Samsung Renewable Energy Inc. and

Pattern Renewable Holdings Canada ULC

8A Water Body Records Review Report

For

Armow Wind Project

Armow Wind Project
Water Body Records Review Report

Prepared for:
Golder Associates Ltd.
2390 Argentia Road
Mississauga, ON L5N 5Z7

Project No. 1275 Date: February 2013

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Armow Wind Project
Water Body Records Review Report

Project Team:

Staff	Role
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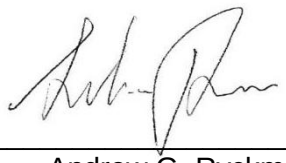
Pamela Tucciarone	Terrestrial and Wetland Biologist
Ashley Favaro	Aquatic Biologist
Brian Watson	Aquatic Biologist
Valerie Stevenson	Aquatic Biologist
Erica Frey	GIS Specialist

Report submitted on February 15, 2013



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1.0 Introduction

The Armow Wind Project (the "Project") is an up to 180 megawatt (MW) commercial wind energy generation facility located substantially on leased privately owned lands in the Municipality of Kincardine, Bruce County, Ontario. The Project is being developed by SP Armow Wind Ontario GP Inc., in its capacity as general partner of SP Armow Wind Ontario LP (the "Proponent"). The Proponent is a joint venture limited partnership owned by affiliates of Pattern Renewable Holdings Canada ULC ("Pattern") and Samsung Renewable Energy Inc. ("Samsung").

Natural Resource Solutions Inc. (NRSI) was retained in 2011 by Golder Associates Ltd., on behalf of the Proponent, to conduct a water body assessment in accordance with the Renewable Energy Approval (REA) Regulation. This assessment includes a records review, site investigation, and impact assessment of any water bodies located near the proposed 180MW capacity wind facility in Bruce County, Ontario. The analysis of the water body features is one issue being considered. Other factors, such as natural heritage, land ownership, social impacts, and cultural impacts are also being assessed under separate covers as outlined by the REA Regulation.

The proposed Armow Wind Project area is located in the Municipality of Kincardine, Bruce County, and more specifically, located southeast of the Town of Tiverton, Ontario (Figure 1). The proposed wind project includes the installation of up to 98 operational wind turbines, as well as supporting infrastructure and development activities, including turbine access roads, overhead and underground electrical collector cabling, meteorological towers, junction boxes, interconnect areas and substations.

As identified in the REA Regulation, the proposed layout of these features is collectively referred to as the 'project location'. This includes turbines and associated infrastructure as described above, as well as any areas that may be used temporarily during construction (i.e. staging areas, crane pads, crane walks etc.) For the purposes of this report, NRSI will refer to the areas within 120m of the project location as the 'project area'.

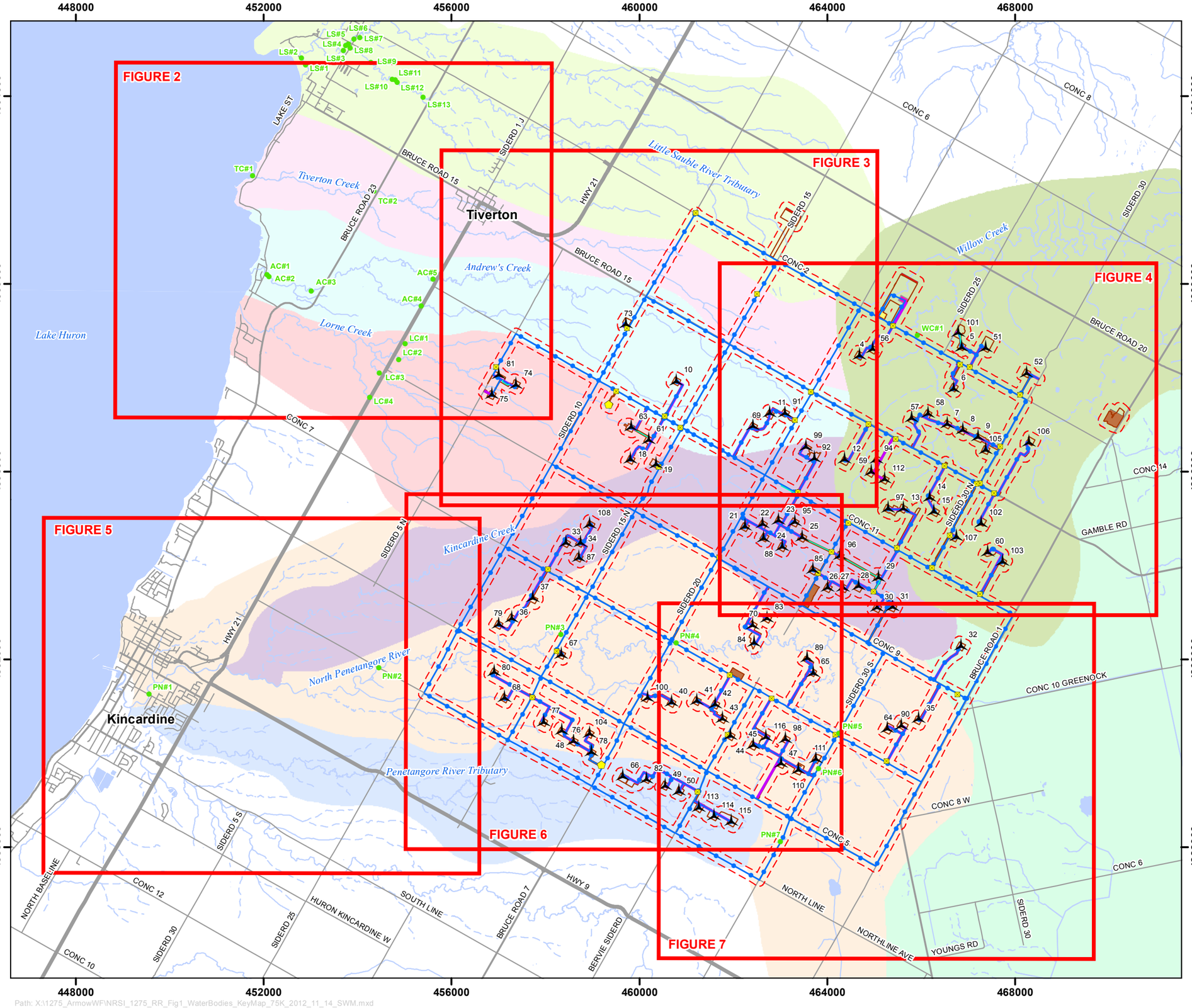
In accordance with the Renewable Energy Approval (REA) Regulation, NRSI has conducted a thorough records review of available background resources to identify any water bodies (lakes, seepages, intermittent/permanent watercourses) within 120m, or Lake Trout (*Salvelinus namaycush*) lakes within 300m, of the 'project location' as defined by the REA Regulation. The records review assessment includes a detailed review of all available background information from a variety of sources, including Ontario Ministry of Natural Resources (OMNR), municipal files, existing biological studies, and other available online and/or published resources.

