



**Environmental Impact Study**  
**3735 Menoke Beach Road**  
**Township of Severn, Ontario**

Prepared for:  
Masoud Ahmadi-Ochblagh  
and Kayvan Saberi

Prepared by:  
Azimuth Environmental  
Consulting, Inc.

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AEC 19-371



Environmental Assessments & Approvals

February 18, 2021

AEC 19-371

2663410 Ontario Inc.  
260 Lawrence Avenue East  
Toronto, Ontario, M4N 1T4

Attention: Masoud Ahmadi-Ochblagh and Kayvan Saberi

Re: **Environmental Impact Study for 3735 Menoke Beach Road, Township of  
Severn, Ontario**


Dear Mr. Ahmadi-Ochblagh and Mr. Saberi:


As requested, Azimuth Environmental Consulting, Inc. has prepared an Environmental Impact Study Report for the proposed development on the aforementioned property. The following report presents the results of our terrestrial and fisheries impact assessments.

If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

  
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cc: Eldon Theodore, MHBC (Woodbridge)  
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## 1.0 INTRODUCTION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by Masoud Ahmadi-Ochblagh to complete an Environmental Impact Study (EIS) pertaining to the proposed development of the property at 3735 Menoke Beach Road in the Township of Severn (Township), Ontario (Figure 1). The development plan involves construction of a residential subdivision and stormwater management pond (SWMP).

It is our understanding that the County of Simcoe (County) indicated an EIS would be required to evaluate direct and indirect impacts to a wetland bisected by the northern property boundary. Our report also considers potential impacts to species at risk (SAR) protected under Ontario's *Endangered Species Act, 2007* (ESA) and Significant Wildlife Habitat (SWH). The purpose of this EIS is threefold: (1) identify potential constraints pertaining to natural heritage features and functions (NHFFs) that could be impacted by the proposed development; (2) complete an impact assessment and (3) make recommendations for impact avoidance/minimization/mitigation and rehabilitation.

A combination of background information and data collected by Azimuth during the 2020 field surveys are used to address potential impacts associated with the proposed development. Policies and regulations associated with NHFFs considered in this EIS are derived from those outlined in the Provincial Policy Statement (PPS; MMAH, 2020), ESA, Growth Plan (2020), County of Simcoe Official Plan (OP; 2016) and Township OP (2010).

## 2.0 PLANNING CONTEXT

### 2.1 Provincial Planning Policy (2020)

The Provincial Policy Statement (PPS; MMAH, 2020) outlines policies related to natural heritage features. Ontario's *Planning Act* (2001) requires that planning and development decisions are consistent with the PPS. The following policies are relevant to this project.

According to Section 2.1.4, "development and site alteration shall not be permitted in:

- Significant wetlands in Ecoregions 5E, 6E and 7E; and,
- Significant coastal wetlands."

According to Section 2.1.5, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted in:



- Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant valleylands Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Wildlife Habitat; and,
- Significant Areas of Natural and Scientific Interest (ANSI).

According to Section 2.1.6, development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

As per Section 2.1.7, development and site alteration shall not be permitted in habitat of Endangered (END) or Threatened (THR) species, except in accordance with federal and provincial policy.

Section 2.1.8 states that "development and site alteration shall not be permitted on lands adjacent to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands have been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions."

In regard to natural heritage features, the PPS defines 'negative impact' as "degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities."

The term 'development', as defined in the PPS, is defined as the creation of a new lot, a change in land use or the construction of buildings and structures requiring approval under the Planning Act, as is the case with the proposed re-development.

## **2.2 *Endangered Species Act (2007)***

Ontario's ESA provides regulatory protection to END and THR species, prohibiting harassment, harm and/or killing of individuals and destruction of their habitats. Habitat is broadly characterized within the ESA as the area prescribed by a regulation as the habitat of the species or an area on which the species depends, directly or indirectly, to carry on its life processes including reproduction, rearing of young, hibernation, migration or feeding.

The various schedules of the ESA identify SAR in Ontario. These include species listed as Extirpated (EXT), END, THR and Special Concern (SC). As noted above, only species listed as END or THR receive protection through the ESA from harm and



destruction to habitat on which they depend. Species designated as SC may receive protection under SWH provisions of the PPS.

According to Section 9.(1)(a), no person shall kill, harm, harass, capture or take a living member of a species that is listed in Ontario Regulation (O. Reg.) 230/08 as an EXT, END or THR species.

Section 10.(1) of the ESA prohibits damage to habitat stating that no person shall damage or destroy the habitat of a species that is listed in O. Reg. 230/08 as an END or THR species.

As per Section 17.(1), the Minister may issue a permit to a person that, with respect to a species specified in the permit that is listed in O. Reg 230/08 as an EXT, END or THR species, authorizes the person to engage in an activity specified in the permit that would otherwise be prohibited by Section 9 or 10.

### **2.3 Growth Plan (2020)**

The Growth Plan for the Greater Golden Horseshoe (Growth Plan, 2020) defines the Greater Golden Horseshoe policy area. The property occurs within the Greater Golden Horseshoe policy area. Therefore, any *Planning Act* application related to this property should conform to applicable policies contained within the Growth Plan. The property is mapped within a Built Up Area (*i.e.*, Settlement Area) of the Growth Plan (Appendix A).

### **2.4 Fisheries Act (1985)**

On August 28, 2019, provisions of the federal *Fisheries Act* came into force that included new protections for fish and fish habitat in the form of standards, codes of practice, and guidelines for projects near water. The Act provides protection against the ‘death of fish, other than by fishing’, [Section 34.4(1)] and the ‘harmful alteration, disruption or destruction of fish habitat’ (HADD) [Section 35(1)].

If the death of fish, and/or HADD is likely to result from a project, the project will require an authorization from Fisheries and Oceans Canada (DFO) as per Paragraph 34.4(2)(b) or 35(2)(b) of the *Fisheries Act* Regulations. The fish and fish habitat protection provisions of the *Fisheries Act* are documented in the Fish and Fish Habitat PPS, which outlines how DFO will implement these provisions. The process of fisheries review is currently being revised as DFO unveils codes of practice. In the meantime, projects are being reviewed to determine potential impacts to fish and fish habitat, requirements for mitigative strategies to eliminate impacts, and determine approval requirements. Projects that take place near or in water have the potential to impact fish and fish habitat and should be reviewed by a qualified fisheries ecologist to determine applicable permit requirements from DFO.



## **2.5 County of Simcoe (2016)**

According to Schedule 5.1 of the County of Simcoe Official Plan (2016), the property is in a Settlement Area (Appendix B). Development may be approved in settlement areas in accordance with policy Section 3.5.9.

## **2.6 Township of Severn (2010)**

According to the Township's OP (2010), the property is within the West Shore Settlement Area and designated as a "Settlement Living Area" (Schedule A3 – Appendix C). As per the Environmentally Sensitive Areas mapping (Schedule F – Appendix C), the property is not designated as having environmental sensitivities.

Section C1.3.2 of the OP states "Prior to any development and/or site alteration being proposed on or adjacent to an unevaluated wetland, it is required that the wetland be evaluated to the satisfaction of the Township, the County and the applicable agencies, to determine the boundaries of the wetland and the area of the adjacent lands."

Section C1.7.3 states that an EIS must demonstrate "where applicable, that the proposed use or site alteration will not have a negative impact on the erosion or siltation of watercourses or changes to watercourse morphology."

## **3.0 STUDY APPROACH**

### **3.1 Property**

The property is located in Ecoregion 6E and is approximately 6.8ha in size, with latitude-longitude coordinates of 44.681367° North and -79.398484° West (Figure 1).

For the purposes of this EIS, the term "property" refers to the defined property boundary shown on Figures. The term "adjacent lands" refers to those lands located outside the property boundary but within 120m of the property. This definition is consistent with recommendations within the Natural Heritage Reference Manual (2010). Adjacent lands may be pertinent when certain natural heritage features and functions are dependent on the contiguous natural cover beyond the boundaries of the property. In this case, if the proposed development involves taking of water or a change to the water table, the adjacent watercourse could be affected.

### **3.2 Terms of Reference**

A Terms of Reference (TOR) was developed with the Severn Sound Environmental Association (SSEA) to define the scope of natural heritage studies for the proposed



undertaking (Appendix D). As per SSEA direction, any ‘at risk’ species documented as part of the EIS cannot be disclosed and are identified as ‘Species 1’, ‘Species 2’, *etc.*

### 3.3 Background Data

Background information reviewed for completing this EIS includes:

- Aerial images (Google Earth, Simcoe County GIS);
- Ministry of Natural Resources and Forestry’s (MNRF) Natural Heritage Information Centre (NHIC) Make-A-Map: Natural Heritage Areas application [website];
- VuMap Interactive Mapping [website];
- iNaturalist data [website];
- Ontario Breeding Bird Atlas [website];
- eBird [website];
- Ontario Butterfly Atlas [website];
- Ontario Reptile and Amphibian Atlas [website];
- Atlas of the Mammals of Ontario (Dobbyn, J. 1994);
- Toporama Interactive Mapping [website];
- Land Information Ontario (LIO) database [website];
- Fisheries and Oceans Canada (DFO) SAR Interactive Mapping [website];
- Fish ON-Line Interactive Mapping [website];
- Ministry of the Environment, Conservation and Parks (MECP) Species at Risk in Ontario (SARO) list (Ontario Regulation 230/08 - updated to August 1, 2018);
- Growth Plan (2020);
- County of Simcoe OP (2016); and
- Township OP (2010).

### 3.4 Vegetation Community Mapping

Vegetation community types were classified using Ecological Land Classification (ELC) methods (Lee 2008, Lee *et al.* 1998) based on a field survey undertaken on June 22, 2020 (duration: 11:00am-2:30pm; temperature 26°C; Beaufort Wind Scale: 1; precipitation: none; cloud cover: 100%; surveyor: Scott Martin). The ELC classification included characterization of a small wetland along the northern property boundary, and delineation of a portion of the wetland boundary proximal to this part of the property. The delineated wetland boundary was audited by the SSEA and Township on August 28, 2020. Property conditions were photographed (Appendix E).

To describe vascular plant species composition, a plant survey was conducted as a roving search to compile a list of species by ELC community. Special attention was given to SAR plants that could potentially be on the property, such as Butternut (*Juglans cinerea*)



(END) which is protected under the ESA. Tables 1 and 2 list the ELC vegetation communities and vascular plant species identified, respectively.

### **3.5 Aquatic Features Assessment**

Azimuth completed an onsite assessment of the property to determine aquatic habitat potential, and visual assessment of adjacent lands to the north on October 16, 2020 and November 4, 2020. Background information sources were also consulted for fisheries information, including the Land Information Ontario database (MNR, 2020), Fish ON-Line (MNR, 2019) and DFO SAR mapping (DFO, 2019).

### **3.6 Wildlife Surveys**

#### **3.6.1 Amphibians**

Three evening amphibian surveys were conducted at one survey station (Figure 2). This station provided appropriate coverage of the wetland on the property plus a nearby area of the same wetland on the adjacent northern property where standing water and emergent aquatic vegetation were abundant. The early-spring survey was conducted on April 28, 2020 (duration: 8:53-8:58pm; temperature 7°C; Beaufort Wind Scale: 0; precipitation: none; cloud cover: 40%; surveyor: Scott Tarof). The mid-spring survey was completed on June 4, 2020 (duration: 9:30-9:35pm; temperature 19°C; Beaufort Wind Scale: 2; precipitation: none; cloud cover: 10%; surveyor: S. Tarof). The late-spring survey was completed on June 24, 2020 (duration: 9:37-9:42pm; temperature 14°C; Beaufort Wind Scale: 0; precipitation: none; cloud cover: 40%; surveyor: S. Tarof). Surveys were five minutes in duration and followed the Bird Studies Canada Marsh Monitoring Program protocol (BSC, 2008).

A nearby wetland on Ardtrea Drive was used as a control site for the early-spring evening amphibian survey, but this control site was silent during the mid- and late-spring surveys. Consequently, a wetland on the south side of Tiffin Street between Dunlop Street West and Ferndale Drive in Barrie, Ontario functioned as the control site for the last two surveys. Surveys were conducted from a landscape perspective. All amphibians seen or heard were identified to species and counted.

#### **3.6.2 Dawn and Marsh Breeding Birds**

Two dawn breeding bird surveys were conducted at two point count stations on June 4 and June 22, 2020 (Figure 2). Point counts were five minutes in duration and otherwise followed the protocol of the Ontario Breeding Bird Atlas Guide for Participants (OBBA, 2001). Survey station locations conferred reasonable coverage of the property, the various vegetation communities and adjacent lands. Breeding evidence was assessed





using OBBA (2001) criteria. All birds seen or heard were identified to species and counted (Table 3). Survey conditions are reported in Table 3.

Since a northern portion of the property contained part of a wetland, morning call playback surveys employing methods of the Marsh Monitoring Program (Bird Studies Canada, 2008) were completed. Each survey was comprised of three components: five minute pre-playback; playback and five minute post-playback. The surveys were completed on June 4 (duration: 7:25-7:40am) and 22 (duration: 8:30-8:45am), 2020 (Figure 2). Bird species included in the playback were Virginia Rail, Sora, Least Bittern, American Coot and Pied-billed Grebe. Breeding evidence was assessed based on the criteria of the OBBA (2001). Survey conditions were the same as those reported in Table 3 for the dawn breeding bird surveys.

### 3.6.3 Incidental Wildlife

A list of wildlife (*e.g.*, reptiles, mammals) observed during the spring and summer property visits was recorded based on direct sightings and indirect evidence (*e.g.*, tracks, scat, vocalizations).

## 3.7 Species at Risk Assessment

A SAR background information request was submitted to the MECP on April 23, 2020; a response was received on June 12, 2020 (Appendix F). Results of this request provided a consolidated list of SAR having potential to occur on the property and/or adjacent lands based on background data sources (Appendix F).

Azimuth conducted a SAR assessment to evaluate the potential for the property and/or adjacent lands to function as SAR habitat based on existing habitat characteristics. In consultation with MECP, Azimuth generated a consolidated list of SAR with the potential to occur. Next, Azimuth compared potential SAR known to occur in broader Simcoe County with habitat conditions on and/or adjacent to the property to determine comprehensively if habitat for SAR had the potential to occur on and/or adjacent to the property (Table 4).

## 3.8 Significant Wildlife Habitat Assessment

Assessment of SWH was conducted using criteria outlined in the Ecoregion 6E SWH Criteria Schedule (OMNRF, 2015) (Table 5). The assessment of SWH function being associated with the property and/or adjacent lands included consideration of SAR that are designated as SC species as well as provincially rare species (*i.e.*, S Rank 1, 2, 3 or H), as per the SWH Schedule.



## **4.0 EXISTING CONDITIONS**

### **4.1 Land Use**

#### **4.1.1 On-site Land Use**

The property is situated in a landscape with a combination of residential and agricultural land uses. The property is currently undeveloped.

#### **4.1.2 Adjacent Land Use**

Highway 11 is approximately 600m west of the property. Lake Couchiching is approximately 130m to the east (Figure 2).

### **4.2 General Topography**

Topography of the property is generally flat with an elevation of approximately 220-221mASL (VuMap).

### **4.3 Vegetation Communities**

Five ELC vegetation communities were documented (Figure 2, Appendix E Photographs 1-6). Table 1 describes the characteristics of each delineated ELC polygon. The wetland boundary that was delineated by Azimuth and accepted by the SSEA and Township is shown on Figure 2.

One hundred and seventeen vascular plant species were identified (Table 2). No Butternut trees were found. None of the plant species are designated as SAR or considered provincially rare (*i.e.*, no S rank 1, 2, 3 or H). Thirty-three percent of the species are non-native.

### **4.4 Wetland**

Field delineation revealed wetland habitat comprised of MAMM1 (graminoid mineral meadow marsh) and SWTM3-6 (mixed willow deciduous thicket swamp) ELC vegetation communities (Figures 2 and 3, see Appendix E Photograph #6 for delineated boundary). The wetland is bisected by the northern property boundary, with the polygons covering approximately 0.26ha (MAMM1) and 0.14ha (SWTM3-6) respectively on the property. The portions of the two wetland polygons on the property were relatively dry and did not contain standing water on June 22, 2020 (Appendix E Photographs 5-6). The wetland (LIO) on the adjacent property to the north proximal to where water crosses underneath Amigo Drive contained relatively large areas of standing water and emergent aquatic vegetation (Appendix E Photographs 7-8). The majority of the LIO-mapped wetland is located on adjacent lands (Figures 2 and 3).



## 4.5 Aquatic Features

The property is located within the Lake Couchiching Subwatershed of the Black-Severn River Watershed (LSRCA, 2015). Aquatic features were observed in fall 2020. The property has an unmapped drainage ditch aligned northeast to southwest through an open meadow as shown on Figure 2, as well as an online pond/wetland that is partially contained on the property (Figure 2). These features are described below. Photographs of aquatic/fisheries habitat are provided in Appendix G (with photograph locations shown on Figure 2) and discussed below.

### 4.5.1 Site Conditions

The property for the most part is a ploughed field as described above, with a historically manmade drainage ditch aligned as shown on Figure 2 (Appendix G, Photographs 1-3). The ditch receives runoff from the southwestern portion of the property [Drawing (Dwg) ODP-1; Tatham, 2020], draining from the southwest and northeast to a central low point where water enters wetland habitat on the property (Figure 2).

The ditch is approximately 0.4-0.5m wide, with some sections of standing water (0.02-0.12m) during site evaluation. It was partly vegetated, with substrate consisting of fine sediment, including silt.

The online pond/wetland feature is located on property by the northwest property boundary, extending onto adjacent lands to the north to Amigo Drive (Figure 2). It consists of two sections (northeast and southwest), both of which are heavily vegetated and dominated by cattails (*Typha* sp.). Generally speaking, the southwest section (Appendix G Photographs 4-5) contains standing water, but is shallow (0.5m or less) and more densely vegetated than the northeast section. The northeast section contains more open water sections amongst cattails with water depths exceeding 0.5m (Appendix G Photographs 6-7). A small area of bulrushes was noted along the northeast boundary.

The pond outlets at a 1.0m wide corrugated steel pipe culvert to the north at Amigo Drive (Figure 2; Appendix G Photographs 7-8). The culvert was mostly underwater during both visits, and is suspected to be contributing to ponded upstream conditions.

Downstream (north) of Amigo Drive, water from the wetland contributes flow to an unnamed creek from the west (Figure 2, Appendix G Photograph 9). This creek is permanently flowing, with Watercress (*Nasturtium* sp.) present upstream at the Menoke Beach Road crossing (indicating potential groundwater contributions). Desktop mapping indicates that where the creek meets with water from south of Amigo Drive, it flows to the north for approximately 150m through a naturalized corridor identified as wetland,



and for another 600m through a forested corridor before discharging into Lake Couchiching.

Aerial photography indicates the wetland south of Amigo Drive/on the property has been historically altered (County of Simcoe, 2020). Between 2002 and 2008, the area of standing water within the wetland basin was reduced through land alteration/encroachment from east and west, primarily to the north of the property. Despite historic alteration, the wetland is a natural feature that appears to have always contained standing water.

#### 4.5.2 Fish Habitat

Fisheries information is not available for the wetland on the property, or the creek to which it is connected. MNR's LIO database does not contain fish community records, and MNR Midhurst confirmed they do not have any available fisheries information (Appendix F).

Lake Couchiching is known to contain a diverse coldwater/coolwater fish community that includes species such as Lake Trout (*Salvelinus namaycush*), Lake Whitefish (*Coregonus clupeaformis*), Largemouth/Smallmouth Bass (*Micropterus salmoides/dolomieu*), Northern Pike (*Esox lucius*), Muskellunge (*Esox masquinongy*), Yellow Perch (*Perca flavescens*), Walleye (*Sander vitreus*), and White Sucker (*Catostomus commersonii*; MNR, 2019; LIO, 2020).

The wetland on the property contains sufficient standing water and is hydraulically connected to the downstream watercourse, therefore the feature is considered fish habitat. Fish (Creek Chub [*Semotilus atromaculatus*]) were observed north of Amigo Drive, but no fish were observed in the wetland. Given wetted conditions and wetland size, fish are anticipated to occur permanently or seasonally, the extent of which is unknown. Habitat quality is considered marginal for fish due to densely vegetated, near-monoculture conditions.

The fish community in the wetland would be expected to consist primarily of generalist species such as Brook Stickleback (*Culaea inconstans*) and common minnow species. However, there is also the potential (albeit low) for seasonal use by other fish species, including Northern Pike, that utilize flooded areas of vegetation, including emergent/submergent wetland, for spawning functions in early spring. Cattail-dominated basins/marshes such as the flooded basin are considered low-quality spawning habitat for this species (Farrell *et al.*, 2006). Habitat for Northern Pike is possible, however their preferred habitat is likely north of Amigo Drive.



Wetland habitat to the south of Amigo Drive, extending onto the property, is considered direct fish habitat (permanent or seasonal) and protected under the *Fisheries Act*.

Site conditions do not allow for access to or use of the drainage ditch on the property by fish. The ditch is manmade and only functions to expedite site runoff to the wetland. It is not considered to provide fish habitat protected under the *Fisheries Act*.

There are no records of aquatic SAR in this watershed (DFO, 2019).

## **4.6 Wildlife Surveys**

### **4.6.1 Amphibians**

During the early-spring evening amphibian survey, Spring Peepers and Wood Frogs were heard calling near Amigo Drive. Green Frogs and American Toads were heard during the mid-spring survey, and American Toads and Spring Peepers were calling during the late-spring survey. One Green Frog was calling on the morning of the late-spring survey, however, this species was not detected during the actual evening survey. No calling was heard within the wetland on the property or proximal to the northern property boundary. Amphibian calling activity was localized to the adjacent property near Amigo Drive (Appendix E Photographs 7-8). There was no calling from other adjacent lands.

For the control site on Ardrea Drive, Spring Peepers were heard calling during the early-spring survey. Control site observations from the wetland on Tiffin Street in Barrie on the same evenings as the mid- and late-spring surveys indicated calling by Spring Peepers, Green Frogs and American Toads (mid) and Spring Peepers and Green Frogs (late).

No vernal pools were observed while attending the property.

### **4.6.2 Dawn and Marsh Breeding Birds**

During dawn breeding bird point counts, 30 bird species were detected on and adjacent to the property (Table 3). Species 2 (SC) was detected on the property during the first dawn survey but not during the subsequent survey. Species 1 (THR) was heard singing on adjacent agricultural lands to the west (Table 3). None of the bird species are considered provincially rare (*i.e.*, no S rank 1, 2, 3 or H).

No marsh breeding birds were heard during the first playback survey on June 4, 2020. During the second marsh playback survey on June 22, 2020, no species were detected during the pre- or post-playback components, but one American Coot vocalized during the second playback component while flying over the property from the west toward Lake Couchiching.



#### 4.6.3 Incidental Wildlife

No incidental wildlife was observed.

#### 4.7 Species at Risk

No THR or END species were detected on the property. Bird Species 1 (THR) was found on adjacent agricultural lands to the west, but was not detected on the property during any property visits (Table 3).

## 5.0 NATURAL HERITAGE FEATURES AND FUNCTIONS

### 5.1 General Topography and Soils

There are no valleylands or steep slopes on the property or adjacent lands.

Provincial soil mapping indicates that soils on the property are classified as CLI:2 (VuMap).

