideau Valley Conservation Authority Data**

- Flood Hazard Area
- Regulation Limit



**Notes:**  
 1. Spatial Referencing: UTM NAD 83  
 2. OBM and NRVIS data downloaded from LIO-MNR with permission.  
 3. RVCA data provided by RVCA, March 2010.

Figure 3.1  
 Recurrent Energy  
**RE Smiths Falls 1**  
 Water Body Features