As part of this project, NRSI has considered all aspects relating to provincially Threatened and Endangered species. However, since these species are addressed as part of the *Endangered Species Act* (2007), they have not been discussed within any of these Water Body reports. These species will be addressed in full detail, including a habitat description and results of field assessments, potential impacts, and recommended mitigation measures, as part of a separate *Approval and Permitting Requirements Document (APRD)* to be submitted to the OMNR under separate cover, where necessary.

Figure 1

Armow Wind Farm

Records Review Water Bodies Key Map



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Legend

- Map Extents
- Project Area (120m)
- Proposed Turbine (L16 Rev0)
- MET Tower
- Junction Box
- Crane Walk
- Cabling
- Access Road
- Disturbance Area
- Potential Operations Building
- Substation
- Staging Area
- Interconnect Area
- Highway
- Primary Road
- Secondary Road
- Watercourse (Permanent)
- Watercourse (Intermittent)
- Waterbody
- MNR Fish Collection Record Location

Subwatershed Boundaries

- Andrew's Creek
- Kincardine Creek
- Little Sauble River
- Lorne Creek
- North Penetangore River
- Penetangore River Tributary
- Teeswater River
- Tiverton Creek
- Willow Creek

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Project: 1275
Date: December 5, 2012

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Figure 2

Armow Wind Project

Records Review Water Bodies

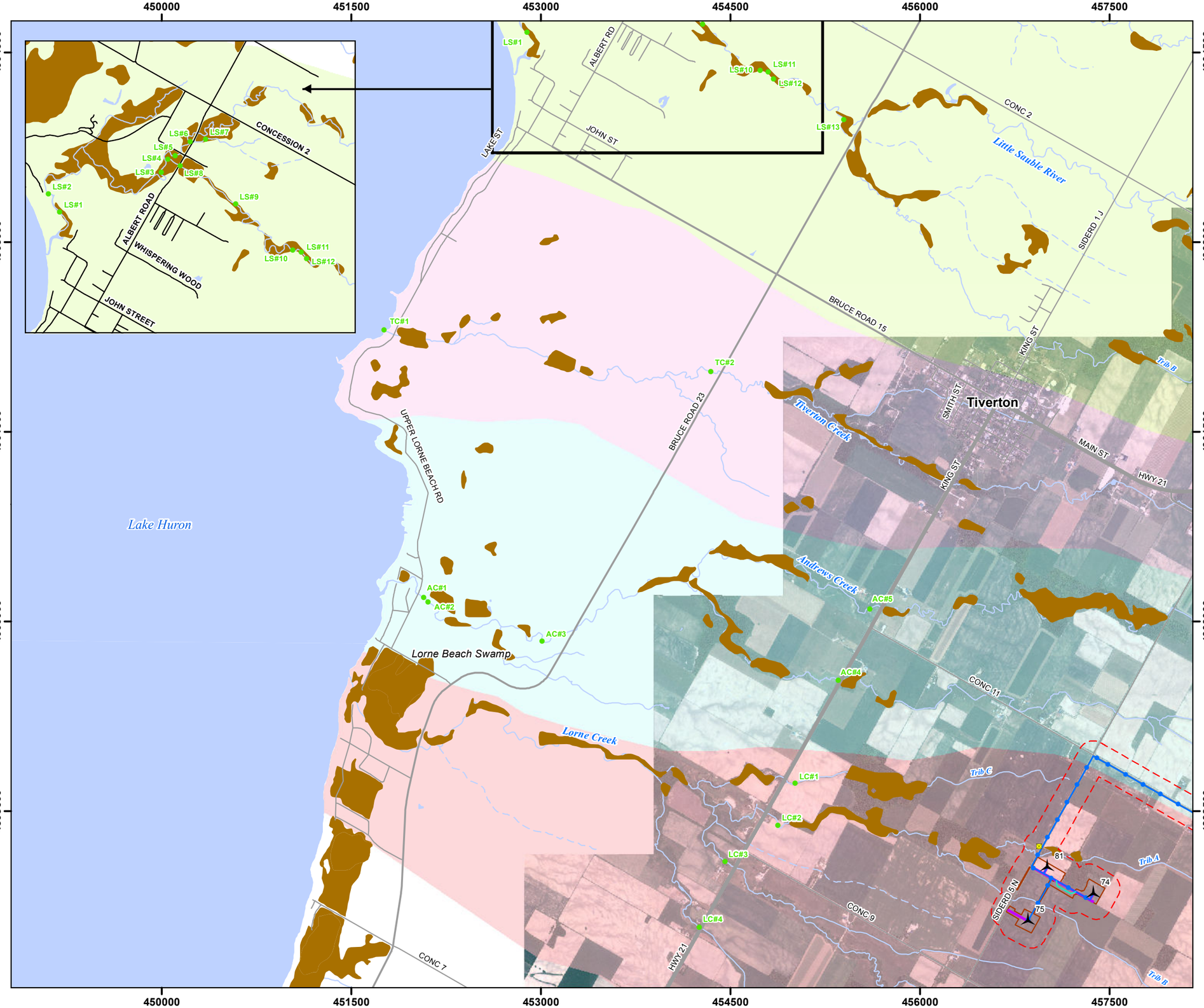

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Figure 3

Armow Wind Project

Records Review Water Bodies

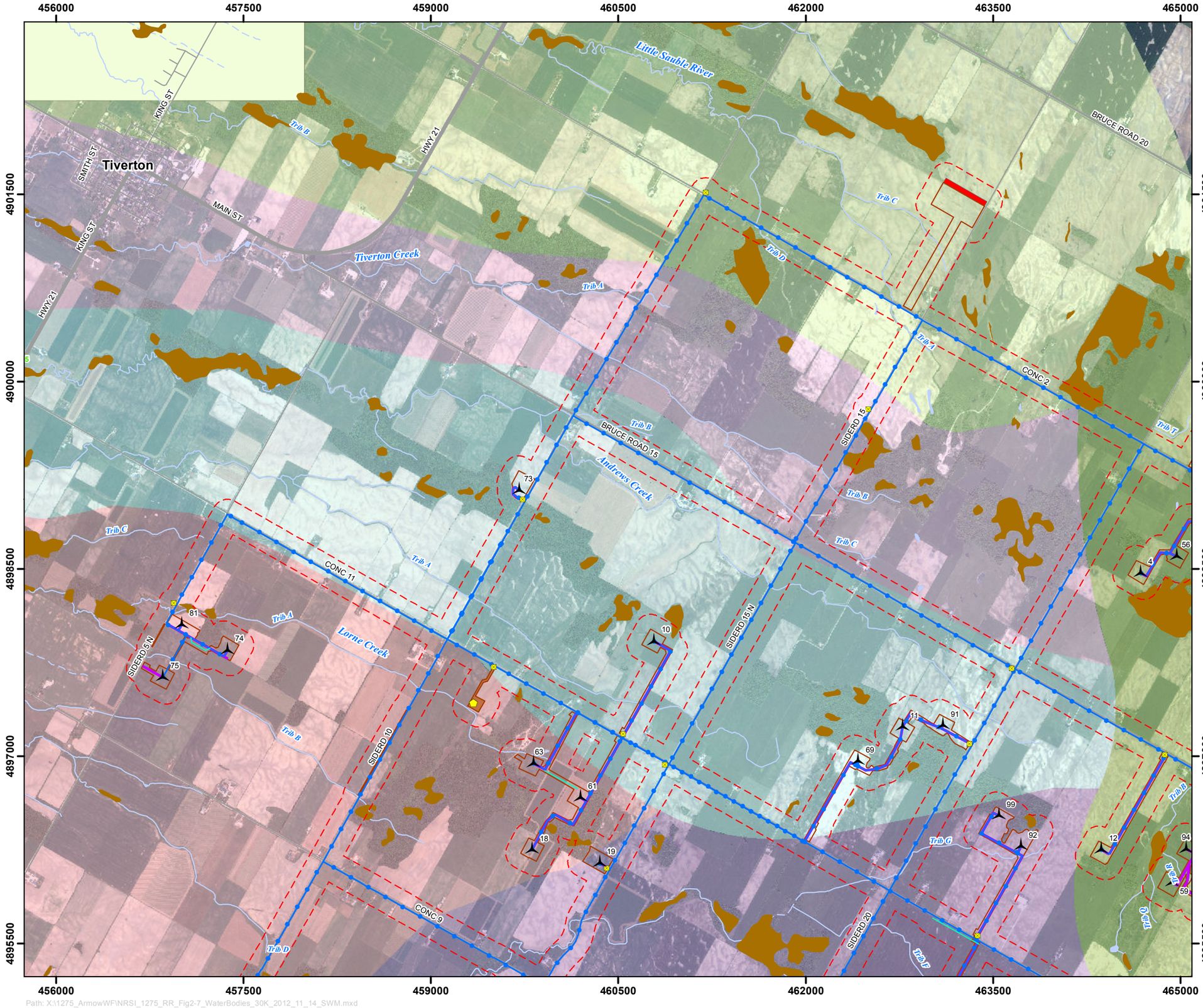

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Figure 4

Armow Wind Project