### 5.2 Wetland

#### 5.2.1 Provincially Significant Wetlands

There are no Provincially Significant Wetlands (PSWs) on or adjacent to the property, consistent with background mapping (Appendix H).

#### 5.2.2 Unevaluated Wetlands

As per background mapping (Appendix H), NHIC and VuMap mapping show an unevaluated wetland on the adjacent property to the north. This wetland (MAMM1 and SWTM3-6 ELC polygons) was confirmed during field surveys. The southern portion of the wetland traverses the property boundary and extends onto the property (Figures 2 and 3).

### 5.3 Fish Habitat

The wetland on the property is hydraulically connected to downstream fish habitat in an unnamed watercourse that discharges to Lake Couchiching, and is considered direct fish habitat. Fish use is either permanent or seasonal, the extent of which is unknown.

The drainage ditch on the property collects diffuse site runoff and drains to the wetland. The ditch is an ephemeral agricultural feature and is not considered fish habitat under the *Fisheries Act*.

There are no records of aquatic SAR for the project watershed.



#### **5.4 Woodlands**

Background NHIC mapping indicates a narrow strip of woodlands located primarily on the adjacent property to the south but that encroaches onto the property near the southern property boundary (Appendix H). This is a hedgerow feature, not a woodland.

#### **5.5 Areas of Natural and Scientific Interest**

No ANSIs occur on or adjacent to the property (Appendix H).

#### **5.6 Habitat of Threatened or Endangered Species**

Species at risk with potential to occur on the property and/or adjacent lands, and their preferred habitat, were considered to provide a comprehensive assessment as to whether or not there was potentially suitable habitat for SAR (Table 4). No THR or END species or their habitats were identified on the property.

One bird species, Species 1 (THR), was detected on adjacent agricultural lands to the west on the other side of the road, but this species was not detected on the property during any property visits (Table 3). In the SAR assessment, it was determined that suitable habitat did not occur on the property for the species (see Table 4). Consequently, Species 1 is not considered further in our assessment.

In the absence of SAR, there are no further requirements to consider in regards to ESA or federal *Species at Risk Act* permitting for development on the property (Appendix H, Table 4).

#### **5.7 Significant Wildlife Habitat**

An assessment of SWH (Table 5) revealed the following SWH functions potentially associated with the property and/or adjacent lands based on criteria outlined in the Ecoregion 6E SWH Criteria Schedule:

- Amphibian Breeding Habitat (Wetlands);
- Special Concern and Rare Wildlife Species;
  - Grasshopper Sparrow (SC); and
  - Snapping Turtle (SC).

#### **5.8 Natural Heritage Features and Functions Summary**

Results of our field surveys, review of background information and analysis indicate the potential for the following NHFFs to be located on and/or adjacent to the property:

- Unevaluated Wetland – On property and adjacent;
- Fish Habitat – On property and adjacent;
- Significant Wildlife Habitat;



- Amphibian Breeding Habitat (Wetlands) – Adjacent;
- Special Concern and Rare Wildlife Species – On property and adjacent;
  - Grasshopper Sparrow (SC); and
  - Snapping Turtle (SC).

Our impact assessment will consider potential impacts only to features and functions summarized here.

## **6.0 PROPOSED DEVELOPMENT**

The proponent plans to build a residential subdivision comprised of 175 single-family homes, 14 townhouses (seven units each in Blocks C and D) and associated servicing (*e.g.*, internal municipal roads, sidewalks) (Functional Servicing Report Addendum #1, 2020, see Site Plan in Appendix I, see also Figure 3). The Site Plan shows each lot building envelope as an open box with 7.5m lot frontage. The deciduous forest community (FODM7-2) along the north property boundary behind lots #10-26 is to remain post-construction. The western corner of this forest polygon will be removed to accommodate a Stormwater Management Pond (SWMP) (Appendix I, Figure 3).

A SWMP is planned between lots #9 and #10 in Block A (Figure 3; Dwg SWM-1 in Appendix I). As per the Stormwater Management Report (Tatham, 2020), the SWMP has been designed as a wet pond facility in accordance with MECP design criteria, and will collect all drainage from subject lands (“Phase 2” lands on Dwg DP-2; Tatham, 2020). All water in the SWMP will be subjected to “Enhanced” Level 1 treatment, resulting in approximately 80% total suspended solids removal, and will outlet into a section of the northeast section of the wetland to the north of the property (Figure 3; Appendix I; Tatham, 2020). A 2.2m x 3.2m rip rap headwall is proposed at the outlet location. The Functional Servicing Report was not available at the time of preparing the EIS report.

As part of the Draft Plan of Subdivision process, Risk Management staff at the SSEA reviewed information prepared and submitted by Azimuth pertaining to the property being mapped as part of an Intake Protection Zone (IPZ). Due to the IPZ mapping, a Form 59 Source Water Protection screening was required. The SSEA concluded in their Source Water Protection review that significant drinking water threats were not associated with the development, and therefore, Section 57 (Prohibition) and Section 58 (Risk Management Plan) of the Clean Water Act, 2006 did not apply. Further screening or assessment related to the IPZ was not required (Appendix J).





## **7.0 IMPACT ASSESSMENT**

### **7.1 Wetland**

The southern portion of the wetland (MAMM1 and SWTM3-6 ELC polygons) is bisected by the northern property boundary. As a result, part of the wetland traverses onto the property. The Site Plan (Appendix I) shows residential lots #1-9 will encroach up to approximately 40m into the wetland (Figure 3). This encroachment represents a direct wetland impact.

Based on the results of field surveys completed, the area of the wetland where lot encroachment has been proposed is considered to be relatively benign. Field data demonstrated that no wildlife habitat function was attributed specifically to the area of wetland encroachment. No evening amphibian calling activity identified was attributed to this area of the wetland (see Section 7.4.1 below), and no other specific terrestrial habitat function was associated with this southern part of the feature. Consequently, the extent of direct impact to the wetland would be considered low with respect to loss of ecological function for terrestrial species. Mitigation measures recommended in Section 8.0 would be anticipated to help mitigate risk.

The Site Plan shows a SWMP in Block A between lots #9 and 10 (Figure 3, Appendix I). Approximately 40% of the proposed SWMP would encroach into the wetland, representing a direct wetland impact. Mitigation measures, including ESCs and recommended buffer plantings, discussed in Sections 8.2 and 8.3 below would mitigate this impact and represent an opportunity to provide ecological enhancement. The SWMP may increase the amount of habitat suitable for marsh birds.

The potential for indirect wetland impacts (*e.g.*, runoff water quality, quantity, erosion) exists in relation to the proposed development. Providing the recommendations outlined below pertaining to ESCs (Section 8.2), restoration plantings (Section 8.3) and spill management (Section 8.5) are implemented and followed, the risk of indirect wetland impact is considered temporary and mitigable.

### **7.2 Fish Habitat**

Areas of permanent and seasonal fish habitat in wetland by the north property boundary were approximated using field information and the project engineer's Floodplain Mapping Study (Tatham, 2021). In that study, the extent of flooding in each wetland basin was mapped under two modelled storm events: the 25mm storm and the 1:2 year return-frequency 24-hour SCS storm. Areas of permanent inundation/standing water observed during field assessment and on aerial photography (dark blue line in the wetland on Figures 2 and 3) largely align with the extent of flooding under the 25mm scenario in



the Floodplain Mapping Study (Tatham, 2021). As a result, this area was used as an estimate of permanent (direct) fish habitat. The 2-year event modelled and mapped in the engineer's floodplain study (Tatham, 2021) is also shown on Figure 2 (green line in Figures 2 and 3), but was modified on the property to not extend past the delineated wetland. This approach allowed for the approximate area of seasonally flooded wetland vegetation [and therefore potential seasonal (direct) fish habitat] between the normal water line and 2-year flood elevation to be calculated.

Using that approach, it is estimated that lots 1-9 and the proposed SWMP will result in the loss of 1,820m<sup>2</sup> of permanent fish habitat and 1,309m<sup>2</sup> of seasonal fish habitat within the southwest wetland basin. A small amount of infilling (7.0m<sup>2</sup>) is also anticipated in the northeast wetland basin from the proposed rip rap headwall that will serve as the SWMP outlet (as described in Section 6.0).

It is Azimuth's understanding that in the area of the southwest wetland basin in which infilling will not occur, fish habitat alteration will occur through excavation activities required to lower its elevation to prevent flooding into the backyards of lots 1-9. This excavation will remove wetland substrate and plants, and thereby alter approximately 772m<sup>2</sup> of permanent fish habitat and 369m<sup>2</sup> of seasonal fish habitat. This excavation will be accompanied by the placement of fill on the southern sections of lots 1-9 to raise areas of housing development. Backyard slopes adjacent to altered fish habitat are currently unknown. As per correspondence with the project engineer, and the Floodplain Mapping Study, the area of fish habitat alteration at the north end of lots 1-9 is expected to contain permanent water post-development, and remain hydrologically connected to the northwest wetland basin (Tatham, 2021).

Compared to the northeast basin, which will be maintained through the proposed development, the southwest basin represents lower quality fish habitat that has less potential to host fish or support fish life functions. Nevertheless, the proposed development will result in a permanent loss and alteration of fish habitat.

Encroachment into the wetland will also result in the removal of shrubs and trees serving as riparian vegetation. It is unknown if existing vegetation between the proposed SWMP and the northeast wetland basin will be maintained post-development. It is recommended that vegetative restoration practices are applied to all development parcels adjacent to wetland/fish habitat to help re-establish riparian vegetation, and provide a buffering function to overland runoff (Section 8.4.1).

The proposed development is required to maintain water quantity and quality into areas of fish habitat, and the receiving watercourse to the north. Water quantity is anticipated



to be maintained as all existing runoff currently captured by the drainage ditch and conveyed to the pond will continue through the installation of drainage swales, ditches and storm sewers on the property that will outlet into the SWMP, and ultimately wetland habitat to be maintained (Tatham, 2020).

In terms of stormwater quality, the SWMP will be installed to meet the highest level of suspended sediment removal, in accordance with MECP design criteria (Tatham, 2020). The SWMP will feature a Hickenbottom perforated riser as the main outlet. At this time, the Functional Servicing Report has not been provided to confirm that no temperature impacts will result in areas of fish habitat.

Fill placement in areas adjacent to fish habitat has the potential to result in sediment mobilization in rain and melt events, and must be suitably stabilized to prevent water quality impacts. Infilling of and excavation in wetland habitat on the property, as well as the construction of the SWMP outfall to the north, will require in-water work to complete, and will require the use of machinery and other construction related activities that have the risk of impacting natural heritage conditions. In the absence of mitigation, such impacts are commonly associated with sedimentation caused by site disturbances in the absence of sediment and erosion controls, machinery containing fuel and hydraulic fluids that have the potential to input to natural areas, and impacts associated with site disturbances where fish occur and carry out life processes. If unmitigated, such impacts have the potential to result in a HADD, requiring approval from DFO under the Federal *Fisheries Act*.

Any in-water work required for the proposed development must adhere to fisheries timing restrictions, as mandated by the MNR. Based on the potential for spring-spawning species, including coolwater species and warmwater species in the wetland and downstream, all in- and near-water work must avoid the period of March 15 to July 15 of any given year (as confirmed by MNR; Appendix F).

Provided standard Best Management Practices (BMPs) for working in and around water are adhered to during all construction stages, it is anticipated that all temporary impacts (including sediment impacts) in the wetland and the downstream watercourse will be avoided. Recommended BMPs and mitigation measures are described in Section 8.0.

In accordance with DFO's 'Projects Near Water' project review process, the encroachment of development on the property into fish habitat will require DFO review. The estimated loss of 1,827m<sup>2</sup> of permanent fish habitat, and 1,309m<sup>2</sup> of seasonal fish habitat associated with the buffer corridor (area of peripheral riparian below the 2-year flood elevation), as well as the alteration of 1,141m<sup>2</sup> of fish habitat, may trigger the need



for a Letter of Advice or Authorization from DFO. Project submission to DFO is required under a Request for Review well in advance of construction, and if DFO concludes no permit is required, or can approve under a Letter of Advice, then construction may proceed upon receipt. If DFO concludes that the habitat losses represent an unacceptable HADD that cannot be mitigated for, then DFO may conclude that an Authorization is required. In this case, the proponent would be required to re-submit the project under a Request for Authorization. Typical timelines to secure an Authorization can vary, and proponents should be aware of the requirement for offsetting and Letter of Credit.

### **7.3 Significant Wildlife Habitat**

#### **7.3.1 Amphibian Breeding Habitat (Wetlands)**

Wetland amphibian breeding habitat is present on adjacent lands approximately 40-100m away from the anticipated development footprint (*i.e.*, lots #1-10, Figure 3). Consequently, no direct impact to wetland breeding amphibians will occur. Providing mitigation measures recommended in Section 8.0 are followed, indirect impacts to breeding amphibians in the wetland would also not be anticipated.

#### **7.3.2 Special Concern and Rare Species**

##### Grasshopper Sparrow

Grasshopper Sparrow (SC) was heard singing on the property during the first dawn breeding bird survey on June 4, 2020. The species was only heard on this date, and was not detected later in June during the second dawn breeding bird survey – the peak breeding period for migratory songbirds. As such, ‘probable’ breeding was not confirmed. Thirdly, the property does not demonstrate suitable habitat for the species [*e.g.*, suitable grassland habitat of scale ( $\geq 5$ ha)]. For these reasons, the proposed development would not be anticipated to pose direct or indirect impacts to Grasshopper Sparrows. Lands in the surrounding area confer extensive suitable breeding habitat for SC grassland birds.

##### Snapping Turtle

The potential exists for Snapping Turtles to be associated with the northeast portion of the MAMM1 wetland (where open water was observed) on the adjacent property to the north. Since this area is outside of the development footprint, no direct impact to possible Snapping Turtles will occur. Providing the mitigation measures recommended in Section 8.0 are followed, indirect impacts to turtles would not be anticipated.



## 8.0 RECOMMENDATIONS

### 8.1 General Mitigation

#### 8.1.1 Operations

Mitigation measures should be employed at all times and are recommended to include effective site and construction planning. Construction staging and refuelling areas should be at least 30m away from the wetland and fish habitat proximal to the development footprint.

#### 8.1.2 Timing Windows

##### Vegetation Removal

Azimuth understands tree/vegetation removal/limbing within FODM7-2b and SWTM3-6/MAMM1 will be required to accommodate lots #1-9 and the SWMP. Removals should occur between November 1 and March 31 so as to be outside the migratory bird breeding season (April 1 – August 31). Migratory birds, nests and eggs are protected by the *Migratory Birds Convention Act, 1994* and the *Fish and Wildlife Conservation Act, 1997*. This timing restriction will also mitigate the risk of possible impacts to habitat of SAR bats that could use trees in the FODM7-2b vegetation community for roosting during proposed works. The active summer bat season can extend to October 31, as per MNRF guidelines.

##### In-Water Work

All in-water and near-water activities should avoid the restricted in-water timing window of March 15 to July 15 for the protection of the spring-spawning fish community (as confirmed by MNRF; Appendix F).

Construction activities must have consideration for potential turtles and amphibians. All construction in the wetland, including excavation and fill placement, should occur between approximately April 15 to September 30 (with wildlife salvage, as required) for the protection of hibernating herpetofauna (MNRF, 2016). This window should be confirmed with MNRF through the permit acquisition process described in Section 8.5. For due diligence, confirmation with MECP is also advised in regards to potential SAR. Erosion and sediment controls (see Section 8.2 below) must provide appropriate function as turtle exclusion fencing to keep turtles out of the work footprint.

When both timing windows are combined, in-water work should occur between July 15 to September 30 for the protection of fish and herpetofauna species. Within this window, construction should be scheduled to avoid periods of high rainfall to minimize the risk of runoff at the project site.



## 8.2 Erosion and Sediment Controls

Prior to any land clearing/earth works for the proposed development, the proponent should develop and implement an Erosion and Sediment Control (ESC) Plan to avoid/minimize risk of sediment transport and deposition of any exposed soils into adjacent natural areas, including wetland and fish habitat. Established ESCs should isolate the limit of disturbance during all phases of construction and ensure that runoff from the property does not impact identified features.

The ESC Plan should include, but is not limited to:

- Perimeter silt fencing;
- Coir log placement;
- The application of biodegradable erosion control blankets to exposed soils, including slopes/disturbed areas adjacent to wetland/fish habitat;
- Details for storing, isolating and stabilizing stockpiles of soil (*i.e.*, at least 30m from the wetland and fish habitat).
- Dewatering controls (as described in Section 8.4 below).

ESC's should be monitored and inspected regularly to ensure proper function and maintained until the development is complete and areas of re-naturalization (where undeveloped) have stabilized. If deficiencies are noted, they are to be promptly corrected. Monitoring of ESCs should include observation of turtle exclusion fencing to ensure proper functioning. Scheduled inspections of ESCs should include areas of fish and herpetofauna habitat to ensure no erosion or siltation has occurred.

## 8.3 Species at Risk

Training for construction workers is recommended in regards to SAR, in the event that SAR are encountered during construction activities. If SAR are encountered in or near the work footprint, construction should stop immediately and the area where the species is present kept clear. The proponent is advised to contact Azimuth should a SAR be found.

## 8.4 Site Restoration

### 8.4.1 Wetland

Consistent with the Site Plan, Azimuth recommends the developable area within lots #1-9 be positioned as close as possible to the front of the lots to accommodate suitable wetland buffer plantings in the rear of the nine lots, including backyard slopes adjacent to fish habitat. Suitable wetland buffer plantings would include Red-osier Dogwood, Silver Maple, Nannyberry and Meadow Willow. These tree and shrub species were identified during the plant inventory (Table 2) and are native to the feature. Plantings should be



combined with seeding and biodegradable erosion control blanket placement to stabilize soils in close proximity to aquatic habitat.

The development should consider Low Impact Development (LID) options associated with the SWMP footprint proposed for Block A that will help maintain or enhance current wetland plant growth conditions. For example, LID features (*e.g.*, bioswales) that help maintain/improve pre-development conditions in regards to surface water quantity and quality in the adjacent wetland/fish habitat should be considered. Where possible, plantings around the SWMP footprint proposed to encroach into the wetland are recommended to be comprised of native ‘wet-footed’ species that currently occur in the wetland (*i.e.*, Red-osier Dogwood, Silver Maple, Nannyberry, Bebb’s Willow, Heart-leaved Willow, Meadow Willow, and a mixture of the herbaceous milkweeds and sedges listed in Table 2). Naturalization plantings will enhance the ecological function of the SWMP, including shading functions, while also providing buffering function for breeding amphibians in the ponded area on the adjacent property. Inclusion of additional wet-footed native trees such as Eastern White Cedar and Eastern Hemlock would improve species diversity and niche partitioning for birds and wildlife. Soils required for construction of the SWMP perimeter/berm areas should be sourced from excavated soil material on-property to leverage the native seed bank. Planting Silver Maple and Sugar Maple as buffer plantings around the non-wetland perimeter of the SWMP footprint would help stabilize soil and provide additional buffering capacity for the wetland.

#### 8.4.2 Lowland Deciduous Forest Rehabilitation

Consideration of installing native tree plantings (*e.g.*, Trembling Aspen, Silver Maple, American Beech, Choke Cherry) at the rear of lots #10 – 25, where possible, would help offset loss of the western corner of the FODM7-2(b) feature due to construction of the SWMP. This section of the northern property boundary is recommended for buffer plantings of the same native tree species, as noted in Table 2.

### 8.5 In-Water Work

In addition to the in-water timing restrictions identified above, all in-water work (lot/SWMP encroachment into wetland/fish habitat, installation of SWMP headwall, *etc.*) must be completed ‘in the dry’ (*i.e.*, in the absence of water). The work area(s) must be isolated, with downstream flow quality and quantity to be maintained at all times. Within the isolated work area(s), fish and wildlife salvage is required (Section 8.5).

Site dewatering will be required to maintain a dry work area(s) for all site works. Dewatering activities should be pumped to a filter bag (*i.e.*, envirobag or equivalent) prior to being released into the wetland. Filter bags should be placed a minimum of 30m from the wetland/fish habitat on stable, vegetated ground to allow fines to settle out of the





water. Monitoring of dewatering operations should occur throughout the construction process to ensure water is free of fines before entering the watercourses. MECP permits may be required for dewatering/water taking.

Clean fill is to be used in all areas of wetland to be infilled as part of the proposed development. All stone to be placed in the wetland, including SWMP slopes and the SWMP headwall, must be clean and free from fine sediment. If metre bags or 'sandbags' are used for work area isolation (*i.e.*, as a temporary cofferdam), the contractor should ensure the bags do not contain sand and alternatively utilize stone/ gravel. All materials used for site isolation must be removed at the conclusion of in-water work.

As with the ESC measures described in Section 8.2, all in-water work will require ongoing monitoring to ensure there are no impacts to fish/fish habitat. This recommendation includes monitoring all pumping, fill placement, grading and excavation activities.

Development plans, including stormwater, ESC, grading, staging, and plantings plans, must be submitted to DFO in the form of a Request for Review. DFO permitting is anticipated to be required for the proposed fish habitat infilling and alteration.

### **8.6 Fish and Wildlife Salvage**

Fish and wildlife salvage will be required for all in-water work (excavation and any infilling of wetland for lots #1-9, excavation and any infilling pertaining to the SWMP, stone placement, *etc.*) in the wetland. All fish and herpetofauna within in-water work areas must be relocated into suitable habitat away from construction activities. Salvage activities should be completed by qualified ecologists with valid Scientific Collector Permits [a Licence to Collect Fish for Scientific Purposes, and Wildlife Scientific Collector's Authorization (WSCA)] from MNRF. If a turtle/amphibian SAR is encountered during salvage, construction must be halted and MECP contacted as per WSCA conditions.

### **8.7 Containment and Spill Management Plan**

The contractor is required to have a Contaminant and Spill Management Plan in place prior to the initiation of works. In the event of a spill, the contractor must report it immediately to the Spills Action Centre (SAC) at 1-800-268-6060.

All machinery refuelling, maintenance and gas/oil storage is prohibited from occurring within 30m of the wetland/downstream watercourse. All pumping equipment must be placed atop a properly-sized spill containment pad to prevent leakage of deleterious substances into natural features.





## **9.0 POLICY AND REGULATION CONFORMITY**

### **9.1 Provincial Policy Statement (2020)**

Section 2.1 – Proposed development results in no negative direct or indirect impacts to natural features or their ecological functions (Sections 2.1.4 and 2.1.5), including impacts to fish and fish habitat (Section 2.1.6), and can be achieved with no impact to habitat of END or THR species (Section 2.1.7). Development can be achieved with no impacts to adjacent natural heritage features (Section 2.1.8), providing recommended mitigation measures are followed – **Consistent**.

### **9.2 Endangered Species Act (2007)**

Proposed development can be constructed without impacting individuals or habitat of END or THR Ontario species – **Complies**.

### **9.3 Growth Plan (2020)**

Proposed development is in a Settlement Area – **Consistent**.

### **9.4 Federal Fisheries Act (1985)**

The project will result in the estimated loss 1,827m<sup>2</sup> of permanent fish habitat and 1,309m<sup>2</sup> of seasonal fish habitat (above the normal water level in the floodplain), as well as the alteration of 1,141m<sup>2</sup> of fish habitat. Temporary impacts associated with construction are expected to be mitigable, provided BMPs, including project timing, ESCs, and water quantity/quality protection provisions for in-water work/runoff, are implemented – **Permitting anticipated to be required**.