Records Review Water Bodies

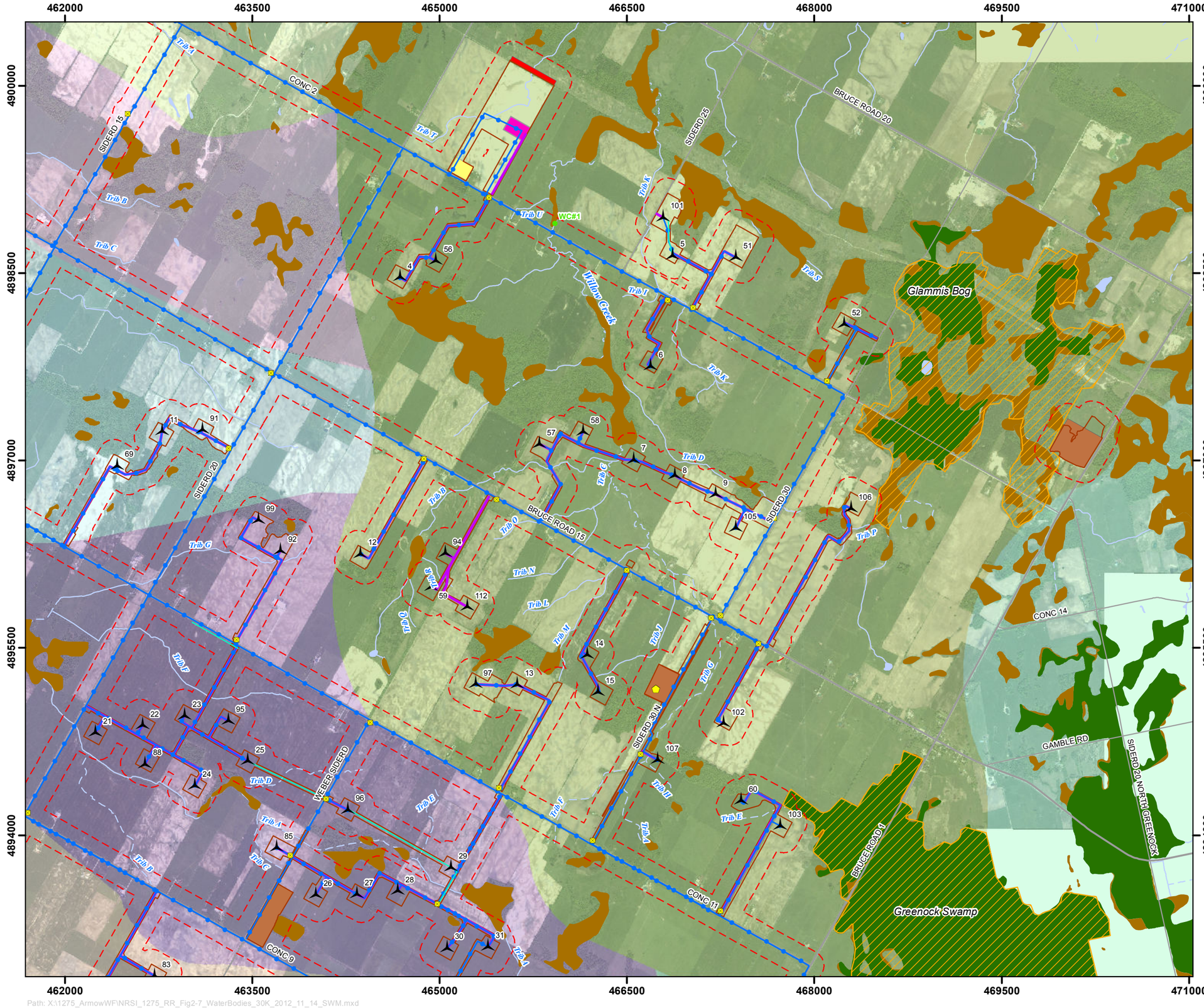

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Figure 5

Armow Wind Project

Records Review Water Bodies

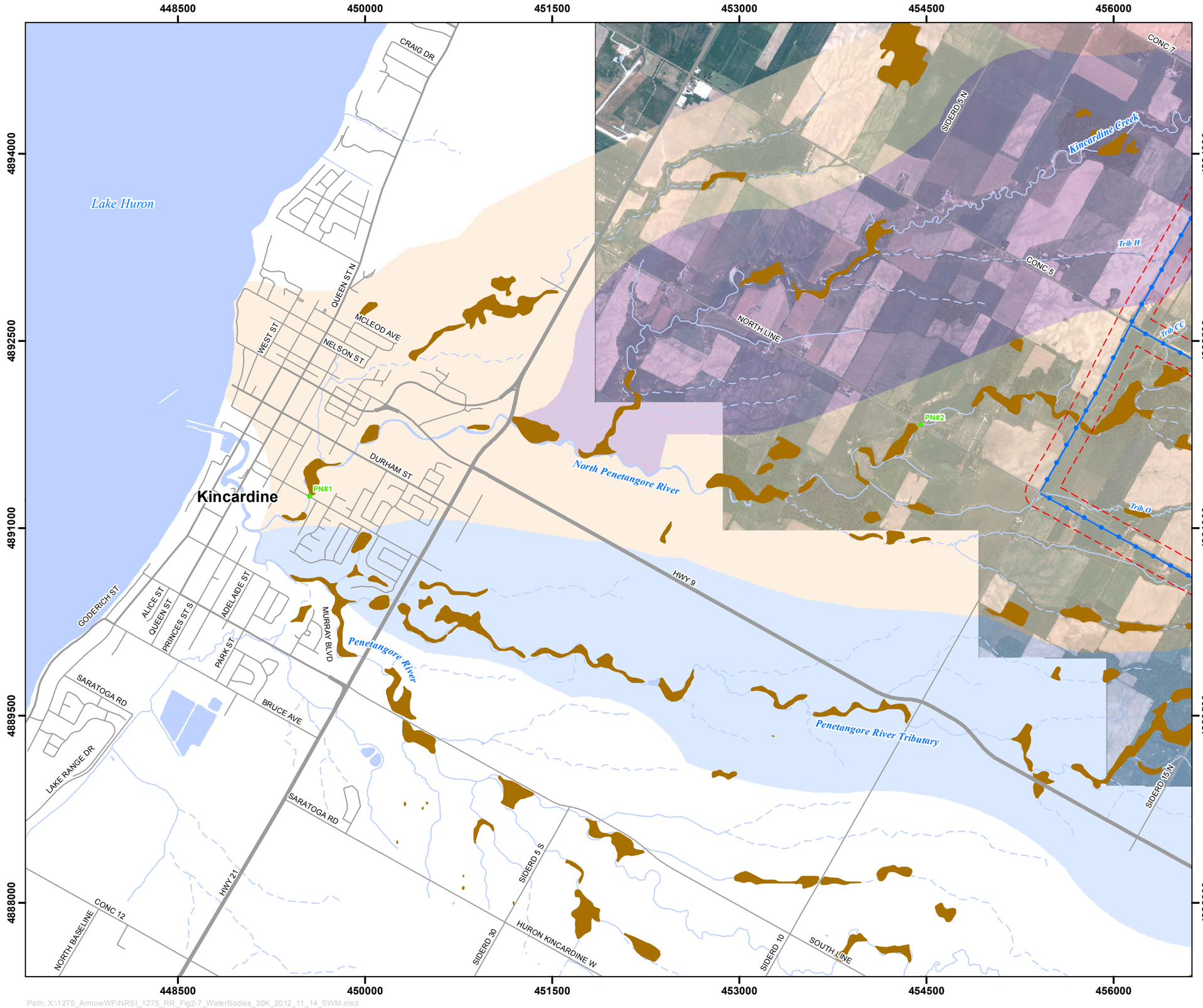

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Figure 6

Armow Wind Project

Records Review Water Bodies

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Figure 7

Armow Wind Project

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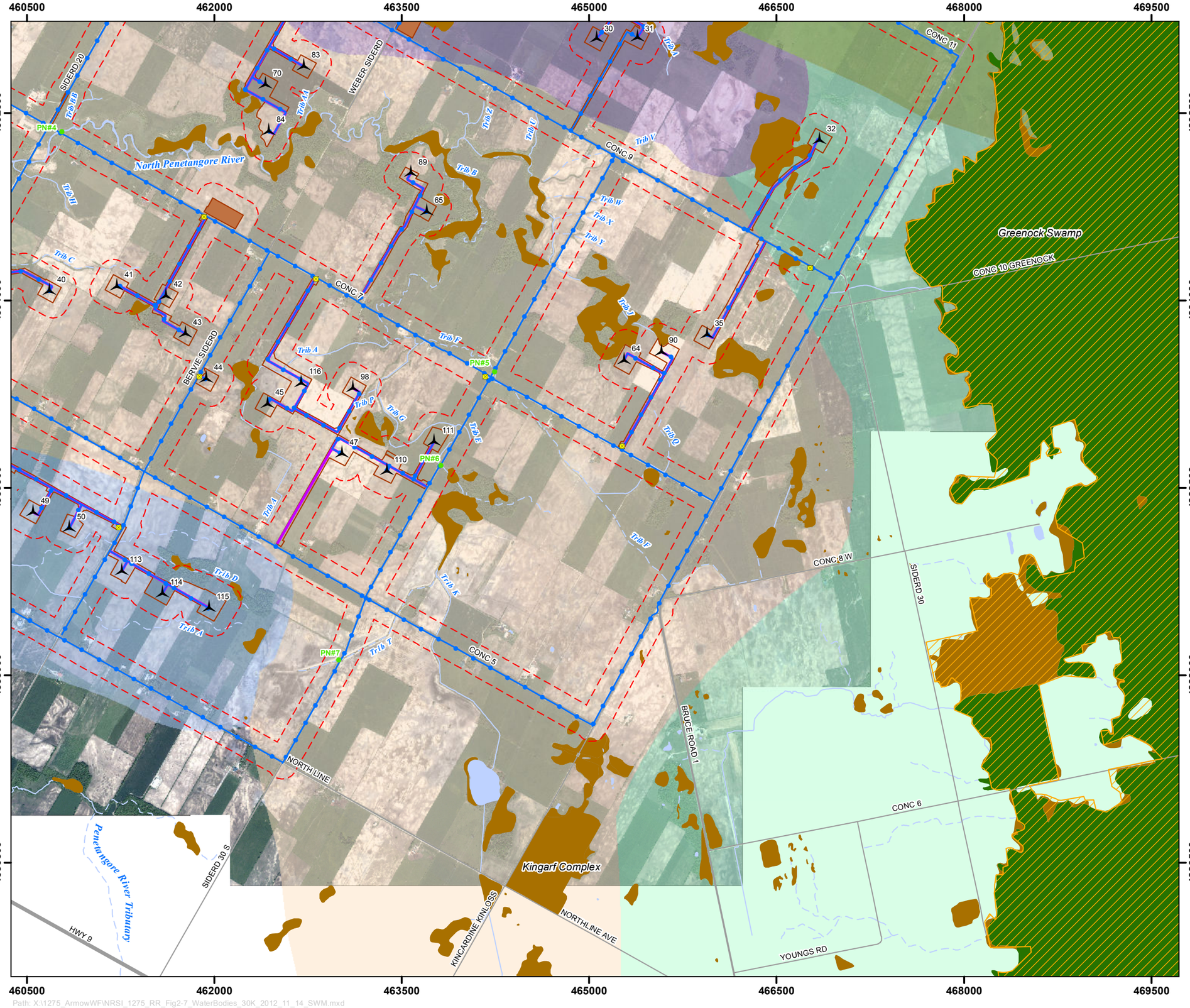

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2.0 REA Requirements

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* (*EPA*) identifies the requirements for the development of renewable energy projects in Ontario. In accordance with the REA Regulation, the Armow Wind Project, classified as a Class 4 wind facility, is required to complete a REA submission.