### **9.5 County of Simcoe Official Plan (2016)**

Proposed development is in a Settlement Area. As per policy Section 3.5.9, development may be approved in settlement areas – **Consistent**.

### **9.6 Township of Severn Official Plan (2010)**

As per Section C1.3.2 of the Township's OP, before development and/or site alteration on or adjacent to an unevaluated wetland, the wetland is to be evaluated to the satisfaction of the Township, the County and the applicable agencies to determine the boundaries of the wetland and the area of the adjacent lands. – **Consistent**.

As per Section C1.7.3, an EIS must demonstrate that the proposed use or site alteration will not have a negative impact on the erosion or siltation of watercourses or changes to watercourse morphology, providing recommended mitigation measures are implemented and followed. – **Consistent**.



## 10.0 CONCLUSIONS

The proposed development poses impacts to wetland and fish habitat on the property. The proposed development involves encroachment into the wetland by lots #1-9 and the SWMP. While representing a reduction in wetland size, unique wildlife functions will not be impacted significantly, provided recommendations for mitigation, habitat rehabilitation and spill management are included in the proposal for development. Submission to DFO regarding encroachment into fish habitat will be required prior to development. Recommended mitigation measures regarding buffer plantings at the rear of lots #1-9 and around the SWMP may provide some enhancement of pre-development conditions.

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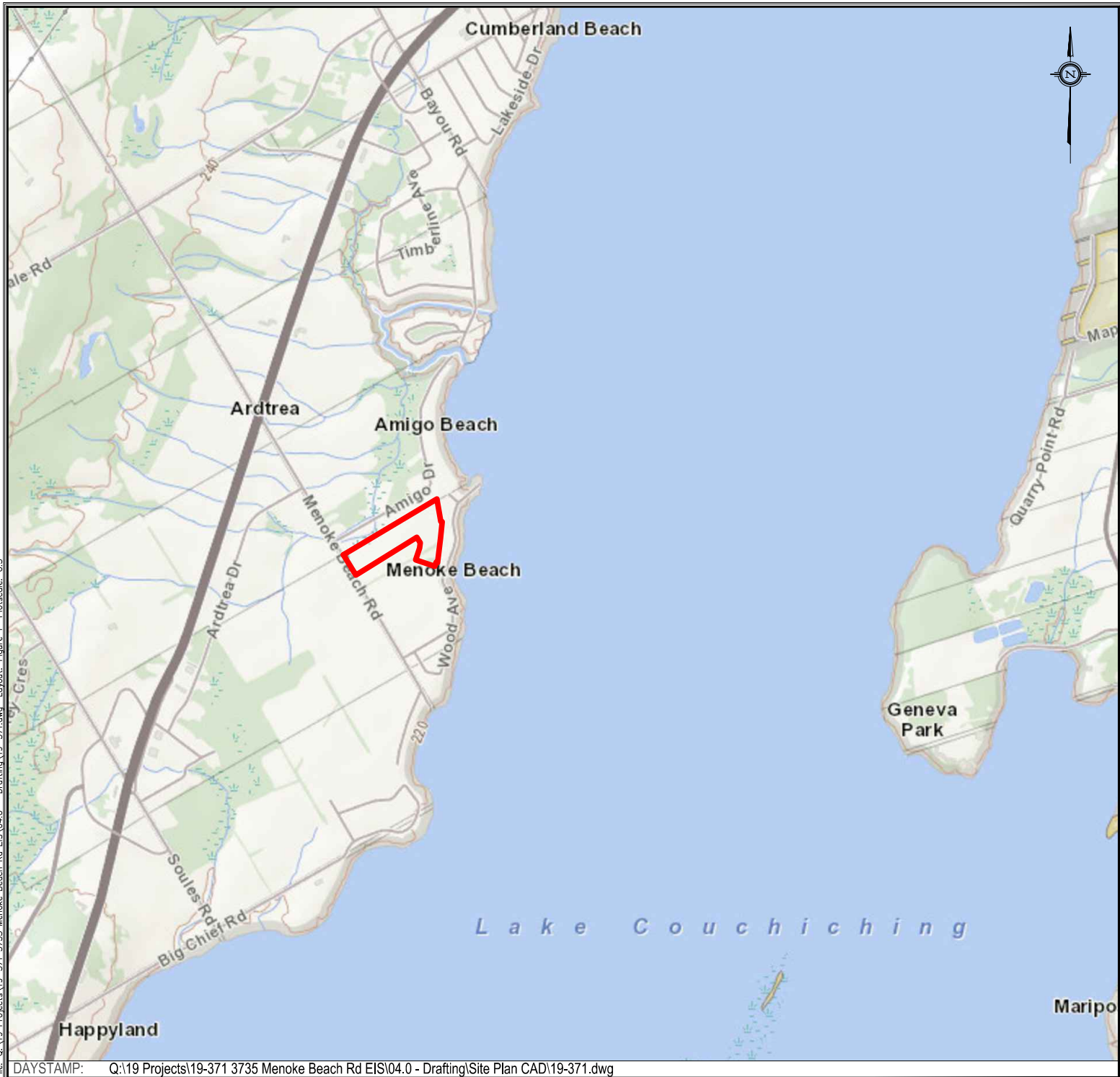
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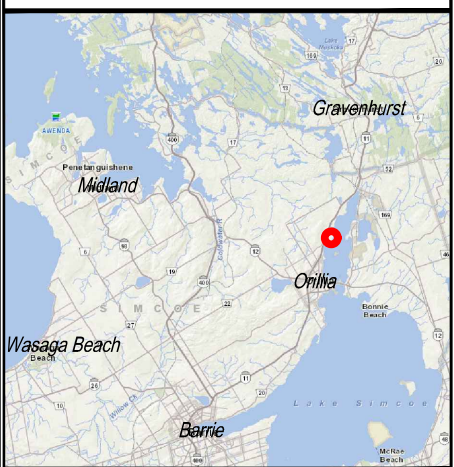
Tatham Engineering (Tatham). 2020. Menoke Beach Subdivision – Phase 2 Stormwater Management Report (2663410 Inc.)

Township of Severn Official Plan. 2010. Approved as of June 11, 2010.  
<https://www.severn.ca/en/build-and-invest/resources/Documents/Official-Plan.pdf>.

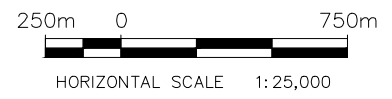
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File: C:\19 Projects\19-371\_3735 Menoke Beach Rd EIS\04.0 - Drafting\19-371.dwg Layout: Figure 1 - PlotScale: 0.5



**LEGEND:**  
— *Approx. Property Boundary*



REG MAP

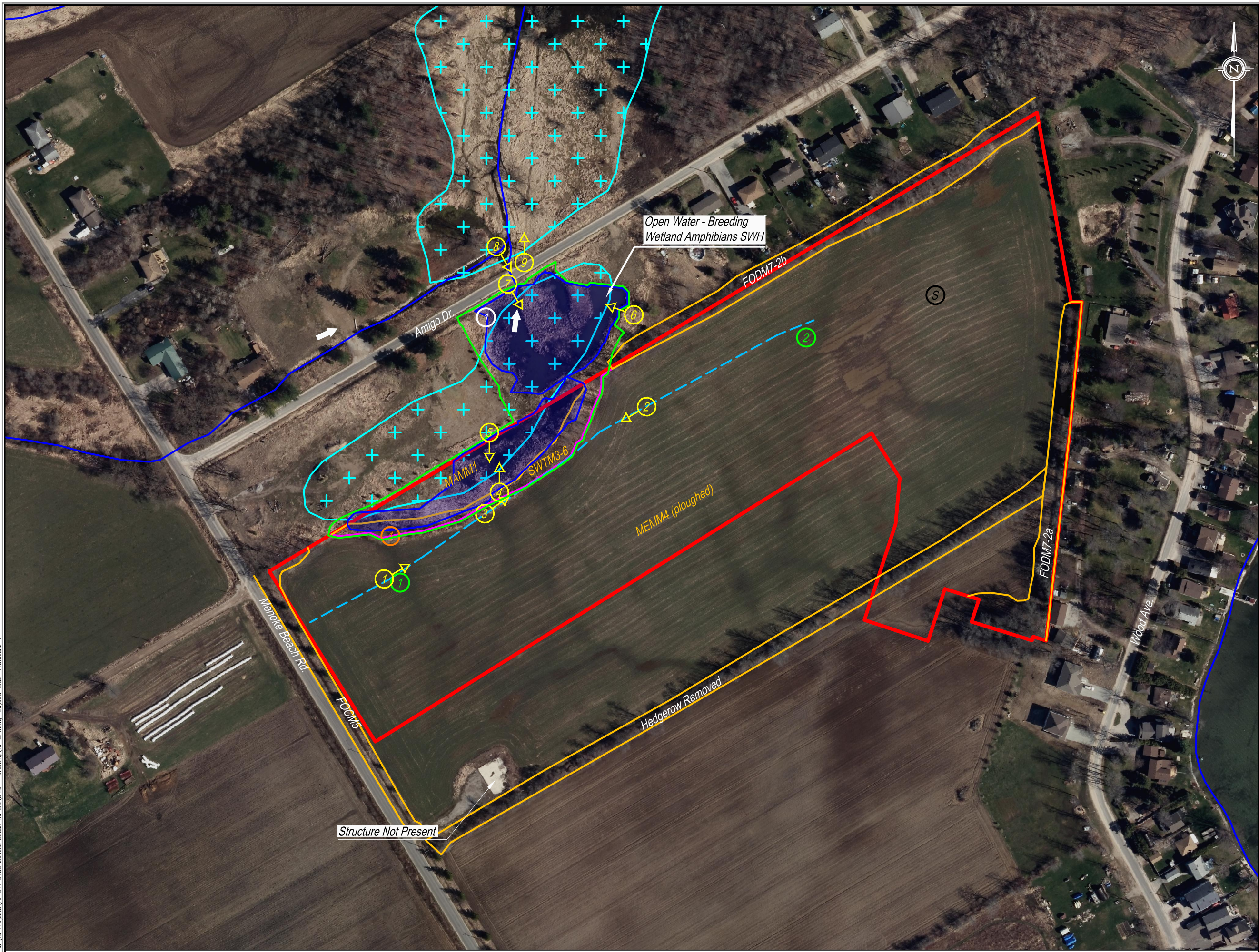


Property Location

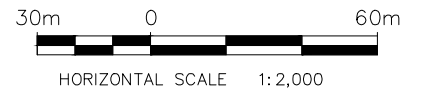
3735 Menoke Beach Rd.,  
Township of Severn, ON

DATE ISSUED: July 2020	Figure No.
CREATED BY: JLM	
PROJECT NO.: 19-371	1
REFERENCE: MNR	





- LEGEND:**
- Approx. Property Boundary
  - Watercourse
  - Ponded Area (identified in field, similar to 25mm storm event modeling)
  - - - Drainage Ditch
  - Flow Direction (white)
  - Amphibian Survey Station (white)
  - Photo Station and Direction
  - Dawn Breeding Birds Survey Stations
  - Marsh Breeding Birds Survey Station
  - Soil Pile
  - + Unevaluated Wetland (LIO)
  - Azimuth Delineated Wetland (Audited by SSEA)
  - Ponded Area (1:2-year 24-hour SCS)
  - Vegetation Communities
  - FOCM5 Naturalized Coniferous Hedgerow Ecosite
  - FODM7-2 Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest Type
  - MAMM1 Graminoid Mineral Meadow Marsh Ecosite
  - MEMM4 Fresh-Moist Mixed Meadow Ecosite
  - SWTM3-6 Mixed Willow Deciduous Thicket Swamp Type



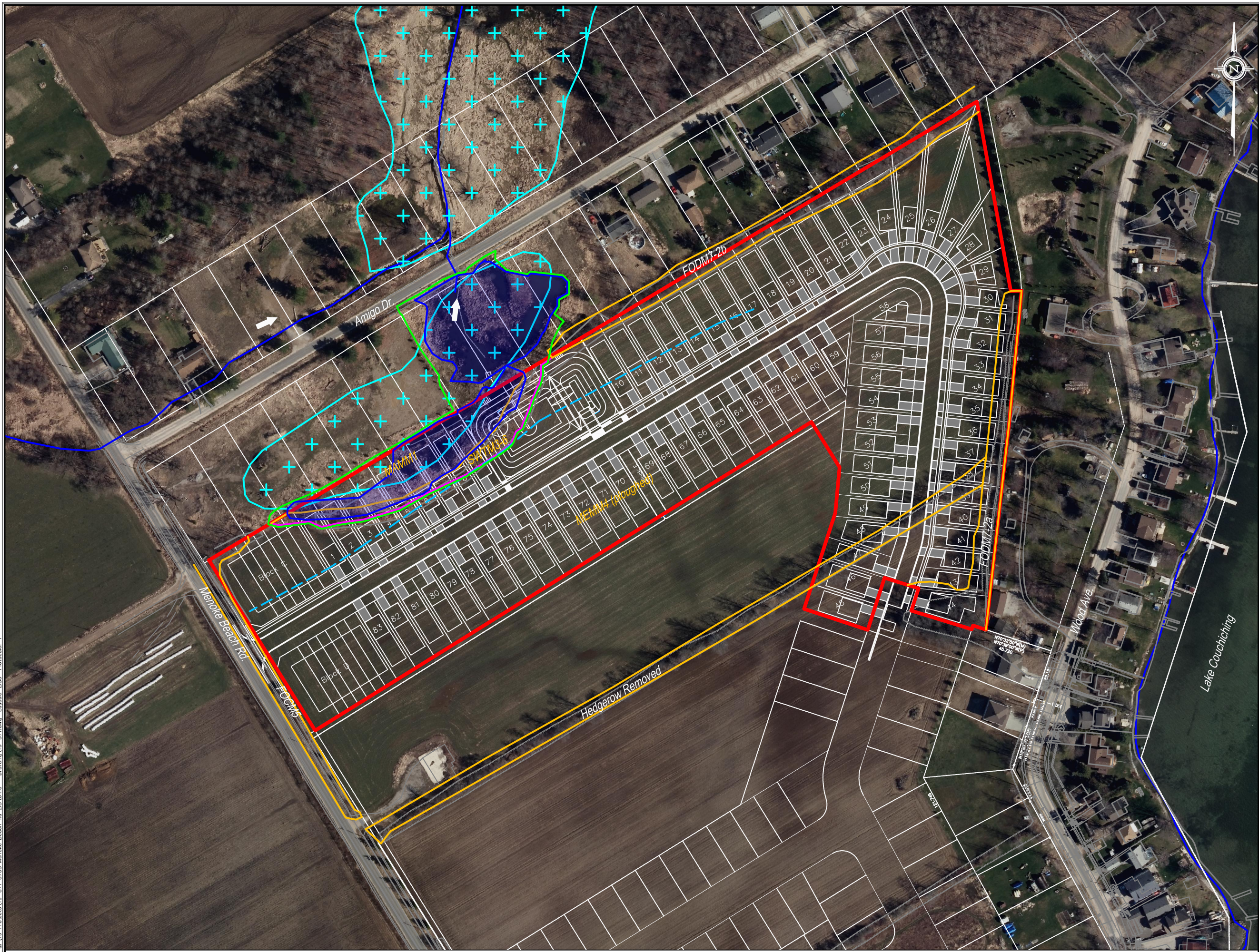
**Environmental Features**

3735 Menoke Beach Rd.,  
Township of Severn, ON

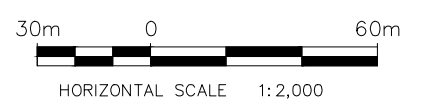
DATE ISSUED:	July 2020	Figure No.
CREATED BY:	JLM	2
PROJECT NO.:	19-371	
REFERENCE:	Simcoe County Maps	

Plotted by: MCCARTNEY on December 22, 2020 at 1:52pm  
 File: Q:\19 Projects\19-371\_3735 Menoke Beach Rd EIS\04.0 - Drafting\Site Plan CAD\19-371.dwg Layout: EIS2 Plotscale: 1





- LEGEND:**
- Approx. Property Boundary
  - Watercourse
  - Poned Area (identified in field, similar to 25mm storm event modeling)
  - Drainage Ditch
  - Flow Direction (white)
  - Unevaluated Wetland (LIO)
  - Azimuth Delineated Wetland (Audited by SSEA)
  - Poned Area (1:2-year 24-hour SCS)
  - Vegetation Communities
- FOCM5 Naturalized Coniferous Hedgerow Ecosite  
 FODM7-2 Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest Type  
 MAMM1 Graminoid Mineral Meadow Marsh Ecosite  
 MEMM4 Fresh-Moist Mixed Meadow Ecosite  
 SWTM3-6 Mixed Willow Deciduous Thicket Swamp Type



Proposed Site Plan

3735 Menoke Beach Rd.,  
Township of Severn, ON

DATE ISSUED:	July 2020	Figure No.
CREATED BY:	JLM	3
PROJECT NO.:	19-371	
REFERENCE:	Simcoe County Maps	

Plotted by: MCCARTNEY on December 22, 2020 at 1:55pm  
 File: Q:\19 Projects\19-371\_3735 Menoke Beach Rd EIS\04.0 - Drafting\Site Plan CAD\19-371.dwg Layout: EIS3 Plotscale: 1



Ecological Land Classification						Ground Cover
System	Community Class	Community Series	Ecosite	Vegetation Type	Composition	
Terrestrial	ME, Meadow	MEM, Mixed Meadow	MEMM4, Fresh - Moist Mixed Meadow Ecosite		This polygon occupies the majority of the subject property and is comprised of a large previously row-cropped agricultural field that has been left fallow for several years. Vegetation cover is often sparse, and the polygon was ploughed recently. There are no trees beyond some Balsam Poplar saplings, with several young Heart-leaved Willow shrubs scattered mostly near the field margins. The majority of the vegetation is non-native "weedy" species of grasses and forbs.	Ground layer flora is dominated by "weedy" forbs typical of post-agricultural settings, including Annual Ragweed, Mouse-ear Chickweed, Alsike Clover, Path Rush, Pointed Broom Sedge and Tufted Vetch. Above the ground layer, Timothy, Redtop, Annual Fleabane, Panicked Aster and Grass-leaved Goldenrod are dominant.
Terrestrial	FO, Forest	FOC, Coniferous Forest	FOCM5, Naturalized Coniferous Hedge-row Ecosite		This polygon borders Menoke Beach Road on the western edge of the subject property and consists of a hedgerow of several widely-spaced 5-8m tall White Spruce, along with a small number of Trembling Aspen, Green Ash and American Elm. At the north-west corner of the property, there are also a few Black Locust and Red Oak. There is a variety of shrubs growing between the White Spruce, including Red-Osier Dogwood, Common Apple, Choke Cherry, Nannyberry and Heart-leaved Willow. Much of the vegetation is draped in Wild Grape. The polygon encompasses a roadside ditch with standing water.	Smooth Brome dominates the lower vegetations layers along with Orchard Grass and a mix of forbs such as Oxeye Daisy, Panicked Aster, Field Horsetail and Smooth Goldenrod,
Terrestrial	FO, Forest	FOD, Deciduous Forest	FODM7 (a), Fresh - Moist Lowland Deciduous Forest Ecosite	FODM7-2 (a), Fresh - Moist Green Ash-Hardwood Lowland Deciduous Forest Type	This polygon consists of a very small remnant mature woodland situated between the former agricultural field and the backyards of houses adjacent to the east. Much of the polygon is narrow enough that it could be considered a hedge-row. Dominant tree species include Green Ash and Silver Maple, with Red Oak, Basswood and American Elm also common. Shrubs include clusters of Common Buckthorn and Staghorn Sumac at the outer margins, along with Red-osier Dogwood, Alternate-leaved Dogwood and Common Apple.	Smooth Brome dominates the lower-level vegetation along the outer margins of the woodland, while Wild Garlic Mustard dominates in more shade. Also common are Poison Ivy, both White and Yellow Avens, Broad-leaved Enchanter's Nightshade and Wild Strawberry.
Terrestrial	FO, Forest	FOD, Deciduous Forest	FODM7 (b), Fresh - Moist Lowland Deciduous Forest Ecosite	FODM7-2 (b), Fresh - Moist Green Ash-Hardwood Lowland Deciduous Forest Type	This polygon is quite similar in structure and composition to FODM7-2 (a), but is deeper throughout and generally contains larger, more mature trees. Woody vegetation is dominated by Green Ash, Silver Maple, Trembling Aspen, Basswood and Eastern Cottonwood, over Red-osier Dogwood, Choke Cherry, Nannyberry and Common Buckthorn.	Orchard Grass dominates the ground flora, particularly near the woodland margins, along with Bracken, White Avens, Poison Ivy, Wild Strawberry, Dandelion and Herb Robert.
Wetland	SW, Swamp	SWT, Thicket Swamp	SWTM3, Willow Mineral Deciduous Thicket Swamp Ecosite	SWTM3-6, Mixed Willow Deciduous Thicket Swamp Type	This Willow Thicket Swamp polygon occupies a very narrow band (approx. 4-6m wide) between the former agricultural field to the south and the MAMM1 Meadow Marsh to the north (that is adjacent to the north property boundary). A few mature Hybrid Willow trees grow at either end, with many young-aged Silver Maple growing at the east end and the western approximately 2/3 of the polygon dominated by 2-4m tall Heart-leaved Willow, Bebb's Willow and Meadow Willow. No standing water present.	Sensitive Fern carpets the ground layer here, along with large numbers of Fringed Sedge, Field Horsetail and Bluejoint Reedgrass.