Section 29 of the REA Regulation requires proponents of Class 4 wind projects to undertake a water assessment which involves a records review in order to identify whether the project location is:

1. in a water body;
2. within 120 meters 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 meters of the average annual high water mark of a lake trout lake that is at or above development capacity;
4. within 120 meters of the average annual high water mark of a permanent or intermittent stream; or
5. within 120 meters of a seepage area.

Section 1.1 of the REA Regulations defines a "water body" as a lake, a permanent stream, an intermittent stream and a seepage area but does not include,

a) grassed waterways;
b) temporary channels for surface drainage, such as furrows or shallow channels that can be tilled and driven through;
c) rock chutes and spillways;
d) roadside ditches that do not contain a permanent or intermittent stream;
e) temporary ponded areas that are normally farmed;
f) dugout ponds; and
g) artificial bodies of water intended for storage, treatment or recirculation of runoff from animal yards, manure storage facilities and sites and outdoor confinement areas.

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 for the Armow Wind Project to meet these requirements.

3.0 Records Review Sources

In accordance with the REA Regulation, NRSI biologists consulted several information sources and agencies for the purposes of assessing water bodies within 120m (and 300m) of the project location. The results of this consultation process have been documented throughout the following report, and have been summarized in Table 1 below.

Table 1. Summary of Records Consulted for the Armow Wind Project

Information Source	Consultation Date(s)	Type of Records Obtained
Ontario Ministry of Natural Resources, Midhurst District	December 1, 2011	• Watercourse mapping • Fisheries information
Saugeen Valley Conservation Authority (SVCA) (SVCA 2011)	November 1, 2011	• Watercourse quality reports & data • Bio-monitoring locations
Ontario Ministry of Natural Resources, Biodiversity Explorer (OMNR 2011a)	November 2, 2011	• Species of Conservation Concern records
Ontario Ministry of Natural Resources, Land Information Ontario (OMNR 2011b)	October 25, 2011	• Water feature mapping

All water body features initially located within the project area were identified using OMNR watercourse base mapping and digital air photos. These features are shown in Figures 1 through 7.

4.0 Records Review Findings

For the purposes of the records review reporting, NRSI has examined available background information to identify any lakes, intermittent or permanent watercourses, and seepage areas within 120m of the project location as well as Lake Trout lakes within 300m of the project location. Information obtained relating to identified water bodies is provided in Sections 4.1 through 4.4.

4.1 Lakes

4.1.1 Lake Trout Lakes

No Lake Trout lakes are present within 300m of the project location.

4.1.2 Other Lakes

No lakes have been identified within the project area.

4.2 Permanent or Intermittent Watercourses

NRSI biologists have used available resources, including agency consultation and a variety of available mapping layers (satellite imagery, air photos, OMNR Land Information Ontario watercourse mapping) to identify the presence of potential intermittent/permanent watercourse features within the Armow Wind Project area. Findings of this review indicated a number of potential 'water bodies' (permanent or intermittent watercourses) are located within the project area. These watercourses have been divided and discussed based on their respective drainage areas which include the Little Sauble River, Willow Creek, Andrew's Creek, Tiverton Creek, Lorne Creek, Kincardine Creek and North Penetangore River, Teeswater River, and Penetangore River drainage areas.

All watercourses within the project area are within the jurisdictional area of the Saugeen Valley Conservation Authority (SVCA). The majority of these features have been identified as headwater tributaries and based on air photo interpretation and appear to be highly influenced by historic and present agricultural activities (i.e. channelization).

All watercourses are also situated within the Huron slope physiographic region (Chapman & Putnum 1985). This region gradually slopes upward from Lake Huron to inland habitats within Bruce County (Chapman & Putnum 1985). The region is predominantly a clay plain, although, does contain a narrow strip of sand plain along the eastern edge of the region that runs parallel to Lake Huron. Within the project area, this narrow sand plain runs from the village of Armow, south to the village of Bervie. The sand plain consists of a shallow deposit of sand over clay sometimes producing perched groundwater conditions, the surface of this sand deposit is unevenly ribbed and swampy streaks occupy the depressions (Chapman & Putnum 1985). Underlying glacial till is comprised of brown calcareous clay, with some pebbles and boulders (Chapman & Putnum 1985).

Information made available by local OMNR included several fish community records and thermal designations for the associated watercourses. This information is provided in Appendix I. Additional information was derived from a report available online titled the Saugeen Valley Conservation Water Quality Status Report 2010 (SVCA 2011).

More information, specific to each of the drainage areas, is provided in the following sections.

4.2.1 Little Sauble River Drainage

The Little Sauble River flows in a westerly direction ultimately draining into Lake Huron (Figure 1). Its headwater tributaries originate from surface water runoff and tile drainage outlets within a predominantly agriculture land use. Three of the Little Sauble River tributaries are located within the project area, as they are unnamed they have been identified as Tributary A, B & C for the purpose of this report (Figure 3).

The Little Sauble River has been characterized as a cold water stream with low productivity (OMNR 2011). The documented fish community within the main stem of the river includes a variety of species which is indicative of a diverse fish community, as evidenced by the species varied life history requirements and trophic status. Sensitive cold water salmonid species have also been identified which include Brook Trout (*Salvelinus fontinalis*), Brown Trout (*Salmo trutta*) and Rainbow Trout (*Oncorhynchus mykiss*) (OMNR 2011). In absence of fisheries information for the associated tributaries,

fisheries management status should be deferred to that of the main channel. In the case of the Little Sauble River drainage area, tributaries will be considered cold water fisheries for the purpose of this report.

Based on an assessment of benthic invertebrate community within the river, surface water quality scored a 'C' near the confluence with Lake Huron and 'F' at its headwaters, indicating degraded water quality (SVCA 2011). Water quality within the watershed is likely highly influenced by surrounding dominant agriculture land use.