Ecological Land Classification						
System	Community Class	Community Series	Ecosite	Vegetation Type	Composition	Ground Cover
Wetland	MA, Marsh	MAM, Meadow Marsh	MAMM1, Graminoid Mineral Meadow Marsh Ecosite		<p>This wetland polygon (extending to the north property boundary) is comprised of several smaller areas each with meadow marsh characteristics. All areas are dominated by graminoids, with no trees and a few willow shrubs (to 3m tall) scattered throughout. The only area of standing water observed was within the Unevaluated Wetland (LIO) polygon to the northeast (<i>i.e.</i>, immediately south of Amigo Drive).</p>	<p>The majority of this polygon is dominated by Bluejoint Reedgrass, with common forbs and other graminoids including Yellow Colt's-foot, Field Horsetail, Dark-green Bulrush, Fox Sedge, Marsh Bedstraw, Spotted Jewelweed, Spotted Joe Pye Weed, Panicked Aster, Smooth Goldenrod, Grass-leaved Goldenrod and Panicked Aster. Broad-leaved Cattail, Reed Canary Grass and Common (European) Reed are also found scattered throughout the Bluejoint Reedgrass, as well as locally dominant in small concentrated areas around the various small water-filled depressions.</p>

Table 2: Vascular Plant List, 3735 Menoke Beach Road, Severn, 2020

19-371

FAMILY <sup>1</sup>	SCIENTIFIC NAME <sup>1</sup>	COMMON NAME <sup>1</sup>	Vegetation Communities <sup>2</sup>						Rankings <sup>3</sup>		
			MEMM4	FOCM5	FODM7-2 (a)	FODM7-2 (b)	SWTM3-6	MAMM1	GRANK	SRANK	TRACK
Aceraceae	<i>Acer saccharinum</i>	Silver Maple			X	X	X		G5	S5	N
Aceraceae	<i>Acer x freemanii</i>	( <i>Acer rubrum</i> X <i>Acer saccharinum</i> )			X		X		GNA	SNA	N
Anacardiaceae	<i>Toxicodendron rydbergii</i>	Rydberg's Poison Ivy			X	X			G5	S5	N
Asclepiadaceae	<i>Asclepias incarnata</i>	Swamp Milkweed					X		G5	S5	N
Asteraceae	<i>Ambrosia artemisiifolia</i>	Annual Ragweed	X						G5	S5	N
Asteraceae	<i>Anthemis cotula</i>	Stinking Chamomile	X						G5	SE5	N
Asteraceae	<i>Bidens cernua</i>	Nodding Beggarticks	X						G5	S5	N
Asteraceae	<i>Cirsium arvense</i>	Canada Thistle	X						GNR	SE5	N
Asteraceae	<i>Erigeron annuus</i>	Annual Fleabane	X	X		X			G5	S5	N
Asteraceae	<i>Eupatorium perfoliatum</i>	Common Boneset					X		G5	S5	N
Asteraceae	<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	X				X	X	G5	S5	N
Asteraceae	<i>Eutrochium maculatum</i> var. <i>maculatum</i>	Spotted Joe Pye Weed	X					X	G5T5	S5	N
Asteraceae	<i>Lactuca serriola</i>	Prickly Lettuce	X						GNR	SE5	N
Asteraceae	<i>Leucanthemum vulgare</i>	Oxeye Daisy	X	X					GNR	SE5	N
Asteraceae	<i>Pilosella aurantiaca</i>	Orange Hawkweed	X						GNR	SE5	N
Asteraceae	<i>Pilosella caespitosa</i>	Meadow Hawkweed	X			X			GNR	SE5	N
Asteraceae	<i>Solidago altissima</i> ssp. <i>altissima</i>	Eastern Late Goldenrod			X				GNR	S5	N
Asteraceae	<i>Solidago canadensis</i> var. <i>canadensis</i>	Canada Goldenrod		X					G5T5	S5	N
Asteraceae	<i>Solidago gigantea</i> var. <i>gigantea</i>	Smooth Goldenrod	X	X					G5	S5	N
Asteraceae	<i>Solidago rugosa</i> var. <i>rugosa</i>	Northern Rough-leaved Goldenrod	X						G5T5	S5	N
Asteraceae	<i>Symphyotrichum lanceolatum</i> ssp. <i>lanceolatum</i>	Panicled Aster	X	X				X	G5T5	S5	N
Asteraceae	<i>Symphyotrichum lateriflorum</i>	Calico Aster			X				G5	S5	N
Asteraceae	<i>Symphyotrichum novae-angliae</i>	New England Aster	X	X				X	G5	S5	N
Asteraceae	<i>Symphyotrichum puniceum</i>	Swamp Aster						X	G5	S5	N
Asteraceae	<i>Taraxacum officinale</i>	Common Dandelion	X	X	X	X			G5	SE5	N
Balsaminaceae	<i>Impatiens capensis</i>	Spotted Jewelweed					X	X	G5	S5	N
Brassicaceae	<i>Alliaria petiolata</i>	Garlic Mustard			X				GNR	SE5	N
Brassicaceae	<i>Diplotaxis tenuifolia</i>	Slim-leaf Wallrocket	X						GNR	SE5	N
Brassicaceae	<i>Lepidium campestre</i>	Field Peppergrass	X						GNR	SE5	N
Brassicaceae	<i>Thlaspi arvense</i>	Field Penny-cress	X						GNR	SE5	N
Caprifoliaceae	<i>Sambucus canadensis</i>	Common Elderberry					X		G5T5	S5	N
Caprifoliaceae	<i>Viburnum lentago</i>	Nannyberry		X		X	X		G5	S5	N
Caprifoliaceae	<i>Viburnum opulus</i> ssp. <i>opulus</i>	Cranberry Viburnum		X	X				GNR	SE3?	N
Caryophyllaceae	<i>Cerastium fontanum</i>	Common Mouse-ear Chickweed	X						GNR	SE5	N
Chenopodiaceae	<i>Chenopodium album</i>	White Goosefoot		X					G5	SE5	N
Clusiaceae	<i>Hypericum perforatum</i>	Common St. John's-wort	X						GNR	SE5	N
Cornaceae	<i>Cornus alternifolia</i>	Alternate-leaved Dogwood			X				G5	S5	N
Cornaceae	<i>Cornus stolonifera</i>	Red-osier Dogwood		X	X	X	X	X	G5	S5	N
Crassulaceae	<i>Sedum</i> sp.	a Stonecrop			X				N/A	N/A	N/A
Cyperaceae	<i>Bolboschoenus fluviatilis</i>	River Bulrush						X	G5	S4S5	N

FAMILY <sup>1</sup>	SCIENTIFIC NAME <sup>1</sup>	COMMON NAME <sup>1</sup>	MEMM4	FOCM5	FODM7-2 (a)	FODM7-2 (b)	SWTM3-6	MAMM1	GRANK	SRANK	TRACK
Cyperaceae	<i>Carex arctata</i>	Black Sedge			X	X			G5	S5	N
Cyperaceae	<i>Carex crinita</i>	Fringed Sedge					X	X	G5	S5	N
Cyperaceae	<i>Carex gracillima</i>	Graceful Sedge			X	X	X		G5	S5	N
Cyperaceae	<i>Carex scoparia</i>	Pointed Broom Sedge	X					X	G5	S5	N
Cyperaceae	<i>Carex stipata</i>	Awl-fruited Sedge	X					X	G5	S5	N
Cyperaceae	<i>Carex vulpinoidea</i>	Fox Sedge	X				X	X	G5	S5	N
Cyperaceae	<i>Scirpus atrovirens</i>	Dark-green Bulrush	X				X	X	G5?	S5	N
Dennstaedtiaceae	<i>Pteridium aquilinum</i>	Bracken Fern				X			G5	S5	N
Dryopteridaceae	<i>Matteuccia struthiopteris</i>	Ostrich Fern			X				G5	S5	N
Dryopteridaceae	<i>Onoclea sensibilis</i>	Sensitive Fern					X		G5	S5	N
Equisetaceae	<i>Equisetum arvense</i>	Field Horsetail	X	X			X	X	G5	S5	N
Fabaceae	<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	X						GNR	SE5	N
Fabaceae	<i>Melilotus albus</i>	White Sweet-clover	X						G5	SE5	N
Fabaceae	<i>Robinia pseudoacacia</i>	Black Locust		X					G5	SE5	N
Fabaceae	<i>Trifolium hybridum</i>	Alsike Clover	X						GNR	SE5	N
Fabaceae	<i>Trifolium pratense</i>	Red Clover	X						GNR	SE5	N
Fabaceae	<i>Vicia cracca</i>	Tufted Vetch	X						GNR	SE5	N
Fagaceae	<i>Fagus grandifolia</i>	American Beech				X			G5	S4	N
Fagaceae	<i>Quercus rubra</i>	Northern Red Oak		X	X				G5	S5	N
Geraniaceae	<i>Geranium robertianum</i>	Herb-Robert				X			G5	S5	N
Grossulariaceae	<i>Ribes americanum</i>	Wild Black Currant			X	X			G5	S5	N
Hydrophyllaceae	<i>Hydrophyllum virginianum</i>	Virginia Waterleaf			X				G5	S5	N
Iridaceae	<i>Iris versicolor</i>	Harlequin Blue Flag						X	G5	S5	N
Juglandaceae	<i>Juglans nigra</i>	Black Walnut			X				G5	S4?	N
Juncaceae	<i>Juncus effusus</i>	Soft Rush	X						G5	S5	N
Juncaceae	<i>Juncus tenuis</i>	Path Rush	X						G5	S5	N
Lamiaceae	<i>Lycopus americanus</i>	American Water-horehound						X	G5	S5	N
Lamiaceae	<i>Prunella vulgaris ssp. lanceolata</i>	Self-heal	X						G5T5	S5	N
Oleaceae	<i>Fraxinus pennsylvanica</i>	Green Ash	X	X	X	X	X		G5	S4	N
Onagraceae	<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade			X				G5T5	S5	N
Oxalidaceae	<i>Oxalis stricta</i>	European Wood-sorrel		X					G5	S5	N
Pinaceae	<i>Picea glauca</i>	White Spruce		X					G5	S5	N
Plantaginaceae	<i>Plantago lanceolata</i>	English Plantain	X						G5	SE5	N
Plantaginaceae	<i>Plantago major</i>	Common Plantain	X						G5	SE5	N
Poaceae	<i>Agrostis gigantea</i>	Redtop	X	X					G4G5	SE5	N
Poaceae	<i>Bromus inermis</i>	Awnless Brome	X	X	X				G5TNR	SE5	N
Poaceae	<i>Calamagrostis canadensis</i>	Bluejoint Reedgrass					X	X	G5	S5	N
Poaceae	<i>Dactylis glomerata</i>	Orchard Grass		X	X	X			GNR	SE5	N
Poaceae	<i>Digitaria sanguinalis</i>	Hairy Crabgrass		X					G5	SE5	N
Poaceae	<i>Elymus repens</i>	Creeping Wildrye	X	X					GNR	SE5	N
Poaceae	<i>Phalaris arundinacea</i>	Reed Canary Grass	X			X	X	X	G5	S5	N
Poaceae	<i>Phleum pratense</i>	Common Timothy	X	X					GNR	SE5	N

FAMILY <sup>1</sup>	SCIENTIFIC NAME <sup>1</sup>	COMMON NAME <sup>1</sup>	MEMM4	FOCM5	FODM7-2 (a)	FODM7-2 (b)	SWTM3-6	MAMM1	GRANK	SRANK	TRACK
Poaceae	<i>Phragmites australis ssp. australis</i>	European Reed						X	G5T5	SE5	N
Poaceae	<i>Setaria viridis</i>	Green Foxtail	X						GNR	SE5	N
Polygonaceae	<i>Persicaria lapathifolia</i>	Pale Smartweed	X						G5	S5	N
Polygonaceae	<i>Persicaria maculosa</i>	Spotted Lady's-thumb	X						G3G5	SE5	N
Polygonaceae	<i>Rumex crispus</i>	Curly Dock	X	X					GNR	SE5	N
Ranunculaceae	<i>Ranunculus acris</i>	Tall Buttercup	X	X	X	X			G5	SE5	N
Rhamnaceae	<i>Rhamnus cathartica</i>	Common Buckthorn		X	X	X	X	X	GNR	SE5	N
Rosaceae	<i>Crataegus sp.</i>	a Hawthorn			X				N/A	N/A	N/A
Rosaceae	<i>Fragaria virginiana</i>	Wild Strawberry			X	X			G5	S5	N
Rosaceae	<i>Geum aleppicum</i>	Yellow Avens			X	X			G5	S5	N
Rosaceae	<i>Geum canadense</i>	White Avens			X	X			G5	S5	N
Rosaceae	<i>Malus pumila</i>	Common Apple		X	X				G5	SE4	N
Rosaceae	<i>Potentilla norvegica</i>	Norwegian Cinquefoil	X						G5	S5	Y
Rosaceae	<i>Prunus serotina</i>	Wild Black Cherry				X			G5	S5	N
Rosaceae	<i>Prunus virginiana</i>	Choke Cherry		X	X	X			G5	S5	N
Rosaceae	<i>Rubus allegheniensis</i>	Alleghany Blackberry	X						G5	S5	N
Rosaceae	<i>Rubus occidentalis</i>	Black Raspberry			X				G5	S5	N
Rosaceae	<i>Sorbus aucuparia</i>	European Mountain-ash			X				G5	SE4	N
Rubiaceae	<i>Galium asprellum</i>	Rough Bedstraw			X				G5	S5	N
Rubiaceae	<i>Galium lanceolatum</i>	Lanceleaf Wild Licorice		X					G5	S5	N
Rubiaceae	<i>Galium palustre</i>	Marsh Bedstraw					X	X	G5	S5	Y
Salicaceae	<i>Populus balsamifera</i>	Balsam Poplar	X						G5	S5	N
Salicaceae	<i>Populus deltoides ssp. deltoides</i>	Eastern Cottonwood				X			G5T5	S5	Y
Salicaceae	<i>Populus tremuloides</i>	Trembling Aspen		X	X	X			G5	S5	N
Salicaceae	<i>Salix bebbiana</i>	Bebb's Willow		X			X	X	G5	S5	N
Salicaceae	<i>Salix eriocephala</i>	Heart-leaved Willow	X	X	X		X	X	G5	S5	N
Salicaceae	<i>Salix petiolaris</i>	Meadow Willow		X			X		G5	S5	N
Salicaceae	<i>Salix x fragilis</i>	( <i>Salix alba</i> X <i>Salix euxina</i> )		X			X		GNR	SE4	N
Scrophulariaceae	<i>Chelone glabra</i>	White Turtlehead						X	G5	S5	N
Tiliaceae	<i>Tilia americana</i>	American Basswood			X	X	X		G5	S5	N
Typhaceae	<i>Typha latifolia</i>	Broad-leaved Cattail						X	G5	S5	N
Ulmaceae	<i>Ulmus americana</i>	American Elm		X	X	X			G5?	S5	N
Vitaceae	<i>Parthenocissus inserta</i>	Thicket Creeper		X	X	X			G5	S5	N
Vitaceae	<i>Vitis riparia</i>	Riverbank Grape		X	X	X			G5	S5	Y

<sup>1</sup>Nomenclature based on Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC, 2019)

<sup>2</sup>ELC Codes based on Ecological Land Classification for Southern Ontario manual (Lee et al., 1998)

<sup>3</sup>Conservation Rankings: From Ontario Ministry of Natural Resources, Natural Heritage Information Centre ([http://nhic.mnr.gov.on.ca/nhic\\_.cfm](http://nhic.mnr.gov.on.ca/nhic_.cfm))

G-Rank = Global scale (from 1-5); G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure/Common; NR - Not Ranked,

T - Intraspecific Taxon/Trinomial (e.g. subspecies)

S-rank = Sub-national/provincial scale (from 1-5); S1 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common; NA - Not Applicable

because not a suitable conservation target; E - Exotic; H - Historic

Track = Tracked provincially; Y - Yes, N - No, N/A = Not Applicable

Table 3. Bird Species List, 3735 Menoke Beach Road, Severn, 2020

Family	Scientific Name	English Common Name <sup>1</sup>	Breeding Bird Survey Data				Incidental <sup>C</sup>	Breeding Evidence <sup>D</sup>	Area-sensitive? <sup>E</sup>	Conservation Ranks <sup>F</sup>		
			Point Count Station 1		Point Count Station 2					S-Rank	G-Rank	SARO Status
			6/4/2020 <sup>A</sup>	6/22/2020 <sup>B</sup>	6/4/2020 <sup>A</sup>	6/22/2020 <sup>B</sup>						
Parulidae	<i>Setophaga ruticilla</i>	American Redstart	S,H(1)	S,H(2)			Pr	Y	S4B	G5		
Tyrannidae	<i>Empidonax alnorum</i>	Alder Flycatcher	S,H(1)				Po	N	S4B	G5		
Laridae	<i>Larus argentatus</i>	Herring Gull	F/O(1)	F/O(1)		F/O(1)	None	N	S5	G5		
Icteridae		Species 1	S,H(2)*				X*	Po	Y	S4B	G5	THR
Passerellidae		Species 2	S,H(1)		S,H(1)		Po	Y	S4B	G5	SC	
Charadriidae	<i>Charadrius vociferus</i>	Killdeer					X	None	N	S5B,S5N	G5	
Columbidae	<i>Zenaida macroura</i>	Mourning Dove	S(1)*	S(1)*	S(1)*	S(2)*	Pr	N	S5	G5		
Emberizidae	<i>Melospiza melodia</i>	Song Sparrow	S,H(2)*	S,H(3)	S,H(2)*	S,H(3)	Pr	N	S5B	G5		
Fringillidae	<i>Carduelis tristis</i>	American Goldfinch	S,C,H(3)	S,H(2)		S,C,H(4)	Pr	N	S5B	G5		
Parulidae	<i>Setophaga petechia</i>	Yellow Warbler	S,H(2)	S,H(1)		S,H(1)	Pr	N	S4B	G5		
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	S,C,H(5)	S,C,H(3)		S,C,H(6)	Pr	N	S4	G5		
Passerellidae	<i>Spizella passerina</i>	Chipping Sparrow		S(1)			Po	N	S4B	G5		
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat		S,H(1)			Po	N	S5B	G5		
Sturnidae	<i>Sturnus vulgaris</i>	European Starling		S(7)			None	N	SNA	G5		
Turdidae	<i>Turdus migratorius</i>	American Robin	S,C,H(2)	C(1)	S,H(2)		Pr	N	S5B	G5		
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	S,H(3)*	S,H(2)*	S,H(2)*		Pr	N	S5B	G5		
Vireonidae	<i>Vireo gilvus</i>	Warbling Vireo	S,H(1)*	S,H(1)*	S,H(2)*	S(1)	Pr	N	S5B	G5		
Hirundinidae	<i>Tachycineta bicolor</i>	Tree Swallow	S,F/O(1)				None	N	S4B	G5		
Icteridae	<i>Icterus galbula</i>	Baltimore Oriole	S,H(1)		S,H(1)		Po	N	S4B	G5		
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	S,H(1)*		S,C,H(3)*	S,C,H(2)	Pr	N	S5	G5		
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	S,H(4)*	S,H(3)	S,H(4)*	S,H(2)	Pr	N	S5B	G5		
Vireonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo			S,H(1)*		Po	N	S5B	G5		
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay			C,H(1)	C,H(1)*	Pr	N	S5	G5		
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal		S(1)*	S(1)*		Pr	N	S5	G5		
Icteridae	<i>Quiscalus quiscula</i>	Common Grackle					X	None	N	S5B	G5	
Picidae	<i>Picoides pubescens</i>	Downy Woodpecker		C(1)*			Po	N	S5	G5		
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow				C,H(1)	Po	N	S5B	G5		
Tyrannidae	<i>Tyrannus tyrannus</i>	Eastern Kingbird				S,H(2)	Po	N	S4B	G5		
Picidae	<i>Drycopus pileatus</i>	Pileated Woodpecker				C(1)*	Po	Y	S5	G5		
Anatidae	<i>Branta canadensis</i>	Canada Goose			C,F/O		None	N	S5	G5		

<sup>1</sup>Nomenclature based on Ontario Ministry of Natural Resources (OMNR), Natural Heritage Information Centre (NHIC) database - <http://nhic.mnr.gov.on.ca/MNR/nhic/species.cfm>.

Surveys Conditions:

<sup>A</sup>June 4, 2020; Time 7:16-7:21am (Station 1) and 7:57-8:02am (Station 2); Temperature 14°C; Wind B0; Cloud Cover 15%; Precipitation None; Background Noise 1; Observer S. Tarof

<sup>B</sup>June 22, 2020; Time 8:12-8:17am (Station 1) and 8:24-8:29am (Station 2); Temperature 22°C; Wind B0; Cloud Cover 80%; Precipitation None; Background Noise 1; Observer S. Tarof

\*Species on adjacent lands

<sup>C</sup>Species detected outside of formal breeding bird surveys; blank cell = not detected.

<sup>D</sup>OBBA Breeding Evidence Codes:

The number in brackets represents the largest number of individuals observed during one period at that point location.

F/O - Fly Over

X - Species observed in its breeding season (no breeding evidence)

POSSIBLE

H - Species observed in its breeding season in suitable nesting habitat

S, C - Singing male present, or breeding calls heard, in suitable nesting habitat in nesting season.

PROBABLE

A - Agitated behaviour or anxiety calls of an adult.

N - Nest building or excavation of nest hole.

P - Pair observed in suitable nesting habitat in nesting season.

T - Permanent territory presumed through registration of territorial behaviour (e.g. song) on at least two days, a week or more apart, at the same place.

CONFIRMED

DD - Distraction display or injury feigning.

FY - Recently fledged young or downy young, including incapable of sustained flight.

NE - Nest containing eggs

NU - Used nest or eggshell found (occupied or laid within the period of study)

AE - Adults leaving or entering nest site in circumstances indicating occupied nest

FS - Adult carrying fecal sac

CF - Adult carrying food for young

NY - Nest with young seen or heard

<sup>D</sup>Breeding Evidence:

Co - Confirmed breeding on or adjacent to property.

Pr - Probably breeding on or adjacent to property.

Po - Possibly breeding on or adjacent to property.

None - Species observed but no evidence of breeding on or adjacent to property.

<sup>E</sup>According to Appendix C of the Significant Wildlife Habitat Technical Guide (MNRF 2000).

<sup>F</sup>Conservation Rankings: Committee on the Status of Endangered Species in Canada (COSEWIC) Wildlife Species at Risk Report (October 2015), Species at Risk Public Registry <https://www.registrelep-sararegistry.gc.ca/sar/index/default> Ontario

Ministry of Natural Resources and Forestry (MNRF) Species at Risk in Ontario (SARO) <https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>, Natural Heritage Information Centre ([http://nhic.mnr.gov.on.ca/nhic\\_.cfm](http://nhic.mnr.gov.on.ca/nhic_.cfm))

S-Rank = Sub-national/provincial scale (from 1-5), S1 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common .

G-Rank = Global scale (from 1 - "Critically Imperiled" to 5 - "Secure" or common), G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure .

B = Breeding Populations, N = Non-breeding Populations; SARO: EXT - Extirpated, END - Endangered, THR - Threatened, SC - Special Concern, Blank - Not at Risk in Ontario.