4.2.2 Tiverton Creek Drainage

Tiverton Creek flows in a westerly direction traveling south of the Town of Tiverton ultimately draining into Lake Huron (Figure 1). Its headwater tributaries originate from surface water runoff and tile drainage outlets within a predominantly agriculture land use. The main creek channel as well as three tributaries to Tiverton Creek are located within the project area, they have been identified as Tributary A, B & C for the purposes of this report as they are unnamed (Figures 3 & 4).

Tiverton Creek has been characterized as a cold water stream with low productivity (OMNR 2011). The documented fish community includes migratory, cool water and cold water salmonid species such as Brown Trout and Rainbow Trout (OMNR 2011). The migratory and cold water species were documented near the creek mouth downstream of Victoria St. in the Town of Tiverton (OMNR Fish Collection Location TC#1) approximately 4.5km from the project area (Figures 1 & 2). In absence of fisheries information for the associated tributaries, fisheries management status should be deferred to that of the main channel. In the case of the Tiverton Creek drainage area, tributaries will be considered cold water fisheries for the purposes of this report.

4.2.3 Andrew's Creek Drainage Area

Andrew's Creek flows parallel to Tiverton Creek in a westerly direction, draining into Lake Huron (Figure 1). Andrew's Creek Tributary B, also runs parallel to these features to the south of the main branch of Andrew's Creek. Its headwater tributaries originate from surface water runoff and tile drainage outlets within a predominantly agriculture land use. The main channel of Andrew's Creek as well as two tributary to Andrew's

Creek are located within the project area, the unnamed tributaries have been identified as Tributary A and B for the purpose of this report (Figures 2, 3 & 4).

Similar to Tiverton Creek, Andrew's Creek is an under producing cold water stream (OMNR 2011). The documented fish community includes migratory, cool water and cold water species (OMNR 2011). Migratory and cold water species were documented near the mouth downstream of HWY23 (OMNR Fish Collection Location AC#1 & AC#2) (Figure 2). In absence of fisheries information for the associated tributaries, fisheries management status should be deferred to that of the main channel. In the case of the Tiverton Creek drainage area, tributaries will be considered cold water fisheries for the purposes of this report.

Water quality within the watershed is likely highly influenced by surrounding dominant agriculture land use.

4.2.4 Lorne Creek Drainage Area

Lorne Creek originates from several branches of headwater tributaries which flow in a northwesterly direction draining into Lorne Creek and ultimately draining into Lake Huron (Figure 1). Its headwater tributaries originate from surface water runoff and tile drainage outlets within a predominantly agriculture land use. Four tributaries to Lorne Creek are located within the project area, they have been identified as Tributary A, B, C & D for the purpose of this report as they are otherwise unnamed (Figures 2 & 3).

The documented fish community is limited consisting of only three species however, includes both cool and warm water species (OMNR, 2011). Moreover, despite the mixed cool-warm water species assemblage, the creek has been characterized as a cold water fishery (OMNR 2011). In absence of fisheries information for the associated tributaries, fisheries management status should be deferred to that of the main channel. In the case of the Lorne Creek subwatershed, tributaries will be considered cold water fisheries for the purposes of this report.

Water quality within the watershed is likely highly influenced by surrounding dominant agriculture land use.

4.2.5 Kincardine Creek Drainage Area

Kincardine Creek flows in a westerly direction draining into the North Penetangore River, and ultimately into Lake Huron (Figure 1). Its headwater tributaries originate from surface water runoff and tile drainage outlets within a predominantly agriculture land use. The main channel of Kincardine Creek as well as 8 tributaries to Kincardine Creek are located within the project area, the tributaries have been identified as Tributary A, B, C, D, E, F, G & H for the purpose of the report as they are unnamed (Figures 4, 5, 6 & 7).

Fish species such as Brook Trout, Rainbow Trout, and Smallmouth Bass (*Micropterus* dolomieu) have been reported within the main stem of the creek (OMNR 2011). Moreover, despite the mixed cool-warm water species assemblage, the creek has been characterized as a cold water fishery (OMNR 2011). In absence of fisheries information for the associated tributaries, fisheries management status should be deferred to that of the main channel. In the case of the Kincardine Creek drainage area, tributaries will be considered cold water fisheries for the purposes of this report.

4.2.6 North Penetangore River Drainage Area

The North Penetangore River flows in a westerly direction draining into Lake Huron (Figure 1). Its headwater tributaries originate from surface water runoff and tile drainage outlets within a predominantly agriculture land use. The main channel of the North Penetangore River Creek as well as 29 tributaries to the North Penetangore River are located within the project area, the tributaries have been identified as Tributary A through Z, AA, BB & CC for the purpose of the report as they are otherwise unnamed (Figures 5, 6 & 7).

It has been characterized as a cold water fishery with documented fish community data that includes a diverse species population as evidenced by the species varied life history requirements and trophic status (OMNR 2011). Although migratory species have not been sampled, Brook Trout, Rainbow Trout, and Chinook Salmon (*Oncorhynchus tshawytschaare*) are known to be present within the main river channel (OMNR 2011). In absence of fisheries information for the associated tributaries, fisheries management status should be deferred to that of the main channel. In the case of the North Penetangore River drainage area, tributaries will be considered cold water fisheries for the purposes of this report.

Based on an assessment of benthic invertebrate community within the river, surface water quality scored a D, indicating degraded water quality (SVCA 2011). Water quality within the watershed is likely highly influenced by surrounding dominant agriculture land use.

4.2.7 Penetangore River Tributary Drainage Area

Located in the southern extent of the project area, this feature is a headwater tributary of the Penetangore River (Figure 1). It flows in a westerly direction draining into the main branch of the Penetangore River which ultimately drains into Lake Huron. Its headwater tributaries originate from surface water runoff and tile drainage outlets within a predominantly agriculture land use. Six tributaries to the Penetangore River Tributary are located within the project area and they have been identified as Tributary A, B, C, D, E & F for the purposes of this report as they are otherwise unnamed (Figures 5, 6 & 7).

No specific fisheries information was available for the main stem of the Penetangore River Tributary. Based on the management of the nearby North Penetangore and Penetangore Rivers as cold water fisheries, the Penetangore River Tributary will also be considered cold water for the purposes of this report. It is anticipated that based on species occupying those nearby systems, sensitive cold water salmonids also have the potential to be present within this system.

Based on an assessment of benthic invertebrate community within the river, surface water quality scored a 'C' near the confluence with Lake Huron and 'D' at its headwaters, indicating degraded water quality (SVCA 2011). Water quality within the watershed is likely highly influenced by surrounding dominant agriculture land use.

4.2.8 Willow Creek Drainage Area (Saugeen/Teeswater)

Willow Creek is a headwater tributary of the Saugeen River. It flows in a northerly direction towards the Saugeen River just north of the Town of Paisley (Figure 1). Its headwater tributaries originate from surface water runoff and tile drainage outlets within a predominantly agriculture land use. The main channel of Willow Creek as well as 21 tributaries to Willow Creek are located within the project area and the tributaries have been identified as Tributary A through U as they are otherwise unnamed (Figures 3 & 4).