"Species #" are species at risk. As per SSEA policy, species at risk are to be disclosed via separate correspondence to review agencies and cannot be part of the public record (see Appendix D); identity of species omitted from EIS report

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species <sup>1</sup>	Assessment
American Eel	<i>Anguilla rostrata</i>	END	THR	Deep (>10m) marine and freshwater habitats, including lakes and rivers with woody debris and submerged vegetation. Overwinter in mud bottoms of bays and estuaries (COSEWIC, 2012g). ESA Protection: Species and general habitat protection	Property is not associated with deep marine or freshwater habitat areas. Key habitat requirements are not found on the property. The species would not be expected to occur on the property.
American Hart's-tongue Fern	<i>Asplenium scolopendrium</i> var. <i>americanum</i>	SC	SC	Grows on calcareous rocks in deep shade on slopes in deciduous forest. Most occurrences are in maple-beech forest (MNR, 2016). ESA Protection: N/A	Key habitat requirements, such as shaded calcareous rock slopes in deciduous maple-beech forests, are not found on the property. The species would not be expected to occur on the property.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SC	No status	Nests are typically found near the shoreline of lakes or large rivers, often on forested islands (Cadman <i>et al.</i> , 2007). ESA Protection: N/A	Property not associated with shorelines of lakes or large rivers. Property does not contain forested islands. Key habitat requirements are not found on the property. The species would not be expected to occur.
Bank Swallow	<i>Riparia riparia</i>	THR	No status	Nests in burrows excavated in natural and human-made settings with vertical sand and silt faces. Commonly found in sand or gravel pits, road cuts, lakeshore bluffs, and along riverbanks (COSEWIC, 2013c). ESA Protection: Species and general habitat protection	Key habitat requirements ( <i>e.g.</i> , excavated vertical sand/silt stockpile faces) are not found on the property. Property not associated with sand or gravel pits <i>etc.</i> The species would not be expected to occur.
Barn Swallow	<i>Hirundo rustica</i>	THR	No status	Ledges and walls of man-made structures such as buildings, barns, boathouses, garages, culverts and bridges. Also nest in caves, holes, crevices and cliff ledges (COSEWIC, 2011d). ESA Protection: Species and general habitat protection	Key habitat requirements ( <i>e.g.</i> , old buildings or barns, box culverts, bridges) are not found on the property. The species would not be expected to occur.
Black Tern	<i>Chlidonias niger</i>	SC	No status	Colonial nesters typically found within marshes. Its preferred nesting habitat is a hemi-marsh ( <i>i.e.</i> a wetland with 50:50 open water and emergent vegetation). Nests are usually built on an upturned cattail root, floating vegetation mat or patch of mud (Cadman <i>et al.</i> , 2007). ESA Protection: N/A	Key habitat requirements ( <i>e.g.</i> , preferred hemi-marsh habitat with 50:50 open water and emergent vegetation including an abundance of cattails) are not found on the property. The species would not be expected to occur.
Blanding's Turtle	<i>Emydoidea blandingii</i>	THR	THR	Blanding's Turtles are a primarily aquatic species that prefer wetland habitats, lakes, ponds, slow-moving streams, etc., however they may utilize upland areas to search for suitable basking and nesting sites. In general, preferred wetland sites are eutrophic and characterized by clear, shallow water, with organic substrates and high density of aquatic vegetation (COSEWIC, 2005a). ESA Protection: Species and general habitat protection	Key habitat requirements for the species ( <i>e.g.</i> , open wetlands with emergent aquatic vegetation, lakes, ponds) are not found on the property. The species would not be expected to occur on the property. A small wetland area with standing water was present on adjacent lands to the north of the property, but this area did not have clear water, the density of emergent aquatic vegetation did not appear ideal for the species and the habitat area was next to a road.
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	No Status	Nests primarily in forage crops ( <i>e.g.</i> hayfields and pastures) dominated by a variety of species such as clover, Timothy, Kentucky Bluegrass, tall grass, and broadleaved plants. Also occurs in wet prairie, graminoid peatlands, and abandoned fields dominated by tall grasses. Does not generally occupy fields of row crops ( <i>e.g.</i> corn, soybeans, wheat) or short-grass prairie. Sensitive to habitat size and has lower reproductive success in small habitat fragments (COSEWIC, 2010b). ESA Protection: Species and general habitat protection	The property does not meet the key habitat requirements ( <i>e.g.</i> , natural large suitable grasslands, forage crops, wet prairies or abandoned fields dominated by tall grasses). The species would not be expected to occur.
Broad Beech Fern	<i>Phygopteris hexagonoptera</i>	SC	SC	Rich soils in deciduous forests, such as Maple-Beech forests (MNR, 2016). ESA Protection: N/A	The property does not meet the key habitat requirements ( <i>e.g.</i> , maple-beech deciduous forests). The species would not be expected to occur.
Butternut	<i>Juglans cinerea</i>	END	END	Commonly found in riparian habitats, but is also found in rich, moist, well-drained loams, and well-drained gravels. Butternut is intolerant of shade (COSEWIC, 2003b). ESA Protection: Species and general habitat protection	The property does not meet the key habitat requirements, such as riparian deciduous forests. Hedgerow along northern property boundary was surveyed and the species was not observed. Another hedgerow area further south on the property was removed prior to Azimuth's field investigations.
Canada Warbler	<i>Cardellina canadensis</i>	SC	THR	Wet, mixed deciduous-coniferous forests with a well developed shrub layer. Shrub marshes, Red-Maple stands, cedar stands, Black Spruce swamps, larch and riparian woodlands along rivers and lakes (COSEWIC, 2008b). ESA Protection: N/A	The property does not meet the key habitat requirements, such as wet, mixed deciduous-coniferous forests with well-developed understory layer. Shrub marshes, Black Spruce swamps <i>etc.</i> also not present on the property. The species would not be expected to occur.



Common Name	Species Name	ESA	SARA	Key Habitats Used By Species <sup>1</sup>	Assessment
Cerulean Warbler	<i>Dendroica cerulea</i>	THR	SC	Associated with large tracts of mature deciduous forest with tall trees and an open understory. Found in both wet bottomland forests and upland areas (COSEWIC, 2010a). ESA Protection: Species and general habitat protection	The property does not meet the key habitat requirements, such as large, mature deciduous forests with open understory. The species would not be expected to occur.
Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	Nests primarily in chimneys though some populations ( <i>i.e.</i> in rural northern areas) may nest in cavity trees (COSEWIC, 2007g). Recent changes in chimney design may be a significant factor in recent declines in numbers (Cadman <i>et al.</i> , 2007). ESA Protection: Species and general habitat protection	The property does not meet the key habitat requirements. Habitat features such as old buildings with suitable stone chimneys not present on the property. The species would not be expected to occur.
Common Five-lined Skink (Southern Shield population)	<i>Plestiodon fasciatus</i>	SC	SC	Southern Shield population -rocky outcrops embedded in a matrix of coniferous and deciduous forest, and individuals in these populations seek refuge under rocks overlaid on open bedrock (COSEWIC, 2007a). ESA Protection: N/A	The property does not meet the key habitat requirements. The species would not be expected to occur.
Common Nighthawk	<i>Chordeiles minor</i>	SC	THR	Open habitats including sand dunes, beaches recently logged/burned over areas, forest clearings, short grass prairies, pastures, open forests, bogs, marshes, lakeshores, gravel roads, mine tailings, quarries, and other open relatively clear areas (COSEWIC, 2007d). ESA Protection: N/A	The property does not meet the key habitat requirements. The species would not be expected to occur.
Eastern Foxsnake (Georgian Bay population)	<i>Pantherophis gloydi</i>	THR	END	In Georgian Bay, Foxsnakes use a variety of open habitats along shorelines ( <i>e.g.</i> rock barren, coastal meadow marsh). The Foxsnakes inhabiting this coastline do not venture far inland, restricting the majority of their activity to within 150 m of the water (COSEWIC, 2008d). ESA Protection: Species and regulated habitat protection	The property is not on Georgian Bay. The species would not be expected to occur.
Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	THR	THR	Habitat features include: well-drained soil; loose or sandy soil; open vegetative cover; brushland or forest edge; proximity to water; and climatic conditions typical of the eastern deciduous forest biome. In the Georgian Bay region, open grass, sand, human-impacted and forest habitats over rock, wetland, and aquatic habitats are preferable (COSEWIC, 2007b). ESA Protection: Species and general habitat protection	The property does not meet the key habitat requirements. Areas of open vegetation cover with well-drained loose/sandy soils, brushland or forest edges with proximity to water not present on the property. The species would not be expected to occur.
Species 1	<i>Not Applicable</i>	THR	THR	Broadly speaking, this species prefers large natural grasslands or anthropogenic grasslands/pastures of scale with suitable plant species composition. ESA Protection: Species and general habitat protection	This species was heard on adjacent lands but was never detected on the property. The property does not meet the key habitat requirements ( <i>e.g.</i> natural large suitable grassland habitat or savannahs, large anthropogenic grasslands with abundant tall grass species composition). Given the nature of the invasive weed-dominated field habitat on the property, the species would not be expected to occur. See report text for additional details.
Eastern Musk Turtle	<i>Sternotherus oderatus</i>	SC	THR	Inhabit littoral zones of waterways such as rivers, lakes, bays, streams, ponds, canals, and swamps with slow to no current and soft bottoms. During the active season they prefer shallow water (<2m) with abundant vegetation. Most are found close to shore and do not venture onto land except to nest or access adjacent wetlands (COSEWIC, 2012b). ESA Protection: N/A	The property does not meet the key habitat requirements, such as littoral zones of rivers or lakes/bays/ponds. The species would not be expected to occur.
Eastern Prairie Fringed-orchid	<i>Platanthera leucophaea</i>	END	END	It is a species primarily of mesic prairies, fens and old fields (COSEWIC, 2003a). ESA Protection: Species and general habitat protection	The property does not meet the key habitat requirements. No mesic prairies or fens present on the property. The species would not be expected to occur.
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	SC	SC	Found in wetland habitats with both flowing and standing water such as marshes, bogs, fens, ponds, lake shorelines and wet meadows. Most sightings occur near the water's edge (COSEWIC, 2012c). ESA Protection: N/A	The property does not meet the key habitat requirements. The wetland on the property was mostly dry and did not contain any water; wetland area on adjacent lands to the north did not have both flowing and standing water. No bogs, fens, ponds <i>etc.</i> on the property. The species would not be expected to occur.

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species <sup>1</sup>	Assessment
Eastern Small-footed Myotis	<i>Myotis Lleiibii</i>	END	END	Generally occurs in mountainous or rocky regions as well as in buildings, on the face of rock bluffs and beneath slabs of rock and stones. Hibernation is typically confined to caves and old mines (Best and Jennings, 1997). ESA Protection: Species and general habitat protection	Key habitat requirements (e.g., rocky areas, bluffs, old suitable anthropogenic structures, caves, old mines) for the species are not found on the property. The species would not be expected to occur.
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	THR	THR	Semi-open forests or patchy forests with clearings, such as barrens or forests that are regenerating following major disturbances, are preferred nesting habitats (COSEWIC, 2009a). ESA Protection: Species and general habitat protection	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Eastern Wood-pewee	<i>Contopus virens</i>	SC	No status	Mostly in mature and intermediate-age deciduous and mixed forests having an open understory. It is often associated with forests dominated by Sugar Maple and oak. Usually associated with forest clearings and edges within the vicinity of its nest (COSEWIC, 2012e). ESA Protection: N/A	Key habitat requirements (e.g., areas of deciduous and mixed forests) for the species are not found on the property. The species would not be expected to occur.
Engelmann's Quillwort	<i>Isoetes engelmannii</i>	END	END	An aquatic plant that grows in shallow water in lakes and rivers. Sections of the Severn River (MNR, 2016). ESA Protection: Species and regulated habitat protection	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Forked Three-awned Grass	<i>Aristida basiramea</i>	END	END	Restricted to dry, open, acid sand barrens, but will exploit weedy habitats associated with these sites, such as roadside ditches and old fields. Restricted to southern Ontario (COSEWIC, 2002a). ESA Protection: Species and regulated habitat protection	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	SC	THR	Areas of early successional scrub surrounded by mature forests including dry uplands, swamp forests, and marshes (COSEWIC, 2006a). ESA Protection: N/A	Key habitat features, such as areas of early successional scrub along mature forest edges, are not found on the property. The species would not be expected to occur.
Grass Pickerel	<i>Esox americanus vermiculatus</i>	SC	SC	Warm, slow moving streams, isolated pools of such streams, and shallow bays of lakes (COSEWIC, 2005b). ESA Protection: N/A	Key habitat requirements not present on the property. Species would not be expected to occur on property. DFO SAR search identified the species as present in Lake Couchiching to the east approximately 130+m away.
Grasshopper Sparrow <i>pratensis</i> subspecies	<i>Ammodramus savannarum pratensis</i>	SC	No status	Typically breeds in large human-created grasslands (≥5 ha), such as pastures and hayfields, and natural prairies, such as alvars, characterized by well-drained, often poor soil dominated by low, sparse perennial herbaceous vegetation (COSEWIC, 2013d). ESA Protection: N/A	One individual of the species was heard on property in the MEMM4 ELC community, but the species was only heard once so 'probable' breeding was not confirmed. Key habitat requirements (e.g., grasslands of scale, ≥5ha) not present. Species not considered further in our assessment. See report text for additional details.
Hart's-tongue Fern	<i>Asplenium scolopendrium</i> var. <i>americanum</i>	SC	SC	Grows on calcareous rocks in deep shade on slopes in deciduous forest. Most occurrences are in maple-beech forest (MNR, 2016).	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Henslow's Sparrow	<i>Ammodramus henslowii</i>	END	END	Requires grassland habitat and occurs more frequently and at higher densities in large patches of suitable habitat. Nests in tallgrass prairie, wet meadow, and marsh habitats as well as agricultural grasslands, lightly grazed pasture and grasslands on reclaimed surface mines (COSEWIC, 2011a). ESA Protection: Species and general habitat protection	Key habitat requirements (e.g., large areas of tallgrass prairie, wet meadow, marsh) for the species are not found on the property. Anthropogenic grassland habitat on property considered not ideal due to its size. Species not detected during surveys. The species would not be expected to occur.
Hill's Thistle	<i>Cirsium hillii</i>	THR	THR	Found in a variety of open, dry, sandy, fire-prone habitats, including such communities as gravel hill or bluff prairies, sand prairies, pine barrens, oak barrens, sand dunes, oak savannah, and open woods (COSEWIC, 2004a). ESA Protection: Species and general habitat protection	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Hine's Emerald	<i>Somatochlora hineana</i>	END	No status	Restricted to calcareous wetlands (marshes, sedge meadows, and fens) dominated by graminoid vegetation and fed primarily by groundwater from intermittent seeps (COSEWIC, 2011e). ESA Protection: Species and general habitat protection	Key habitat requirements for the species are not found on the property. Groundwater-fed seeps not observed on the property. The species would not be expected to occur.

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species <sup>1</sup>	Assessment
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	END	THR	Deciduous or mixed upland forests containing, or adjacent to, suitable breeding ponds. Breeding ponds are normally ephemeral, or vernal, woodland pools that dry in late summer. Terrestrial habitat is in mature woodlands that have small mammal burrows or rock fissures that enable adults to over-winter underground below the frost line (COSEWIC, 2010e). ESA Protection: Species and general habitat protection	Key habitat requirements for the species not found on the property. No ephemeral/vernal ponds or pools observed. No areas of deciduous or mixed upland forests present. The species would not be expected to occur.
King Rail	<i>Rallus elegans</i>	END	END	Wide variety of freshwater marsh habitat types with cattails. Large marshes, especially those that contain a range of water level conditions and a mosaic of habitats, are preferred (COSEWIC, 2011b). ESA Protection: Species and general habitat protection	Key habitat requirements for the species (e.g., large marsh areas with cattails, varying water levels and habitat mosaics) are not found on the property. The species would not be expected to occur on the property. A small wetland area with shallow standing water was present on adjacent lands to the north of the property, but this area did not have the required varying water levels or preferred habitat mosaics. This wetland area would also not meet the habitat size requirement and was next to a road. The species would not be expected to occur.
Lake Sturgeon (Great Lakes - Upper St. Lawrence populations)	<i>Acipenser fulvescens</i>	THR	No status	Generally found in the shallow areas of lakes or larger rivers, moving into smaller rivers to spawn. Usually found at depths of 5 -10 m and are in areas where water velocity does not exceed 70 cm/sec (COSEWIC, 2006b). ESA Protection: Species and general habitat protection	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Least Bittern	<i>Ixobrychus exilis</i>	THR	THR	Breed strictly in marshes of emergents (usually cattails) that have relatively stable water levels and interspersed areas of open water (COSEWIC, 2009b). ESA Protection: Species and general habitat protection	Key habitat requirements for the species not found on the property. The species would not be expected to occur on the property. A small wetland area with shallow standing water was present on adjacent lands to the north. Although it appeared to have relatively stable shallow water levels, areas of open water were quite small and next to a road. The species was not detected during marsh breeding bird surveys.
Little Brown Myotis	<i>Myotis lucifugus</i>	END	END	Forests and regularly aging human structures as maternity roost sites. Regularly associated with attics of older buildings and barns for summer maternity roost colonies. Overwintering sites are characteristically mines or caves, but can often include buildings (MNR, 2014) (COSEWIC, 2013b). ESA Protection: Species and general habitat protection	Key habitat requirements (e.g., forests, old suitable anthropogenic structures for maternity roosting, mines or caves for overwintering) for the species are not found on the property. The species would not be expected to occur.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	END	END ( <i>mirgrans</i> subspecies)	Breeding habitat characterized by open areas dominated by grasses and/or forbs, interspersed with scattered shrubs or small trees and bare ground. Suitable habitat includes pasture, old fields, prairie, savannah, pinyon-juniper woodland, shrub-steppe and alvar (COSEWIC, 2014a). ESA Protection: Species and general habitat protection	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Louisiana Waterthrush	<i>Parkesia motacilla</i>	THR	SC	Occupies specialized habitat, showing a strong preferences for nesting and wintering along relatively pristine headwater streams and wetlands situated in large tracts of mature forest. Prefers running water, but also inhabits heavily wooded swamps and vernal or semi-permanent pools (COSEWIC, 2015a). ESA Protection: N/A	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Massasauga (Great Lakes - St. Lawrence population)	<i>Sistrurus catenatus</i>	THR	THR	In Georgian Bay, Massasaugas use bedrock barrens, conifer swamps, beaver meadows, fens, bogs, and shoreline habitats. On the upper Bruce Peninsula, forested habitats are used during hibernation and open, wetland, and edge habitat with canopy closure <50% in mid-late summer (COSEWIC, 2012a). ESA Protection: Species and general habitat protection	Property is not on Georgian Bay. Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Monarch	<i>Danaus plexippus</i>	SC	SC	Breeding habitat is confined to sites where milkweeds, the sole food of caterpillars, grow. Milkweeds grow in a variety of environments, including meadows in farmlands, along roadsides and in ditches, open wetlands, dry sandy areas, short and tall grass prairie, river banks, irrigation ditches, arid valleys, and south-facing hills (COSEWIC, 2010c). ESA Protection: N/A	Although most of the property was classified as fresh-moist mixed meadow which could potentially provide habitat for Monarch Butterflies, neither Common or Butterfly Milkweed were found in the plant inventory. The species was not observed on the property.

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species <sup>1</sup>	Assessment
Northern Brook Lamprey	<i>Ichthyomyzon fossor</i>	SC	SC	Inhabits clear, coolwater streams. Adults are found in fast flowing riffles comprised of rock or gravel (MNRF, 2016). ESA Protection: N/A	Key habitat requirements for the species are not found on the property. The species would not be expected to occur.
Northern Myotis	<i>Myotis septentrionalis</i>	END	END	Maternity roost sites are generally located within deciduous and mixed forests and focused in snags including loose bark and cavities of trees. Overwintering sites are characteristically mines or caves (COSEWIC, 2013b). ESA Protection: Species and general habitat protection	Key habitat requirements (e.g., forests, old suitable anthropogenic structures for maternity roosting, mines or caves for overwintering) for the species are not found on the property. The species would not be expected to occur.
Northern Map Turtle	<i>Graptemys geographica</i>	SC	SC	Inhabits rivers and lakes where it basks on emergent rocks, banks, logs and fallen trees. Prefer shallow, soft-bottomed aquatic habitats with exposed objects for basking (COSEWIC, 2012d). ESA Protection: N/A	Key habitat requirements (e.g., rivers, lakes) not present on the property. Species would not be expected to occur.
Olive-sided Flycatcher	<i>Contopus cooperi</i>	SC	THR	Natural forest openings, forest edges near natural openings (such as wetlands) or open to semi-open forest stands. Occasionally human made openings (such as clear cuts). Presence of tall snags and residual live trees is essential (COSEWIC, 2007e). ESA Protection: N/A	Forest habitat not present on the property. As such, no forest openings or forest edges present. The species would not be expected to occur.
Piping Plover	<i>Charadrius melodus</i>	END	END	Nest on sand and pebble beaches of freshwater dune formations on barrier islands, peninsulas or shorelines of large lakes (COSEWIC, 2013a). ESA Protection: Species and regulated habitat protection	No sand/pebble beaches present on the property. The species would not be expected to occur.
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	SC	THR	Occurs in open deciduous forests, particularly those dominated by oak and beech, grasslands, forest edges, orchards, pastures along rivers and roads, urban parks, golf courses, cemeteries, beaver ponds and timber stands that have been treated with herbicides (COSEWIC, 2007f). ESA Protection: N/A	Forest habitat not present on the property, nor are there urban park areas with mature trees, orchards etc. present. The species would not be expected to occur.
Redside Dace	<i>Clinostomus elongatus</i>	END	SC	Found in pools and slow-flowing sections of relatively small, clear headwater streams with both pool and riffle habitats and a moderate to high gradient. These streams typically flow through meadows, pasture or shrub overstory, and have abundant overhanging riparian vegetation (COSEWIC, 2007c). ESA Protection: Species and general habitat protection.	Suitable, permanent small stream habitat for the species is not present on the property. The species would not be expected to occur on the property.
Rusty-patched Bumble Bee	<i>Bombus affinis</i>	END	END	Found in a wide variety of habitats including mixed farmland, sand dunes, marshes, urban and wooded areas (COSEWIC, 2010d). ESA Protection: Species and general habitat protection	Key habitat requirements (e.g., mixed farmland, sand dunes) for the species are not found on the property. A small marsh area was present on the property, and there were a few isolated treed hedgerow areas, however the species is not known to occur in the area ( <a href="https://files.ontario.ca/environment-and-energy/species-at-risk/rusty_patched_bumblebee_map_en.pdf">https://files.ontario.ca/environment-and-energy/species-at-risk/rusty_patched_bumblebee_map_en.pdf</a> ). The species would not be expected to occur.
Short-eared Owl	<i>Asio flammeus</i>	SC	SC	A wide variety of unforested habitats are used, including grasslands, fallow pastures, and occasionally fields planted with row-crops (COSEWIC, 2008c). ESA Protection: N/A	The open anthropogenic grassland area on the property is relatively small and has a history of being ploughed. The species was not detected during property visits.
Snapping Turtle	<i>Chelydra serpentina</i>	SC	SC	Habitat is characterized by slow-moving water with a soft mud bottom and dense aquatic vegetation. Often located in ponds, sloughs, shallow bays or river edges and slow streams, or areas combining several of these wetland habitats (COSEWIC, 2008a). ESA Protection: N/A	Wetland habitat on the property was mostly dry and not characteristic of the species. The wetland area north of the property on adjacent lands had areas of open, shallow water with abundant emergent aquatic vegetation and was near a gravel/sandy open area. Habitat on adjacent lands could provide habitat for Snapping Turtles.
Tri-colored Bat	<i>Perimyotis subflavus</i>	END	END	Maternity roost sites include forests and modified landscapes (barns or human-made structures). Overwintering sites include mines and caves (COSEWIC, 2013b). ESA Protection: Species and general habitat protection	Key habitat requirements (e.g., forests or anthropogenic structures for maternity roosting, mines or caves for overwintering) for the species are not found on the property. The species would not be expected to occur.
West Virginia White	<i>Pieris virginiensis</i>	SC		This species lives in moist, deciduous woodlands and requires a supply of toothwort, a small, spring-blooming plant that is a member of the mustard family, since it is the only food source for the larvae (MNRF, 2014). ESA Protection: N/A	Deciduous forest habitat not present on the property. The species would not be expected to occur.

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species <sup>1</sup>	Assessment
Wood Thrush	<i>Hylocichla mustelina</i>	SC	No status	Found in moist, deciduous hardwood or mixed stands, often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches (COSEWIC, 2012f). ESA Protection: N/A	Key habitat requirements do not occur. Large areas of moist, deciduous forest habitat with dense undergrowth are not present on the property. The species would not be expected to occur.
Wood Turtle	<i>Glyptemys insculpta</i>	END	THR	Rivers and streams with sand or gravel bottoms and prefers clear, meandering streams with moderate current. Riparian areas with diverse, patchy cover are most commonly used across the range (COSEWIC, 2007h). ESA Protection: Species and general habitat protection	Key habitat requirements (e.g., rivers, streams with clear water and moderate current, riparian areas) not present on the property. The species would not be expected to occur.
Yellow Rail	<i>Coturnicops noveboracensis</i>	SC	SC	Nest in wet marshy areas of short grass-like vegetation. The habitat must remain wet throughout the breeding season (COSEWIC, 2009c). ESA Protection: N/A	Key habitat requirements (e.g., wet marsh habitat with grassy vegetation) not present on the property. The species would not be expected to occur.