The fish community documented within the project area includes both cool and warm water species, therefore is managed as a mixed cool-warm water fishery (OMNR 2011). Sensitive cold water species such as Brook Trout have been documented in the system and are being managed on the creek by the OMNR on a site to site basis (OMNR 2011). Top predator species such as Northern Pike (*Esox lucius*) have also been recorded within the main stem of the creek (OMNR 2011). In absence of fisheries information for the associated tributaries, fisheries management status should be deferred to that of the main channel. In the case of the Willow Creek drainage area, tributaries will be considered cold water fisheries for the purposes of this report.

4.2.9 Teeswater River Drainage Area

An unnamed tributary (Tributary A for the purposes of this report) of the Teeswater River is located within the project area (Figure 7). This feature flows to the east towards the Greenock Swamp. No fisheries management information is available for this tributary. As most watercourses within the study area are classified as cold water fisheries, this same classification will be provided to this watercourse until site-specific surveys can be completed.

4.3 Seepage Areas

No specific information on seepage areas is available through the OMNR or associated databases.

4.4 Species of Conservation Concern

Species of conservation concern include all species that have been designated as a species of Special Concern according to the provincial Species At Risk in Ontario (SARO) and/or the federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC), have been given a provincial S-Rank of S1-S3, or have been designated by COSEWIC as Threatened or Endangered but have not been designated as either Endangered or Threatened within Ontario.

Records review findings have identified no species of conservation concern within or near the Armow Wind Project area.

5.0 Summary of Records Review

In accordance with the REA Regulation, NRSI has completed a comprehensive records review for the proposed Armow Wind Project location and surrounding 300m. This records review included correspondence with provincial agency staff, and a review of available online and published resources. The results of this records review have been summarized in Table 2 below.

Table 2. Summary of Armow Wind Project Records Review

Criteria	Records Review Results
i. In a water body	The records review has identified 63 potential water bodies that are currently overlapping the project location. These overlaps typically represented proposed crossing locations for access roads, transmission lines, or cabling. All of these water bodies represent potential permanent or intermittent watercourses. All of these potential water bodies are currently considered cold water fisheries, unless site specific surveys show otherwise. Each of these potential water bodies will be examined in more detail during the site investigation phase of this project.
ii. Within 120m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity	None
iii. Within 300m of the average annual high water mark of a lake trout lake that is at or above development capacity	None
iv. Within 120m of the average annual high water mark of a permanent or intermittent stream	The records review has identified 82 potential water bodies within 120m of the project location, including 4 within the Lorne Creek drainage, 3 within the Little Sauble River Tributary drainage, 4 within Tiverton Creek drainage, 3 within Andrew's Creek drainage, 9 within Kincardine Creek drainage, 30 within the North Penetangore River drainage, 22 within the Willow Creek drainage, 6 within the Penetangore River drainage and 1 within the Teeswater River drainage. All of these water bodies represent potential permanent or intermittent watercourses, and are currently considered cold water fisheries.
iv. Within 120 m of a seepage area	None

6.0 References

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Appendix I
OMNR Fisheries Information

Table 1. Summary of Fisheries Information provided by the OMNR

Stream Name	Point	Thermal Regime	Fish Species Present	Date	Comments
Tiverton Creek	general overview	under producing coldwater	Rainbow Trout	Owen Sound Fisheries Management Plan 1986-2000	
Tiverton Creek	TC#1	coldwater/ migratory	Brown Trout, Rainbow trout, Common Shiner, Brook Stickleback, Common White Sucker, Northern Redbelly Dace, Rainbow Darter	1994	
Tiverton Creek	TC#2	coldwater/ migratory	Blacknose Dace, Brook Stickleback, Common White Sucker, Creek Chub, Rainbow Darter	1994	
Andrew's Creek	general overview	under producing coldwater	Rainbow Trout	Owen Sound Fisheries Management Plan 1986-2000	
Andrew's Creek	AC#1	coldwater/ migratory	Longnose Dace, Brook Stickleback, Rainbow Darter, White Sucker, Creek Chub, Mottled Sculpin, Lake Chub, Bluntnose Minnow, Pearl Dace	1983	
Andrew's Creek	AC#2	coldwater/ migratory	Brown Trout, Rainbow Trout, White Sucker, Creek Chub, Northern Redbelly Dace, Johnny Darter	1994	
Andrew's Creek	AC#3	coldwater/ migratory	Brook Stickleback, Creek Chub, White Sucker, Johnny Darter, Rainbow Darter, Northern Redbelly Dace	1994	
Andrew's Creek	AC#4	coldwater/ migratory	Fathead Minnow, Blacknose Dace, Creek Chub	2007	
Andrew's Creek	AC#5	coldwater/ migratory	Blacknose Dace, Fathead Minnow	2007	
Lorne Creek	general overview	under producing coldwater	Rainbow Trout	Owen Sound Fisheries Management Plan 1986-2000	
Lorne Creek	LC#1	coldwater/ migratory	Fathead Minnow, Blacknose Dace	2007	
Lorne Creek	LC#2	coldwater/ migratory	Fathead Minnow, Blacknose Dace	2007	
Lorne Creek	LC#3	coldwater/ migratory	Blacknose Dace, Fathead Minnow, Brook Stickleback	2007	
Lorne Creek	LC#4	coldwater/ migratory	Fathead Minnow, Brook Stickleback	2007	
Kincardine Creek	general overview	under producing coldwater	Brook Trout, Rainbow Trout, Smallmouth Bass	Owen Sound Fisheries Management Plan 1986-2000	* no fish sampling
Willow Creek	general overview	warm water	Brook Trout, Northern Pike	Owen Sound Fisheries Management Plan 1986-2000	Manage brook trout as they exist on a site by site basis
Willow Creek	WC#1	warm/cool water	Common Carp, Northern Pike, Mudminnow, Pumpkinseed, Rock Bass	1972	
Penetangore River	general overview	under producing coldwater	Brook Trout, Rainbow Trout, Smallmouth Bass, Chinook Salmon	Owen Sound Fisheries Management Plan 1986-2000	
North Penetangore River	PN#1	coldwater/ migratory	White Sucker, Etheostoma species, Rock Bass	1986	
North Penetangore River	PN#2	coldwater/ migratory	Etheostoma sp.	1986	
North Penetangore River	PN#2	coldwater/ migratory	Herrings, Creek Chub, Emerald Shiner, Rainbow Darter. Rock Bass	1994	
North Penetangore River	PN#3	coldwater/ migratory	Rock bass, Etheostoma sp., Carps and Minnows	1986	
North Penetangore River	PN#4	coldwater/ migratory	Rock Bass, White Sucker, Carps and Minnows, Etheostoma sp.,	1986	
North Penetangore River	PN#5	coldwater/ migratory	Central Mudminnow	1986	
North Penetangore River	PN#6	coldwater/ migratory	Pumpkin Seed	1986	
North Penetangore River	PN#7	coldwater/ migratory	Central Mudminnow	1986	
Little Sauble River		under producing coldwater	Rainbow Trout, Brook Trout, Brown Trout	Owen Sound Fisheries Management Plan 1986-2000	
Little Sauble River	LS#1	coldwater/ migratory	Rainbow Trout, White Sucker, Cyprinids, Blacknose Dace, Longnose Dace, Creek Chub, Brook Stickleback, Rainbow Darter	1992	
Little Sauble River	LS#2	coldwater/ migratory	Rainbow Trout, White Sucker, Longnose Dace, Rock Bass, Johnny Darter, Emerald Shiner, Spottail Shiner, Bluntnose Minnow, Fathead Minnow	1984	
Little Sauble River	LS#3	coldwater/ migratory	Rainbow Trout, White Sucker, Darter, Cyprinids	1986	