<sup>1</sup> Habitat as outlined within the MNRF's Species at Risk in Ontario website files (<https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>), or Species Specific COSEWIC Reports referenced in this document.

Species at Risk in Ontario List (June 13, 2017)

Best, T., and J. Jennings. 1997. Mammalian Species, *Myotis leibii*. The American Society of Mammalogists. No. 547, pp. 1-6, 5 figs.

Cadman, M., D. Sutherland, G. Beck, D. Lepage and A. Couturier. 2007. Atlas of the Breeding Birds of Ontario 2001-2005. Bird Studies Canada, Environment Canada, Ontario

COSEWIC 2002a. COSEWIC assessment and status report on the Forked Three-awned Grass *Aristida basiramea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 29 pp.

COSEWIC. 2003a. COSEWIC assessment and update status report on the Eastern Prairie Fringed-orchid *Platanthera leucophaea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.

COSEWIC 2003b. COSEWIC assessment and status report on the Butternut *Juglans cinerea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.

COSEWIC. 2004a. COSEWIC assessment and status report on Hill's Thistle *Cirsium hillii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 34 pp.

COSEWIC. 2005a. COSEWIC assessment and update status report on the Blanding's Turtle *Emydoidea blandingii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. viii + 40 pp.

COSEWIC. 2005b. COSEWIC assessment and status report on the Grass Pickerel *Esox americanus vermiculatus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.

COSEWIC 2006a. COSEWIC assessment and status report on the Golden-winged Warbler *Vermivora chrysoptera* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 30 pp.

COSEWIC. 2006b. COSEWIC assessment and update status report on the Lake Sturgeon *Acipenser fulvescens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 107 pp.

COSEWIC 2007a. COSEWIC assessment and update status report on the Five-lined Skink *Eumeces fasciatus* (Carolinian population and Great Lakes/St. Lawrence population) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 50 pp.

COSEWIC. 2007b. COSEWIC assessment and update status report on the Eastern Hog-nosed Snake *Heterodon platirhinos* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. viii + 36 pp.

COSEWIC. 2007c. COSEWIC assessment and update status report on the Redside Dace *Clinostomus elongates* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 59 pp.

COSEWIC. 2007d. COSEWIC assessment and status report on the Common Nighthawk *Chordeiles minor* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp.

COSEWIC. 2007e. COSEWIC assessment and status report on the Olive-sided Flycatcher *Contopus cooperi* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 25 pp.

COSEWIC. 2007f. COSEWIC assessment and status report on the Red-headed Woodpecker *Melanerpes erythrocephalus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.

COSEWIC. 2007g. COSEWIC assessment and update status report on the Chimney Swift *Chaetura pelagica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 49 pp.

COSEWIC. 2007h. COSEWIC assessment and update status report on the Wood Turtle *Glyptemys insculpta* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 42 pp.

COSEWIC. 2008a. COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.

COSEWIC. 2008b. COSEWIC assessment and status report on the Canada Warbler *Wilsonia canadensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp.

COSEWIC. 2008c. COSEWIC assessment and update status report on the Short-eared Owl *Asio flammeus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 24 pp.

COSEWIC. 2008d. COSEWIC assessment and update status report on the Eastern Foxsnake *Elaphe gloydi*, Carolinian population and Great Lakes/St. Lawrence population, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 45 pp.

COSEWIC. 2009a. COSEWIC assessment and update status report on the Whip-poor-will *Caprimulgus vociferus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 28 pp.

COSEWIC. 2009b. COSEWIC assessment and update status report on the Least Bittern *Ixobrychus exilis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 36 pp.

COSEWIC. 2009c. COSEWIC assessment and status report on the Yellow Rail *Coturnicops noveboracensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.

COSEWIC. 2010a. COSEWIC assessment and update status report on the Cerulean Warbler *Dendroica cerulea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp.

COSEWIC. 2010b. COSEWIC assessment and update status report on the Bobolink *Dolichonyx oryzivorus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 42 pp.

COSEWIC. 2010c. COSEWIC assessment and status report on the Monarch *Danaus plexippus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 43 pp.

COSEWIC. 2010d. COSEWIC assessment and status report on the Rusty-patched Bumble Bee *Bombus affinis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 34 pp.

COSEWIC. 2010e. COSEWIC assessment and update status report on the Jefferson Salamander *Ambystoma jeffersonianum* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 38 pp.

COSEWIC. 2011a. COSEWIC assessment and update status report on the Henslow's Sparrow *Ammodramus henslowii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 37 pp.

COSEWIC. 2011b. COSEWIC assessment and update status report on the King Rail *Rallus elegans* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 32 pp.

COSEWIC. 2011c. COSEWIC assessment and update status report on the Eastern Meadowlark *Sturnella magna* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp.

COSEWIC. 2011d. COSEWIC assessment and update status report on the Barn Swallow *Hirundo rustica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 37 pp.

COSEWIC. 2011e. COSEWIC assessment and update status report on the Hine's Emerald *Somatochlora hineana* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 41 pp.

COSEWIC. 2012a. COSEWIC assessment and update status report on the Massasauga *Sistrurus catenatus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 84 pp.

COSEWIC. 2012b. COSEWIC assessment and status report on the Eastern Musk Turtle *Sternotherus odoratus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 68 pp.

COSEWIC. 2012c. COSEWIC assessment and status report on the Eastern Ribbonsnake *Thamnophis sauritus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 39 pp.

COSEWIC. 2012d. COSEWIC assessment and status report on the Northern Map Turtle *Graptemys geographica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 63 pp.

COSEWIC. 2012e. COSEWIC assessment and status report on the Eastern Wood-pewee *Contopus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.

COSEWIC. 2012f. COSEWIC assessment and update status report on the Wood Thrush *Hylocichla mustelina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 46 pp.

COSEWIC. 2012g. COSEWIC assessment and status report on the American Eel *Anguilla rostrata* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 109 pp. ([www.registrelep-sararegistry.gc.ca/default\\_e.cfm](http://www.registrelep-sararegistry.gc.ca/default_e.cfm)).

COSEWIC. 2013a. COSEWIC assessment and update status report on the Piping Plover *circumcinctus* subspecies (*Charadrius melodus circumcinctus*) and the *melodus* subspecies (*Charadrius melodus melodus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiv + 3

COSEWIC. 2013b. COSEWIC assessment and update status report on the Little Brown Myotis *Myotis lucifugus*, Northern Myotis *Myotis septentrionalis* and Tri-colored Bat *Perimyotis subflavus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.

COSEWIC. 2013c. COSEWIC assessment and update status report on the Bank Swallow *Riparia riparia* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 48 pp.

COSEWIC. 2013d. COSEWIC assessment and status report on the Grasshopper Sparrow *praterensis* subspecies *Ammodramus savannarum praterensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 36 pp.

COSEWIC. 2014a. COSEWIC assessment and update status report on the Loggerhead Shrike *Lanius ludovicianus ssp.* and the Prairie subspecies *Lanius ludovicianus excubitorides* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 51 pp.

COSEWIC. 2015a. COSEWIC assessment and status report on the Louisiana Waterthrush *Parkesia motacilla* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 58 pp.

Ministry of Natural Resources and Forestry (MNRF). 2014. Eastern Small-footed Bat. Queen's Printer for Ontario. <https://www.ontario.ca/environment-and-energy/eastern-small-footed-bat>

Ministry of Natural Resources and Forestry (MNRF). 2016. Species at Risk in Ontario. <http://www.ontario.ca/environment-and-energy/species-risk>

Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E, 3735 Menoke Beach Road, Severn, 2020

Table 1.1 Seasonal Concentrations of Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Waterfowl Stopover and Staging Areas (Terrestrial)</b></p> <p><b>Rationale:</b> Habitat important to migrating waterfowl.</p>	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May). <ul style="list-style-type: none"> <li>Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl.</li> <li>Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence.</li> <li>Reports and other information available from Conservation Authorities</li> <li>Sites documented through waterfowl planning processes (e.g. EHJV implementation plan)</li> <li>Field Naturalist Clubs</li> <li>Ducks Unlimited Canada</li> <li>Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area</li> </ul>	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” <ul style="list-style-type: none"> <li>Any mixed species aggregations of 100 or more individuals required.</li> <li>The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat.</li> <li>Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates).</li> <li>SWHMiST Index #7 provides development effects and mitigation measures.</li> </ul>	The wildlife habitat is not present on or adjacent to the property. The property is not associated with CUM or CUT fields that flood in spring. The property would not be expected to provide habitat function as a waterfowl stopover and staging area (terrestrial).
<p><b>Waterfowl Stopover and Staging Areas (Aquatic)</b></p> <p><b>Rationale:</b> Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.</p>	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	<ul style="list-style-type: none"> <li>Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify.</li> <li>These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water).</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Environment Canada</li> <li>Naturalist clubs often are aware of staging/stopover areas</li> <li>OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging.</li> <li>Sites documented through waterfowl planning processes (e.g. EHJV implementation plan)</li> <li>Ducks Unlimited projects</li> <li>Element occurrence specification by Nature Serve: <a href="http://www.natureserve.org">http://www.natureserve.org</a></li> <li>Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas</li> </ul>	Studies carried out and verified presence of: <ul style="list-style-type: none"> <li>Aggregations of 100 or more of listed species for 7 days, results in &gt; 700 waterfowl use days.</li> <li>Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH.</li> <li>The combined area of the ELC ecosites and a 100m radius area is the SWH.</li> <li>Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat.</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.</li> <li>Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded).</li> <li>SWHMiST Index #7 provides development effects and mitigation measures.</li> </ul>	The ELC ecosite types are not present on the property. The property would not be expected to provide habitat function as a waterfowl stopover and staging area (aquatic).

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Shorebird Migratory Stopover Area</b></p> <p><b>Rationale:</b> High quality shorebird stopover habitat is extremely rare and typically has a long history of use.</p>	<p>Greater Yellowlegs                      Lesser Yellowlegs                      Marbled Godwit                      Hudsonian Godwit                      Black-bellied Plover                      American Golden-Plover                      Semipalmated Plover                      Solitary Sandpiper                      Spotted Sandpiper                      Semipalmated Sandpiper                      Pectoral Sandpiper                      White-rumped Sandpiper                      Baird’s Sandpiper                      Least Sandpiper                      Purple Sandpiper                      Stilt Sandpiper                      Short-billed Dowitcher                      Red-necked Phalarope                      Whimbrel                      Ruddy Turnstone                      Sanderling                      Dunlin</p>	<p>BBO1                      BBO2                      BBS1                      BBS2                      BBT1                      BBT2                      SDO1                      SDS2                      SDT1                      MAM1                      MAM2                      MAM3                      MAM4                      MAM5</p>	<ul style="list-style-type: none"> <li>Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.</li> <li>Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October.</li> <li>Sewage treatment ponds and storm water ponds do not qualify as a SWH.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Western hemisphere shorebird reserve network</li> <li>Canadian Wildlife Service (CWS) Ontario Shorebird Survey</li> <li>Bird Studies Canada</li> <li>Ontario Nature</li> <li>Local birders and naturalist clubs</li> <li>Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area</li> </ul>	<p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of 3 or more of listed species and &gt; 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period)</li> <li>Whimbrel stop briefly (&lt;24hrs) during spring migration, any site with &gt;100 Whimbrel used for 3 years or more is significant.</li> <li>The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area.</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.</li> <li>SWHMiST Index #8 provides development effects and mitigation measures.</li> </ul>	<p>Although the property has an MAMM1 ELC ecosite present, it is not associated with shorelines of lakes or rivers, and does not have any coastal wetlands. The MAMM1 ecosite is unlikely to be associated with seasonal flooding as habitat preferred by shorebirds. Candidate SWH criteria not met. The property would not be expected to provide habitat function for shorebirds.</p>
<p><b>Raptor Wintering Area</b></p> <p><b>Rationale:</b> Sites used by multiple species of individuals and used annually are most significant</p>	<p>Rough-legged Hawk                      Red-tailed Hawk                      Northern Harrier                      American Kestrel                      Snowy Owl</p> <p><b>Special Concern:</b>                      Short-eared Owl                      Bald Eagle</p>	<p><u>Hawks/Owls:</u>                      Combination of ELC Community Series; need to have present one Community Series from each land class;                      Forest:                      FOD, FOM, FOC.                      Upland:                      CUM; CUT; CUS; CUW.  <u>Bald Eagle:</u>                      Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).</p>	<ul style="list-style-type: none"> <li>The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors.</li> <li>Raptor wintering sites (hawk/owl) need to be &gt; 20 ha with a combination of forest and upland.</li> <li>Least disturbed sites, idle/fallow or lightly grazed field/meadow (&gt;15ha) with adjacent woodlands.</li> <li>Field area of the habitat is to be windswept with limited snow depth or accumulation.</li> <li>Eagle sites have open water, large trees and snags available for roosting.</li> </ul> <p><u>Information Sources:</u></p> <ul style="list-style-type: none"> <li>OMNRF Ecologist or Biologist Field Naturalist Clubs</li> <li>Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area</li> <li>Data from Bird Studies Canada</li> <li>Results of Christmas Bird Counts Reports and other information available from Conservation Authorities.</li> </ul>	<p>Studies confirm the use of these habitats by:</p> <ul style="list-style-type: none"> <li>One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species.</li> <li>To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds.</li> <li>The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area.</li> <li>Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.</li> <li>SWHMiST Index #10 and #11 provides development effects and mitigation measures.</li> </ul>	<p>The property is not associated with the described habitat criteria (e.g., combination of large fields and forests/woodlands). The FOCM5 and FODM7-2 polygons on the property are small and do not meet the minimum size criteria. Candidate SWH criteria are not met. The property would not be expected to provide habitat function for overwintering raptors.</p>

Table 5 (AEC 19-371)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Bat Hibernacula</b></p> <p><b>Rationale:</b> Bat hibernacula are rare habitats in all Ontario landscapes.</p>	<p>Big Brown Bat Tri-coloured Bat</p>	<p>Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)</p>	<ul style="list-style-type: none"> <li>Hibernacula may be found in caves, mine shafts, underground foundations and Karsts.</li> <li>Active mine sites should not be considered as SWH</li> <li>The locations of bat hibernacula are relatively poorly known.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>OMNRF for possible locations and contact for local experts</li> <li>Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern</li> <li>Development and Mines for location of mine shafts.</li> <li>Clubs that explore caves (e.g. Sierra Club)</li> <li>University Biology Departments with bat experts.</li> </ul>	<ul style="list-style-type: none"> <li>All sites with confirmed hibernating bats are SWH.</li> <li>The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms</li> <li>Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”.</li> <li>SWHMiST Index #1 provides development effects and mitigation measures.</li> </ul>	<p>The property is not associated with caves, mine shafts, underground foundations or karsts. No suitable habitat on or adjacent to the property. The property would not be expected to provide bat hibernacula habitat function.</p>
<p><b>Bat Maternity Colonies</b></p> <p><b>Rationale:</b> Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.</p>	<p>Big Brown Bat Silver-haired Bat</p>	<p>Maternity colonies considered SWH are found in forested Ecosites.</p> <p>All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM</p>	<ul style="list-style-type: none"> <li>Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).</li> <li>Maternity roosts are not found in caves and mines in Ontario.</li> <li>Maternity colonies located in Mature deciduous or mixed forest stands with &gt;10/ha large diameter (&gt;25cm dbh) wildlife trees.</li> <li>Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2.</li> <li>Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>OMNRF for possible locations and contact for local experts</li> <li>University Biology Departments with bat experts.</li> </ul>	<ul style="list-style-type: none"> <li>Maternity Colonies with confirmed use by; <ul style="list-style-type: none"> <li>&gt;10 Big Brown Bats</li> <li>&gt;5 Adult Female Silver-haired Bats</li> </ul> </li> <li>The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies.</li> <li>Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”.</li> <li>SWHMiST Index #12 provides development effects and mitigation measures.</li> </ul>	<p>The property does not contain the ELC forest ecosites (e.g., FOD) of suitable size and composition required to meet the habitat criteria. The property would not be expected to provide habitat function for maternity roosting bats.</p>
<p><b>Turtle Wintering Areas</b></p> <p><b>Rationale:</b> Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p>Midland Painted Turtle</p> <p><b>Special Concern:</b> Northern Map Turtle Snapping Turtle</p>	<p>Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO</p> <p>Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.</p>	<ul style="list-style-type: none"> <li>For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates.</li> <li>Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen.</li> <li>Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>EIS studies carried out by Conservation Authorities.</li> <li>Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites.</li> <li>OMNRF Ecologist or Biologist</li> <li>Field Naturalist clubs</li> <li>Natural Heritage Information Center (NHIC)</li> </ul>	<ul style="list-style-type: none"> <li>Presence of 5 over-wintering Midland Painted Turtles is significant.</li> <li>One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant.</li> <li>The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH.</li> <li>Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May)</li> <li>Congregation of turtles is more common where wintering areas are limited and therefore significant</li> <li>SWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat.</li> </ul>	<p>The small fringe of graminoid meadow marsh and swamp thicket habitat on the property are not suitable for overwintering turtles. No water was observed in these areas that would be required for turtle brumation. Furthermore, the marsh does not provide ‘typical’ turtle habitat (i.e. open water, basking areas). The property would not be expected to provide habitat function as an overwintering area for turtles. The open water associated with the MAMM1 ELC community on the adjacent property to the north likely does not provide sufficient water depth. Candidate SWM criteria not met.</p>

Table 5 (AEC 19-371)



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Reptile Hibernaculum</b></p> <p><b>Rationale:</b> Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p><b>Snakes:</b> Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake</p> <p><b>Special Concern:</b> Milksnake Eastern Ribbonsnake</p> <p><b>Lizard:</b> <b>Special Concern</b> (Southern Shield population): Five-lined Skink</p>	<p>For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats.</p> <p>Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.</p> <p>For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3</p>	<ul style="list-style-type: none"> <li>For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH.</li> <li>Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line.</li> <li>Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.</li> <li>Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures.</li> </ul> <p><b>Information Sources</b></p> <ul style="list-style-type: none"> <li>In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells).</li> <li>Reports and other information available from Conservation Authorities.</li> <li>Field Naturalists clubs</li> <li>University herpetologists</li> <li>Natural Heritage Information Center (NHIC)</li> <li>OMNRF ecologist or biologist may be aware of locations of wintering skinks</li> </ul>	<p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp.</li> <li>Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)</li> <li><b>Note:</b> If there are Special Concern Species present, then site is SWH</li> <li><b>Note:</b> Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH.</li> <li>SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula.</li> <li>Presence of any active hibernaculum for skink is significant.</li> <li>SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.</li> </ul>	<p>The property does not meet the habitat criteria. No features that could function as hibernacula for reptiles occur on the property. The property would not be expected to provide habitat function for overwintering snakes.</p>
<p><b>Colonially -Nesting Bird Breeding Habitat (Bank and Cliff)</b></p> <p><b>Rationale:</b> Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.</p>	<p>Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)</p>	<p>Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns.</p> <p>Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1</p>	<ul style="list-style-type: none"> <li>Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.</li> <li>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</li> <li>Does not include a licensed/permitted Mineral Aggregate Operation.</li> </ul> <p><b>Information Sources</b></p> <ul style="list-style-type: none"> <li>Reports and other information available from Conservation Authorities.</li> <li>Ontario Breeding Bird Atlas</li> <li>Bird Studies Canada; <i>NatureCounts</i> <a href="http://www.birdscanada.org/birdmon/">http://www.birdscanada.org/birdmon/</a></li> <li>Field Naturalist Clubs.</li> </ul>	<p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of 1 or more nesting sites with 8or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season.</li> <li>A colony identified as SWH will include a 50m radius habitat area from the peripheral nests.</li> <li>Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.</li> <li>SWHMiST Index #4 provides development effects and mitigation measures.</li> </ul>	<p>The property does not meet the habitat criteria (e.g., cliffs, steep, exposed soil banks), and the species indicated were not observed on or near the property. The property would not be expected to provide habitat function for breeding colonial nesting birds.</p>

Table 5 (AEC 19-371)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)</b></p> <p><b>Rationale:</b> Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron</p>	<p>SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1</p>	<ul style="list-style-type: none"> <li>Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.</li> <li>Most nests in trees are 11 to 15 m from ground, near the top of the tree.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Ontario Breeding Bird Atlas, colonial nest records.</li> <li>Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF).</li> <li>Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony</li> <li>Aerial photographs can help identify large heronries.</li> <li>Reports and other information available from CAs.</li> <li>MNRF District Offices</li> <li>Local naturalist clubs</li> </ul>	<p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of 5 or more active nests of Great Blue Heron or other listed species.</li> <li>The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island &lt;15.0ha with a colony is the SWH.</li> <li>Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells.</li> <li>SWHMiST Index #5 provides development effects and mitigation measures.</li> </ul>	<p>The property does not meet the habitat criteria, the ELC ecosites are not present and the species indicated were not observed on or near the property. The property would not be expected to provide habitat function for these breeding colonial nesting birds.</p>
<p><b>Colonially-Nesting Bird Breeding Habitat (Ground)</b></p> <p><b>Rationale:</b> Colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer’s Blackbird</p>	<p>Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map).</p> <p>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer’s Blackbird)</p> <p>MAM1 – 6; MAS1 – 3; CUM CUT CUS</p>	<ul style="list-style-type: none"> <li>Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas.</li> <li>Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Ontario Breeding Bird Atlas , rare/colonial species records.</li> <li>Canadian Wildlife Service</li> <li>Reports and other information available from CAs.</li> <li>Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area</li> <li>MNRF District Offices</li> <li>Field Naturalist clubs</li> </ul>	<p>Studies confirming:</p> <ul style="list-style-type: none"> <li>Presence of &gt; 25 active nests for Herring Gulls or Ring-billed Gulls, &gt;5 active nests for Common Tern or &gt;2 active nests for Caspian Tern.</li> <li>Presence of 5 or more pairs for Brewer’s Blackbird.</li> <li>Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant.</li> <li>The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island &lt;3.0ha with a colony is the SWH.</li> <li>Studies would be done during May/June when actively nesting. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.</li> <li>SWHMiST Index #6 provides development effects and mitigation measures.</li> </ul>	<p>The property does not meet the habitat criteria (<i>i.e.</i>, no rocky island or peninsula within a lake or large river). The MAMM1 community is not associated with water or an island, and is relatively dry with no standing water. Candidate SWH criteria are not met. The property would not be expected to provide habitat function for these breeding colonial ground-nesting birds.</p>

Table 5 (AEC 19-371)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Migratory Butterfly Stopover Areas</b></p> <p><b>Rationale:</b> Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.</p>	<p>Painted Lady Red Admiral</p> <p><u>Special Concern</u> Monarch</p>	<p>Combination of ELC Community Series; need to have present one Community Series from each land class:</p> <p><u>Field:</u> CUM CUT CUS</p> <p><u>Forest:</u> FOC FOD FOM CUP</p> <p>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.</p>	<p>A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> <li>The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south.</li> <li>The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat.</li> <li>Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>OMNRF (NHIC)</li> <li>Agriculture Canada in Ottawa may have list of butterfly experts.</li> <li>Field Naturalist Clubs</li> <li>Toronto Entomologists Association</li> <li>Conservation Authorities</li> </ul>	<p>Studies confirm:</p> <ul style="list-style-type: none"> <li>The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur.</li> <li>Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD.</li> <li>MUD of &gt;5000 or &gt;3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.</li> <li>SWHMiST Index #16 provides development effects and mitigation measures.</li> </ul>	<p>The property does not contain the ELC field ecosites required to meet the habitat criteria. The FOCM5 and FODM7-2 communities are much smaller than the minimum 10ha size requirement, and the property is not within 5km of Lake Ontario. Candidate SWH criteria are not met. No Monarch Butterflies were observed. The property would not be expected to provide habitat function for migratory butterflies.</p>
<p><b>Landbird Migratory Stopover Areas</b></p> <p><b>Rationale:</b> Sites with a high diversity of species as well as high numbers are most significant.</p>	<p>All migratory songbirds. Canadian Wildlife Service Ontario website.</p> <p>All migratory songbirds. Canadian Wildlife Service Ontario website:</p>	<p>All Ecosites associated with these ELC Community Series;</p> <p>FOC FOM FOD SWC SWM SWD</p>	<p>Woodlots need to be &gt;10 ha in size and within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> <li>If multiple woodlands are located along the shoreline those Woodlands &lt;2km from Lake Ontario are more significant.</li> <li>Sites have a variety of habitats; forest, grassland and wetland complexes.</li> <li>The largest sites are more significant.</li> <li>Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH .</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Bird Studies Canada</li> <li>Ontario Nature</li> <li>Local birders and naturalist club</li> <li>Ontario Important Bird Areas (IBA) Program</li> </ul>	<p>Studies confirm:</p> <ul style="list-style-type: none"> <li>Use of the habitat by &gt;200 birds/day and with &gt;35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant.</li> <li>Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".</li> <li>SWHMiST Index #9 provides development effects.</li> </ul>	<p>Property not located within 5km of Lake Ontario. The FOCM5 and FODM7-2 communities would not be suitable as landbird migratory stopover areas because they are not areas of scale. Candidate SWH criteria not met.</p>

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Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p><b>Deer Yarding Areas</b></p> <p><b>Rationale:</b> Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.</p>	White-tailed Deer	<p>Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC.</p> <p>Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT</p>	<ul style="list-style-type: none"> <li>Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter.</li> <li>The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%.</li> <li>OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual”.</li> <li>Woodlots with high densities of deer due to artificial feeding are not significant.</li> </ul>	<p>No Studies Required:</p> <ul style="list-style-type: none"> <li>Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths &gt; 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH.</li> <li>Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO).</li> <li>Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations.</li> <li>If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.</li> <li>SWHMiST Index #2 provides development effects and mitigation measures.</li> </ul>	FOC ecosite on the property would not provide the thermal cover required for deer. See Deer Winter Congregation Area assessment below.
<p><b>Deer Winter Congregation Areas</b></p> <p><b>Rationale:</b> Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.</p>	White-tailed Deer	<p>All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p> <p>Conifer plantations much smaller than 50 ha may also be used.</p>	<ul style="list-style-type: none"> <li>Woodlots will typically be &gt;100 ha in size. Woodlots &lt;100ha may be considered as significant based on MNRF studies or assessment.</li> <li>Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands .</li> <li>If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule.</li> <li>Large woodlots &gt; 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha.</li> <li>Woodlots with high densities of deer due to artificial feeding are not significant.</li> </ul> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>MNRF District Offices</li> <li>LIO/NRVIS</li> </ul>	<p>Studies confirm:</p> <ul style="list-style-type: none"> <li>Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF.</li> <li>Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF.</li> <li>Studies should be completed during winter (Jan/Feb) when &gt;20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey.</li> <li>If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.</li> <li>SWHMiST Index #2 provides development effects and mitigation measures.</li> </ul>	No woodlands of sufficient size to be considered for this potential SWH function. No suitable habitat on the property. Candidate SWH criteria not met. The property would not be expected to provide the habitat function for deer in winter.

Table 5 (AEC 19-371)

**Table 1.2.1 Rare Vegetation Communities**

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p><b>Cliffs and Talus Slopes</b></p> <p><b>Rationale:</b> Cliffs and Talus Slopes are extremely rare habitats in Ontario.</p>	<p>Any ELC Ecosite within Community Series:</p> <p>TAO TAS TAT CLO CLS CLT</p>	<p>A Cliff is vertical to near vertical bedrock &gt;3m in height.</p> <p>A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.</p>	<p>Most cliff and talus slopes occur along the Niagara Escarpment.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>The Niagara Escarpment Commission has detailed information on location of these habitats.</li> <li>OMNRF District</li> <li>Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>Field Naturalist clubs</li> <li>Conservation Authorities</li> </ul>	<ul style="list-style-type: none"> <li>Confirm any ELC Vegetation Type for Cliffs or Talus Slopes</li> <li>SWHMiST Index #21 provides development effects and mitigation measures.</li> </ul>	<p>The property does not contain the habitat elements (e.g., cliffs, talus slopes) and does not meet the required habitat criteria. As a result, the property would not be expected to provide the habitat function.</p>
<p><b>Sand Barren</b></p> <p><b>Rationale:</b> Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry</p>	<p>ELC Ecosites:</p> <p>SBO1 SBS1 SBT1</p> <p>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.</p>	<p>Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.</p>	<p>A sand barren area &gt;0.5ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>MNRF Districts</li> <li>Natural Heritage Information Center (NHIC) has location information available on their website.</li> <li>Field Naturalist clubs</li> <li>Conservation Authorities</li> </ul>	<ul style="list-style-type: none"> <li>Confirm any ELC Vegetation Type for Sand Barrens</li> <li>Site must not be dominated by exotic or introduced species (&lt;50% vegetative cover are exotic sp.)</li> <li>SWHMiST Index #20 provides development effects and mitigation measures.</li> </ul>	<p>No sand barren habitat on the property. As a result, the property would not be expected to provide the habitat function.</p>
<p><b>Alvar</b></p> <p><b>Rationale:</b> Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.</p>	<p>ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2</p> <p><b>Five Alvar Species:</b></p> <ol style="list-style-type: none"> <li><i>Carex crawei</i></li> <li><i>Panicum philadelphicum</i></li> <li><i>Eleocharis compressa</i></li> <li><i>Scutellaria parvula</i></li> <li><i>Trichostema brachiatum</i></li> </ol> <p>These indicator species are very specific to Alvars within Ecoregion 6E.</p>	<p>An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.</p>	<p>An Alvar site &gt; 0.5 ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>Alvars of Ontario (2000), Federation of Ontario Naturalists.</li> <li>Ontario Nature – Conserving Great Lakes Alvars.</li> <li>Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>OMNRF Districts</li> <li>Field Naturalist clubs</li> <li>Conservation Authorities</li> </ul>	<ul style="list-style-type: none"> <li>Field studies that identify four of the five <b>Alvar Indicator Species</b> at a Candidate Alvar site is Significant.</li> <li>Site must not be dominated by exotic or introduced species (&lt;50% vegetative cover are exotic sp.).</li> <li>The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses.</li> <li>SWHMiST Index #17 provides development effects and mitigation measures.</li> </ul>	<p>No alvar habitat on the property. As a result, the property would not be expected to provide the habitat function.</p>

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p><b>Old Growth Forest</b></p> <p><b>Rationale:</b> Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.</p>	<p>Forest Community Series: FOD FOC FOM SWD SWC SWM</p>	<p>Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.</p>	<p>Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>• OMNRF Forest Resource Inventory mapping</li> <li>• OMNRF Districts.</li> <li>• Field Naturalist clubs</li> <li>• Conservation Authorities</li> <li>• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations.</li> <li>• Municipal forestry departments</li> </ul>	<p>Field Studies will determine:</p> <ul style="list-style-type: none"> <li>• If dominant trees species are &gt;140 years old, then the area containing these trees is Significant Wildlife Habitat.</li> <li>• The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present).</li> <li>• The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH.</li> <li>• Determine ELC vegetation types for the forest area containing the old growth characteristics.</li> <li>• SWHMiST Index #23 provides development effects and mitigation measures.</li> </ul>	<p>No old growth forest habitat on the property. Although FOC and FOC ecosites occur on the property, they do not meet the candidate habitat criteria of ≥30ha in size or with at least 10ha of interior core habitat. As a result, the property would not be expected to provide the habitat function.</p>
<p><b>Savannah</b></p> <p><b>Rationale:</b> Savannahs are extremely rare habitats in Ontario.</p>	<p>TPS1 TPS2 TPW1 TPW2 CUS2</p>	<p>A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.</p>	<p>No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>• Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>• OMNRF Districts</li> <li>• Field Naturalist clubs</li> <li>• Conservation Authorities</li> </ul>	<p>Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used.</p> <ul style="list-style-type: none"> <li>• Area of the ELC Ecosite is the SWH.</li> <li>• Site must not be dominated by exotic or introduced species (&lt;50% vegetative cover are exotic sp.).</li> <li>• SWHMiST Index #18 provides development effects and mitigation measures.</li> </ul>	<p>No savannah habitat on the property. As a result, the property would not be expected to provide the habitat function.</p>
<p><b>Tallgrass Prairie</b></p> <p><b>Rationale:</b> Tallgrass Prairies are extremely rare habitats in Ontario.</p>	<p>TPO1 TPO2</p>	<p>A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has &lt; 25% tree cover.</p>	<p>No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>• Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>• OMNRF Districts</li> <li>• Field Naturalist clubs</li> <li>• Conservation Authorities</li> </ul>	<p>Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used.</p> <ul style="list-style-type: none"> <li>• Area of the ELC Ecosite is the SWH.</li> <li>• Site must not be dominated by exotic or introduced species (&lt;50% vegetative cover are exotic sp.).</li> <li>• SWHMiST Index #19 provides development effects and mitigation measures.</li> </ul>	<p>No tallgrass prairie habitat on the property. As a result, the property would not be expected to provide the habitat function.</p>
<p><b>Other Rare Vegetation Communities</b></p> <p><b>Rationale:</b> Plant communities that often contain rare species which depend on the habitat for survival.</p>	<p>Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.</p>	<p>Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.</p>	<p>ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M</p> <p>The OMNRF/NHIC will have up to date listing for rare vegetation communities.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> <li>• Natural Heritage Information Center (NHIC) has location information available on their website</li> <li>• OMNRF Districts</li> <li>• Field Naturalist clubs</li> <li>• Conservation Authorities</li> </ul>	<p>Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG.</p> <ul style="list-style-type: none"> <li>• Area of the ELC Vegetation Type polygon is the SWH.</li> <li>• SWHMiST Index #37 provides development effects and mitigation measures.</li> </ul>	<p>Vegetation communities on the property are heavily influenced by prior and current adjacent development and historical modifications. No rare vegetation communities on the property.</p>

Table 5 (AEC 19-371)



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## APPENDICES

- Appendix A: Growth Plan Schedule**
  - Appendix B: County Official Plan Schedule**
  - Appendix C: Township Official Plan Schedules**
  - Appendix D: SSEA Terms of Reference**
  - Appendix E: Property Photographs**
  - Appendix F: MECP SAR Request/Reply, MNRF Fisheries Request/Reply**
  - Appendix G: Fisheries Photographs**
  - Appendix H: Background Mapping**
  - Appendix I: Site Plan and SWMP**
  - Appendix J: Source Water Protection Screening Letter**
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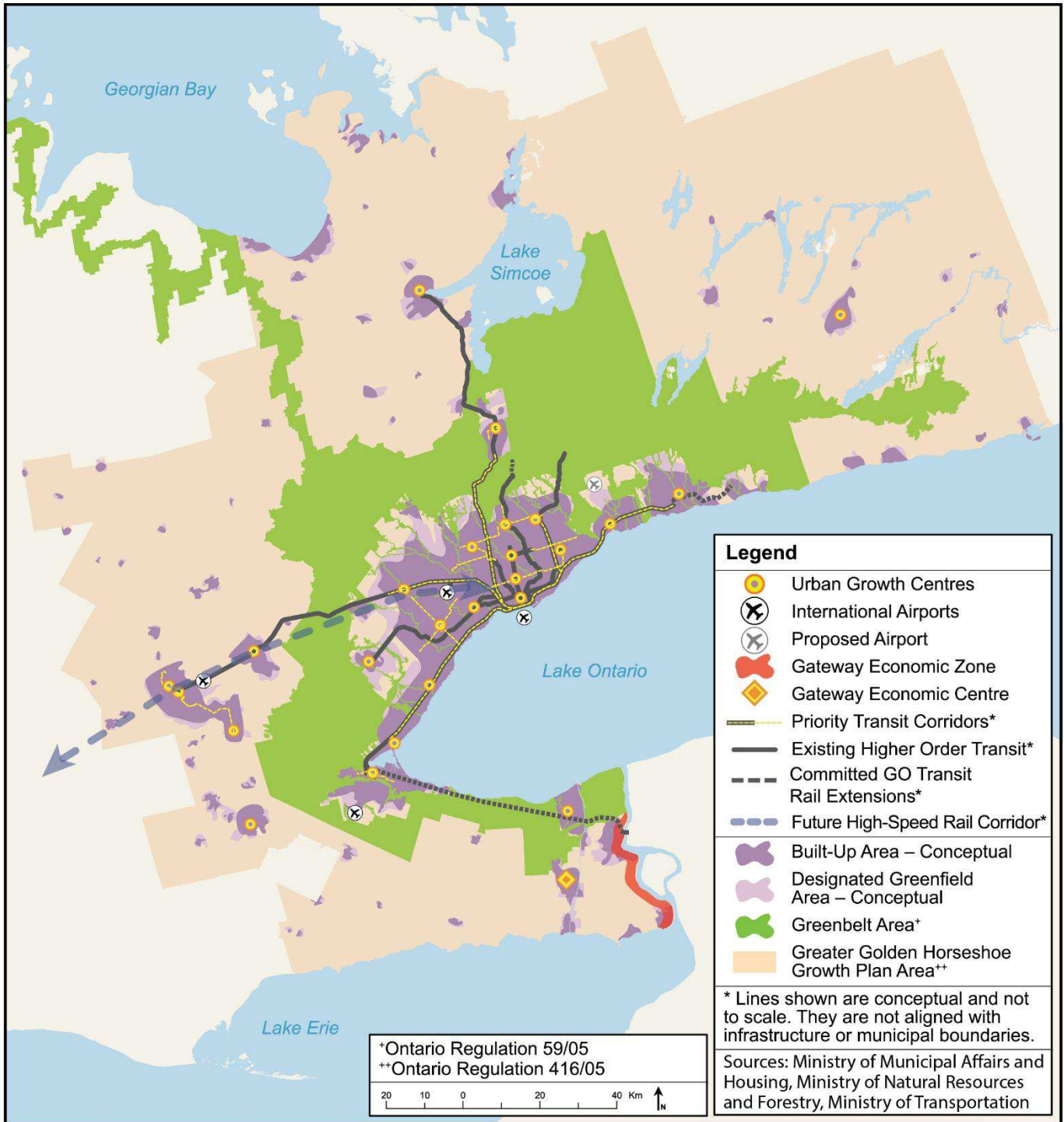
**APPENDIX A**

**Growth Plan Schedule**

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Note: The information displayed on this map is not to scale, does not accurately reflect approved land-use and planning boundaries, and may be out of date. For more information on precise boundaries, the appropriate municipality should be consulted. For more information on Greenbelt Area boundaries, the Greenbelt Plan should be consulted. The Province of Ontario assumes no responsibility or liability for any consequences of any use made of this map.



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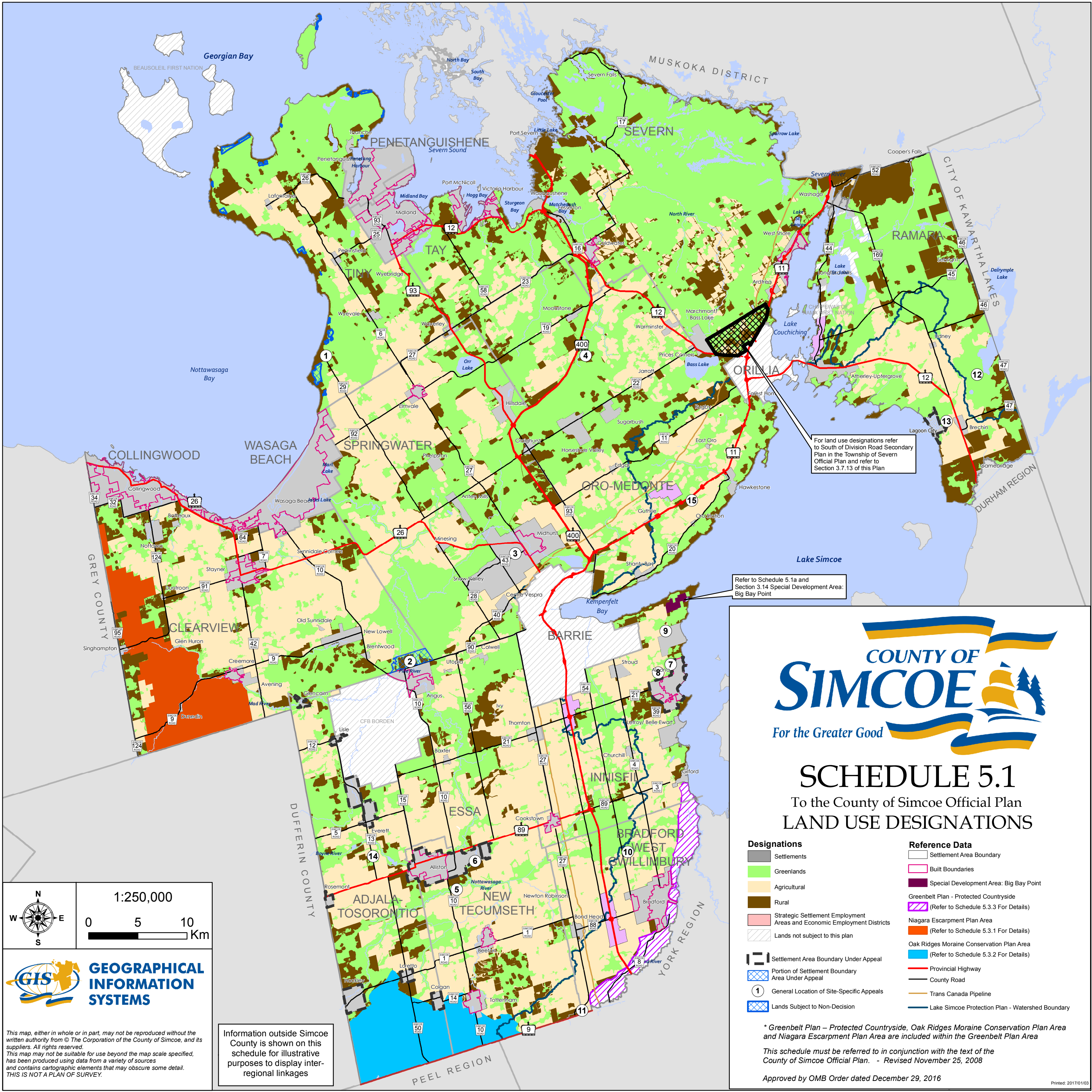
**APPENDIX B**

**County Official Plan Schedule**

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For land use designations refer to South of Division Road Secondary Plan in the Township of Severn Official Plan and refer to Section 3.7.13 of this Plan

Refer to Schedule 5.1a and Section 3.14 Special Development Area: Big Bay Point



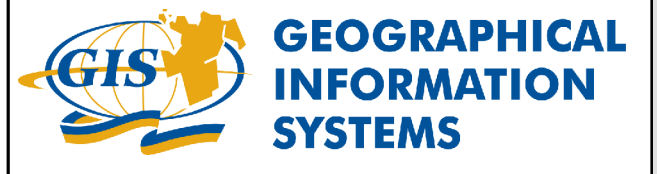
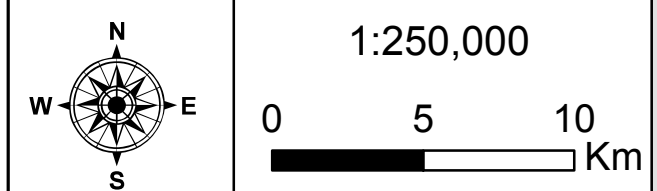
# SCHEDULE 5.1

To the County of Simcoe Official Plan  
LAND USE DESIGNATIONS

Designations	Reference Data
Settlements	Settlement Area Boundary
Greenlands	Built Boundaries
Agricultural	Special Development Area: Big Bay Point
Rural	Greenbelt Plan - Protected Countryside
Strategic Settlement Employment Areas and Economic Employment Districts	(Refer to Schedule 5.3.3 For Details)
Lands not subject to this plan	Niagara Escarpment Plan Area
Settlement Area Boundary Under Appeal	(Refer to Schedule 5.3.1 For Details)
Portion of Settlement Boundary Area Under Appeal	Oak Ridges Moraine Conservation Plan Area
General Location of Site-Specific Appeals	(Refer to Schedule 5.3.2 For Details)
Lands Subject to Non-Decision	Provincial Highway
	County Road
	Trans Canada Pipeline
	Lake Simcoe Protection Plan - Watershed Boundary

\* Greenbelt Plan - Protected Countryside, Oak Ridges Moraine Conservation Plan Area and Niagara Escarpment Plan Area are included within the Greenbelt Plan Area  
This schedule must be referred to in conjunction with the text of the County of Simcoe Official Plan. - Revised November 25, 2008

Approved by OMB Order dated December 29, 2016



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This map may not be suitable for use beyond the map scale specified, has been produced using data from a variety of sources and contains cartographic elements that may obscure some detail. THIS IS NOT A PLAN OF SURVEY.