Stream Name	Point	Thermal Regime	Fish Species Present	Date	Comments
Little Sauble River	LS#4	coldwater/ migratory	Rainbow trout	1987	
Little Sauble River- trib	LS#5	coldwater/ migratory	Rainbow Trout, Bullhead, White Sucker, Johnny Darter, Iowa Darter, Longnose Dace, Blacknose Dace, Fathead Minnow	1985	
Little Sauble River- trib	LS#6	coldwater/ migratory	Rainbow Trout, White Sucker, Northern Redbelly Dace, Brassy Minnow, Common Shiner, Bluntnose Minnow, Fathead Minnow, Blacknose Dace, Creek Chub, Pearl Dace, Brook Stickleback, Johnny Darter	1984	
Little Sauble River- trib	LS#7	coldwater/ migratory	Brook Trout	1983	
Little Sauble River	LS#8	coldwater/ migratory	Rainbow Trout, Common Sucker, Darters, Minnows	1994	
Little Sauble River	LS#9	coldwater/ migratory	Rainbow Trout	1994	
Little Sauble River	LS#10	coldwater/ migratory	Rainbow Trout, White Sucker, Darter, Cyprinids	1986	
Little Sauble River	LS#11	coldwater/ migratory	Rainbow Trout	1987	
Little Sauble River	LS#12	coldwater/ migratory	Rainbow Trout, Bullhead, Johnny Darter, Iowa Darter, White Sucker, Longnose Dace, Hornyhead Chub, Blacknose Dace, Spottail Shiner	1985	
Little Sauble River	LS#13	coldwater/ migratory	Rainbow Trout	1987	

Little Sauble River

Legend

- fishdots

510 255 0 510 Meters

NOTES:
This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources (OMNR) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.
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North Penetangore

Legend

- fish dots

1,700 850 0 1,700 Meters

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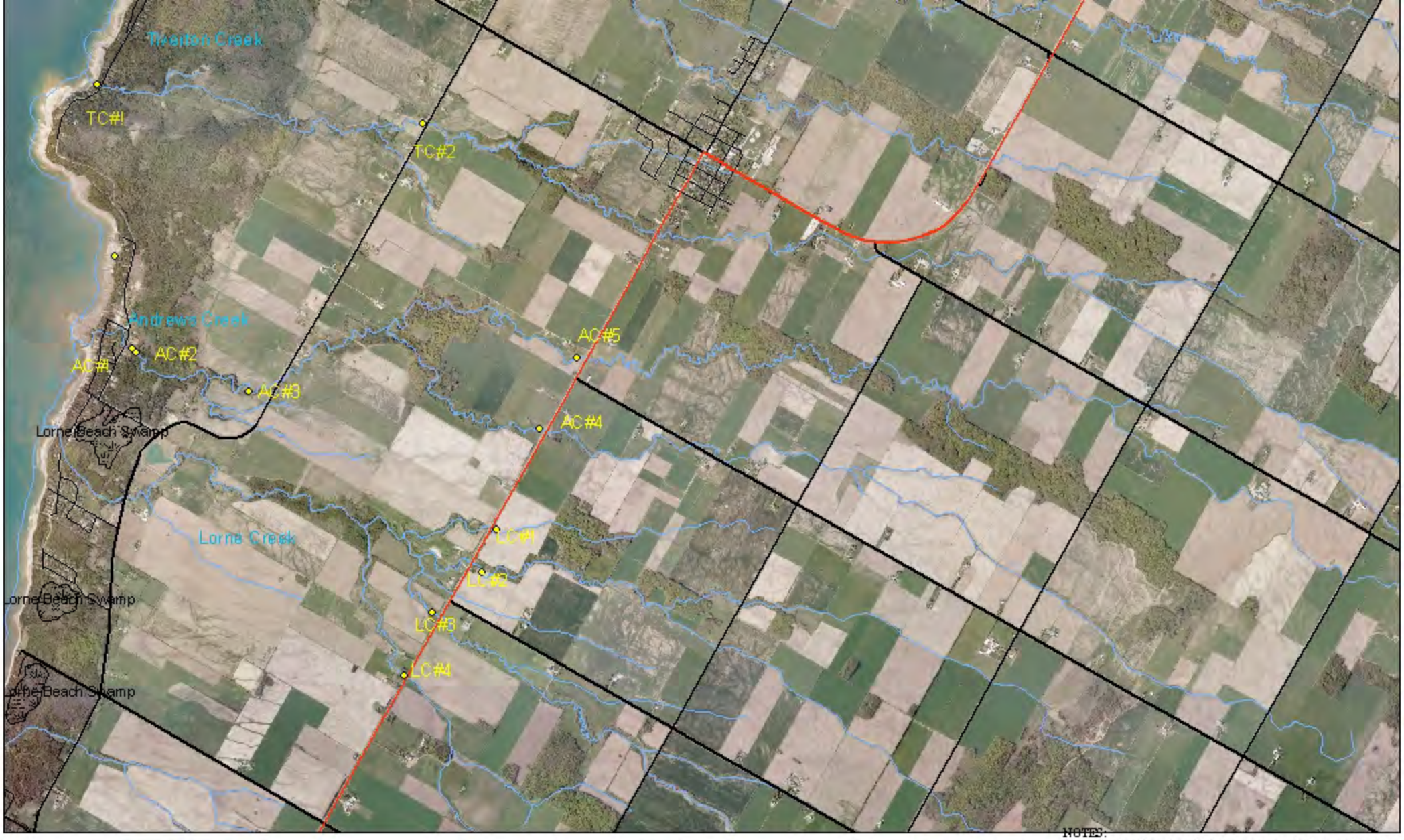

Lorne Creek, Andrews Creek, Tiverton Creek

Legend

- fish dots

1,100 550 0 1,100 Meters

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Willow Creek

Legend

- fish dots

1,100 550 0 1,100 Meters

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