Information outside Simcoe County is shown on this schedule for illustrative purposes to display inter-regional linkages



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**APPENDIX C**

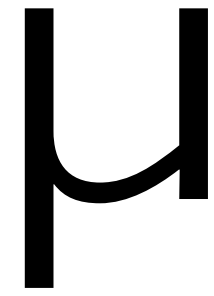
**Township Official Plan Schedules**

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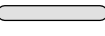

















Township of Severn  
Schedule A3  
West Shore Settlement Area

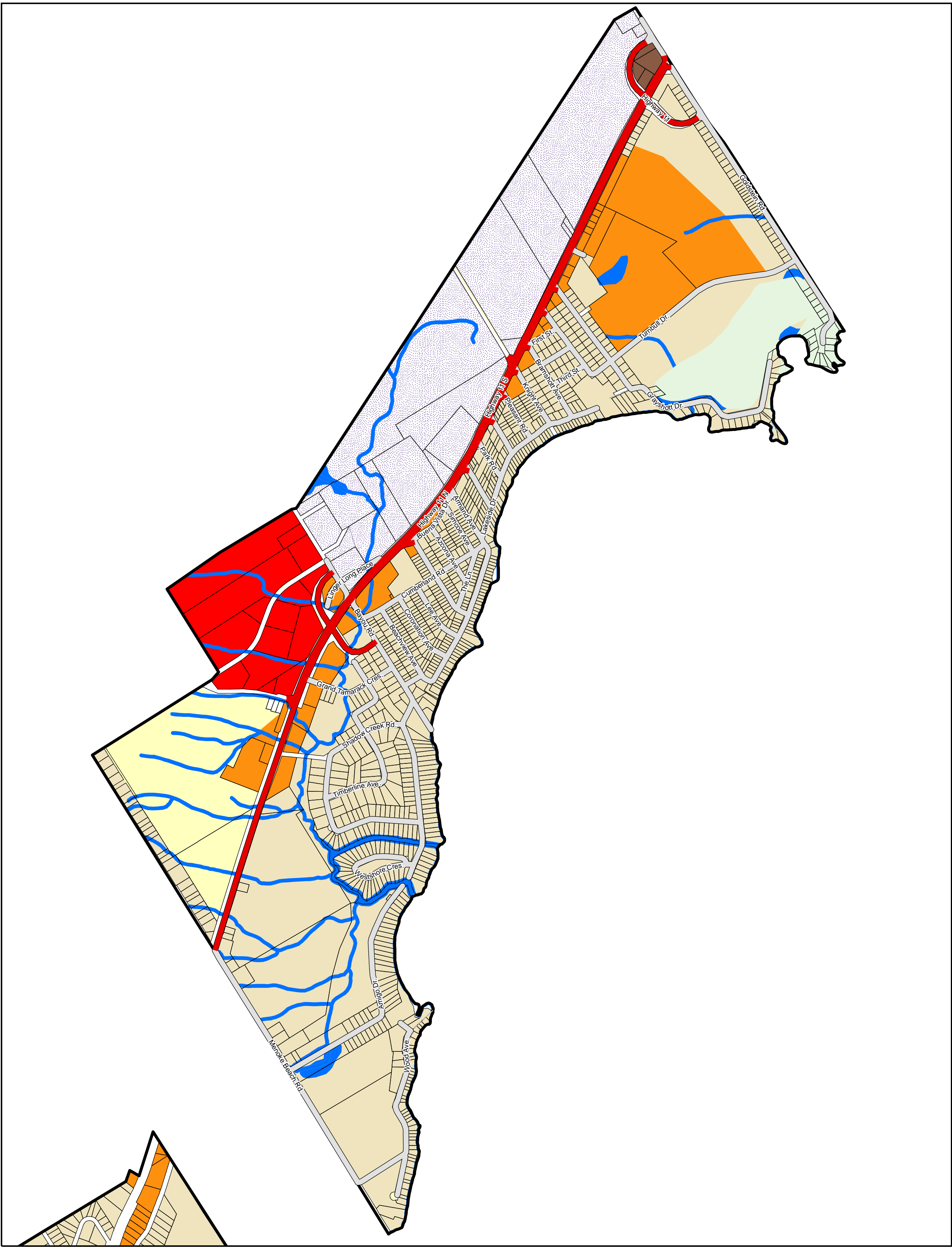


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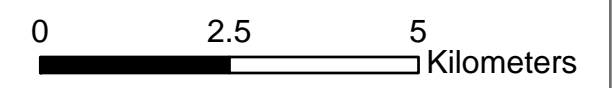
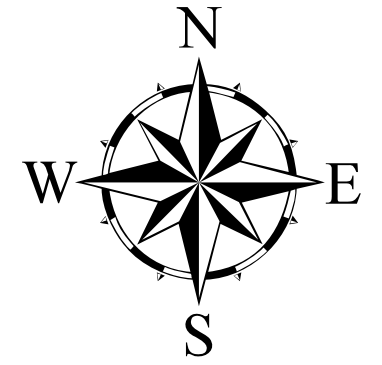
**Legend**

-  PROVINCIAL HIGHWAY
-  COUNTY ROAD
-  LOCAL ROAD
-  PRIVATE ROAD
-  Settlement Boundary
-  Country Residential
-  Settlement Employment Area
-  Highway Employment
-  Settlement Living Area
-  Major Recreation Area
-  Resort Commercial
-  Rural
-  Shoreline Residential
-  Settlement Employment SP Area
-  Settlement Living SP Area
-  Environmental Protection Area
-  Greenland
-  Agricultural Land

\* SP = Special Policy

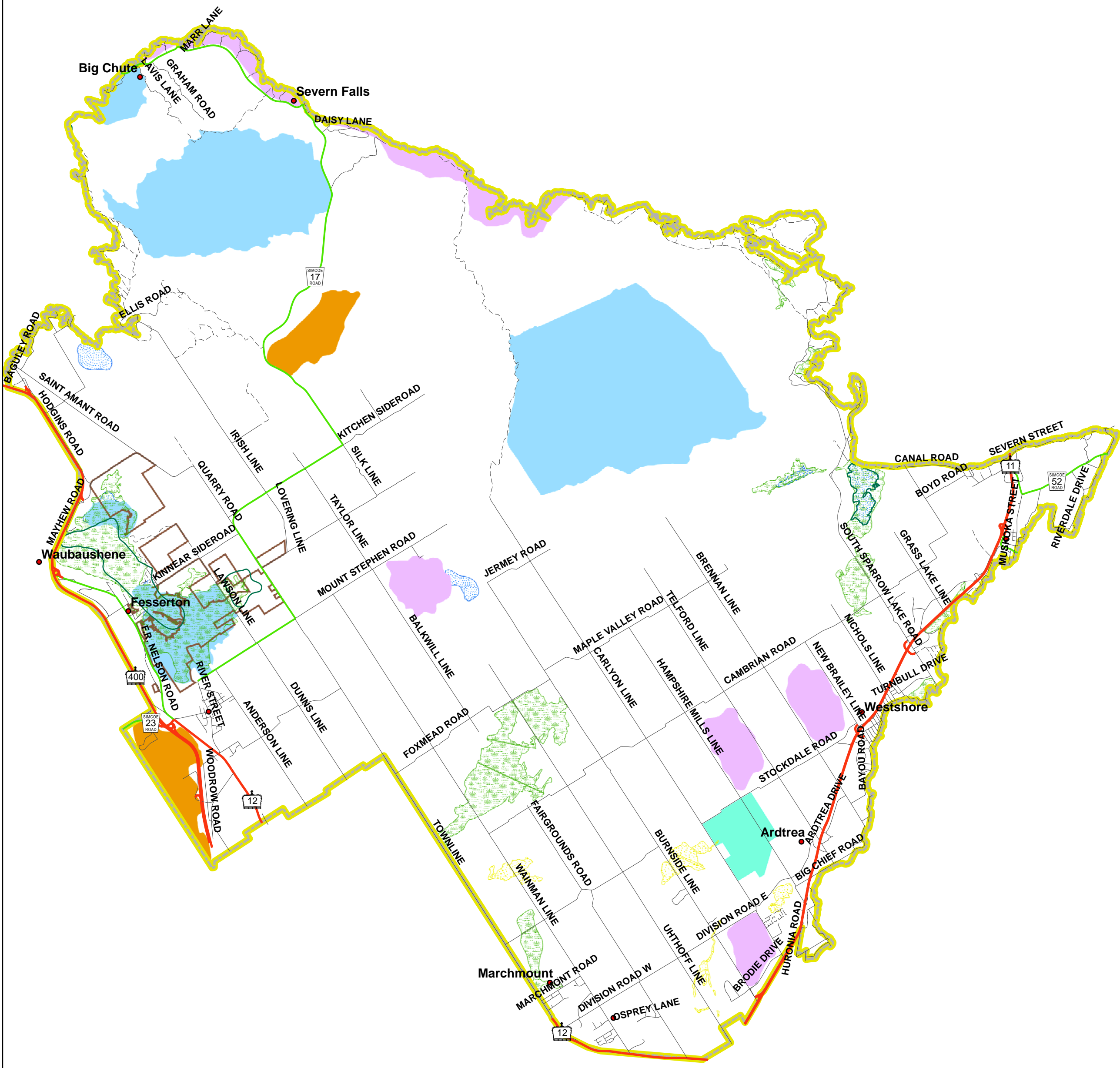


Township of Severn  
Schedule F  
Environmentally Sensitive Areas



Legend

- PROVINCIAL HIGHWAY
- COUNTY ROAD
- LOCAL ROAD
- PRIVATE ROAD
- Municipal Border
- ANSI Provincial Life Science
- ANSI Provincial Earth Science
- ANSI Regional Life Science
- ANSI Regional Earth Science
- Provincial Wildlife Management Area
- Waterfowl Staging Area
- Waterfowl Nursery Area
- Deer Wintering Area
- Local Wetlands
- Provincial Wetlands





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**APPENDIX D**

**SSEA Terms of Reference**

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## Scott Tarof

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**From:** Katie Mandeville [KMandeville@townshipofsevern.com]  
**Sent:** Tuesday, July 21, 2020 12:27 PM  
**To:** Scott Tarof  
**Subject:** EIS Terms of Reference - 3735 Menoke Beach Road  
**Attachments:** Payment for EIS Peer Review Deposit.pdf

Hi Scott,

Please see attached for the proof of payment for the deposit account for Peer Review services for 3735 Menoke Beach Road.

Severn Sound Environmental Association has provided comments on proposed Terms of Reference for 3735 Menoke Beach Road. If you would like to discuss the comments please let me know.

The following comments and clarification from Severn Sound Environmental Association (SSEA) on the proposed scope of work, including modifications (shown in **red text**) to the proposed TOR (in italics).

- *Perform a background information review using aerial imagery and natural heritage tools from the Ministry of Natural Resources and Forestry's (MNR) Natural Heritage Information Centre, VuMap, Ontario's Breeding Bird Atlas and Reptile and Amphibian Atlas databases and the Township and County OP; **Copies of correspondence with relevant agencies will be included as an appendix to the EIS.***
- *Submit a SAR Information Request to the Ministry of Environment, Conservation and Parks (MECP) to obtain background information related to SAR on the property and adjacent lands; **Copies of correspondence with relevant agencies will be included as an appendix to the EIS.***
- *Conduct fieldwork in spring-summer 2020 to document existing conditions related to the wetland and SAR:*
  - o *Evaluate/map **and describe** vegetation communities using Ecological Land Classification Methods for Southern Ontario: First Approximations and its Applications (Lee et al. 1998) (June);*
  - o *Complete a spring herbaceous and woody vascular plant survey with regard for SAR plants, including Butternut (Endangered) (June);*
  - o *Conduct two dawn breeding bird surveys based on protocols of the Ontario Breeding Bird Atlas and Canadian Wildlife Service. Dawn bird surveys would include Bird Studies Canada marsh birds surveys (June);*
  - o *Complete three evening amphibian surveys using Bird Studies Canada Marsh Monitoring Program (mid-late April, mid-late May, mid-late June);*
  - o *Complete a general visual assessment of the adjacent watercourse while on the property for the first bird survey (June);*
  - o *Record incidental wildlife observations while on the property for the above-mentioned surveys;*
  - o *Delineate the wetland boundary proximal to the northern edge of the property **and vernal pools, if present** by obtaining Global Positioning System (GPS) coordinates and flagging the observed boundary (June – during ELC and plant inventory);*
- *Complete a SAR assessment of the potential for SAR and SAR habitat to occur on or adjacent to the property, as defined by the MECP;*
- *Map vegetation communities, any potential SAR or other natural heritage constraints **including potential or confirmed significant wildlife habitat** and the proposed development on current high quality aerial photos; **Figures will include the environmental features on their own, and also the proposed development together with (e.g., superimposed on) the environmental features.***



- Complete a Form 59 Source Water Protection screening, including required IPZ background information review and form preparation for submission;
- Assess potential direct and indirect impacts of the proposed development on the sensitive or significant environmental features described above;
- Determine if the proposed development is consistent with the relevant natural heritage policies;
- Prepare one (1) draft EIS Report and Form 59 (PDF formats) for client review prior to finalizing for agency submission. The EIS will include relevant planning policies and assess how the proposed development conforms to policies, description of existing conditions, an evaluation of potential impacts and wetland/SAR impact avoidance/minimization/mitigation recommendations **including establishing appropriate buffers to natural heritage features based on an ecological rationale that will protect the features and their associated functions from anticipated or potential impacts of development**; and
- Prepare up to five (5) bound copies of the final EIS Report and Form 59 for client submission to review agencies.

### Additional comments/clarification from SSEA

1. The EIS must appropriately address natural heritage features and areas, and any applicable adjacent lands that are subject to policies of the current Provincial Policy Statement, County and/or Township of Severn Official Plan, Growth Plan for the Greater Golden Horseshoe, etc. This includes documenting the presence and location of any previously unknown or undocumented natural heritage features [e.g., wetlands, watercourses, Species At Risk (SAR) habitat features, Significant Wildlife Habitat (SWH)], taking into consideration any applicable federal or provincial policies/legislation and guidance documents.
  - The EIS must identify, map and describe all potential Significant Wildlife Habitat within the study area, and provide sufficient detail to determine whether these areas meet the current criteria for candidate or confirmed SWH [refer to the current SWH Ecoregion Criteria Schedule]. Assessment of some features (e.g., amphibian breeding habitat, woodland area-sensitive bird breeding habitat, bat maternity/roosting habitat) requires site-specific information from surveys such as breeding bird surveys, amphibian surveys, etc. that must be collected during the appropriate season(s) and conditions.
  - The EIS must establish and address SAR species (e.g., bats, birds, reptiles, etc.) that have the potential to be on-site, based on the habitat and features present and as identified through field studies. If appropriate habitat exists, due diligence is required, regardless of whether a species has been previously recorded/confirmed on site or nearby. The records in NHIC and other databases are not exhaustive, and there are information gaps, especially on private land. Appropriate field work, including thorough searches, species-specific surveys and specialized survey effort or methodologies in the appropriate season(s), time of day, and habitat must be conducted to determine presence and address any potential SAR. Note: Information on the location of many federal and provincial SAR should be treated as sensitive data, and in these cases, information must be **disclosed to the municipality and applicable agencies in a manner that does not make it part of public record** (e.g., mapping/ information provided separate from the main report, subject to restricted access).
2. The EIS should inform the proposal and establish what portions of the subject lands can be developed based on an ecological rationale (e.g., assist in defining suitable lot configurations/ development envelopes which take into consideration appropriate buffers/setbacks from natural heritage features).

3. The EIS and the biophysical surveys undertaken in support of the EIS must be completed by appropriately qualified professional(s) with any applicable training or certification(s) relevant to the required work. Field work will be conducted during appropriate season(s), weather conditions and using suitable protocols to identify and evaluate the natural feature(s) and their ecological functions. All field work will be described to the following standards:
  - o Date, time, and duration of field work/survey (including start time, end time of site investigations)
  - o Sampling locations and/or area searched (i.e., identified on a map)
  - o Purpose of field work and survey protocol(s) used/ summary of investigation methods
  - o Relevant temperature and weather conditions during site investigations (cloud cover, wind speed [Beaufort scale or km/h], precipitation [type and amount])
  - o Personnel involved (name and qualifications)
  
4. Melissa Carruthers, RMO/RMI for SSEA will be involved with the *Clean Water Act* section 59 notice.

With the clarification and additions noted above in this email, the proposed scope of work for the EIS is acceptable to SSEA. The SSEA will conduct a site visit during 2020, if the Township deems it appropriate and if restrictions due to COVID-19 allow.

The SSEA is involved with the review of Environmental Impact Studies at the request of the Township. As a result, any communications or reporting related to the subject lands should continue to be sent directly to the Township, who will circulate information to the SSEA, as needed.

Thanks,  
Katie

*Katie Mandeville, BA, BURPI, RPP, MCIP  
Planner*

*Township of Severn  
1024 Hurlwood Lane  
P.O. Box 159  
Orillia, Ontario  
L3V 6J3  
705-325-2315, Ext 238  
[kmandeville@townshipofsevern.com](mailto:kmandeville@townshipofsevern.com)  
[www.townshipofsevern.com](http://www.townshipofsevern.com)*

***Individuals who submit letters and other information to Council or Committee of Adjustment should be aware that any personal information contained within their communications may become part of the public record and may be made available to the public through the Council/Committee Agenda process and may be posted on the Township's website.***

**NOTE - Alternate forms of documents for accessibility are available upon request.**

***Confidentiality Note:***

*This e-mail message and any attachments are intended only for the named recipient(s) above and may contain information that is privileged or confidential. If you have received this message in error, please notify the sender immediately and delete this e-mail message without reading it. .*

***Please consider the environment before printing.***



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**APPENDIX E**

**Property Photographs**

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**Photograph 1.** MEMM4 mixed meadow community facing east (soil stockpile in background) (June 22, 2020).



**Photograph 2.** MEMM4 community (facing east) showing evidence of recent ploughing and soil stockpile (June 4, 2020).





**Photograph 3.** MEMM4 vegetation community (facing west) with FODM7-2(b) ELC community (left) along northern property boundary. Note recent ploughing in foreground (June 22, 2020).



**Photograph 4.** FODM7-2(a) vegetation community (facing south) (June 22, 2020).





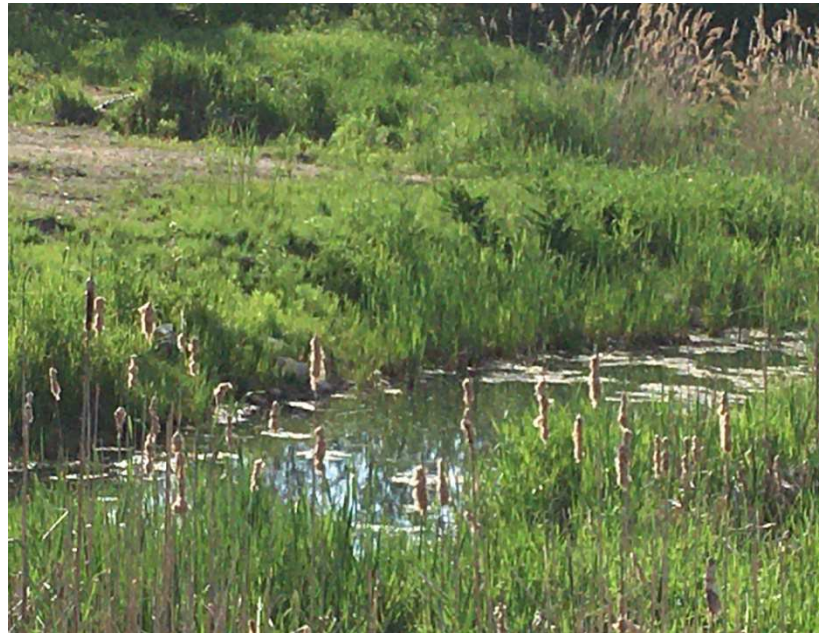
**Photograph 5.** MAMM1 wetland community (facing north) in background on property at 3735 Menoke Beach Road, Township of Severn where development has been proposed by the proponent (June 4, 2020).



**Photograph 6.** Delineated boundary of SWTM3-6 bisected by northern property boundary. Note pink “Wetland” delineation flag (June 22, 2020). Boundary audited in field by SSEA on August 28, 2020.



**Photograph 7.** Open water in MAMM1 wetland on adjacent property to the north (Amigo Drive behind photo). Boundary of SWTM3-6 wetland community visible in background (June 4, 2020).



**Photograph 8.** Open water in MAMM1 wetland vegetation community on adjacent property to the north (June 4, 2020).



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**APPENDIX F**

**MECP SAR Request/Reply, MNRF Fisheries Request/Reply**

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**MECP Information Request Form  
Attachment**

*Initial Screening - SAR*

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**Date:** April 23, 2020

**Project Ref:** AEC 19-371

**Azimuth Contact:** Dr. Scott Tarof, Terrestrial Ecologist  
Email [starof@azimuthenvironmental.com](mailto:starof@azimuthenvironmental.com)  
Cell: (705) 715-7105

**Attachments:** Study Area Location Map  
Natural Features Map

---

**Project Name:** 3735 Menoke Beach Road Environmental Impact Study (EIS)

**Activity Description:** Determine existing conditions pertaining to natural heritage features and functions on and adjacent to the property, with emphasis on Species at Risk (SAR) and evaluation of potential impacts to an unevaluated wetland (*see attached Study Area Location and Natural Features mapping*). We are consulting with the Severn Sound Environmental Association and County of Simcoe to confirm Terms of Reference. The client is proposing to develop an 89-lot residential subdivision on the property.

**Study Area:** 3735 Menoke Beach Road, Township of Severn, Ontario – *see attached Study Area Location Map*

**Comprehensive SAR List/Initial Screening Based on Online and Other Sources<sup>1</sup>:**

- Mammals: Little Brown Myotis (END), Northern Long-eared Myotis (END), Tri-colored Bat (END);
- Reptiles and Amphibians: Blanding's Turtle (THR), Snapping Turtle (SC), Northern Map Turtle (SC);
- Birds: Bald Eagle (SC), Bank Swallow (THR), Barn Swallow (THR), Black Tern (SC), Bobolink (THR), Canada Warbler (SC), Cerulean Warbler (THR), Chimney Swift (THR), Eastern Meadowlark (THR), Eastern Whip-poor-will (THR), Eastern Wood-pewee (SC), Golden-winged Warbler (SC), Grasshopper Sparrow (SC), Least Bittern (THR), Loggerhead Shrike (END), Red-headed Woodpecker (SC), Short-eared Owl (SC), Wood Thrush (SC), Yellow Rail (SC);



- Fish/Aquatic Species: No SAR associated with unnamed watercourse north of property; Grass Pickerel (SC) and Pugnose Minnow (THR, cool water species) associated with Lake Couchiching;
- Plants: Butternut (END); and
- Insects: Monarch Butterfly (SC).

These online data sources had no records: NHIC; eBird, ORAA, Fish ON-Line and iNaturalist.

<sup>1</sup>*On-line and other sources: Species at Risk Ontario (<https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>); Land Information Ontario (<https://www.ontario.ca/page/land-information-ontario>); Make a Natural Heritage Map - Natural Heritage Information Centre (Squares 17PK2748) ([http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR\\_NHLUPS\\_NaturalHeritage&viewer=NaturalHeritage&locale=en-US](http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US)); Ontario Breeding Bird Atlas (Squares 17PK24) (<http://www.birdsontario.org/atlas/maps.jsp?lang=en>); Ontario Reptile and Amphibian Atlas (Squares 17PK24) (<https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/>), eBird (<https://ebird.org/explore>); Fisheries and Oceans Canada (<http://www.dfo-mpo.gc.ca/species-especies/index-eng.htm>); Fish Online (<https://www.gisapplication.lrc.gov.on.ca/FishONLine/Index.html?site=FishONLine&viewer=FishONLine&locale=en-US>); Ontario Butterfly Atlas (Square 17PK24) ([http://www.ontarioinsects.org/atlas\\_online.htm](http://www.ontarioinsects.org/atlas_online.htm)); Atlas of the Mammals of Ontario (Dobbyn, J. 1994. Federation of Ontario Naturalists) iNaturalist (<https://www.inaturalist.org/>) and Toporama (<https://atlas.gc.ca/toporama/en/index.html>).*

#### **List of Features/Habitats on and Adjacent to Proposed Activity:**

- Property in established residential community (*see attached Study Area Location Map*);
- Lake Couchiching approximately 150m to the east – (*see attached Natural Features Map*);
- Property associated with cleared land (likely for agriculture) – (*see attached Natural Features Map*);
- Adjacent lands associated with forest to the north and agriculture to the south and west – (*see attached Natural Features Map*);
- Unevaluated wetland adjacent traverses northern property boundary – (*see attached Natural Features Map*); and
- Watercourse/fish habitat – unnamed watercourse/fish habitat located approximately 20m north of property, with flow through the unevaluated wetland and toward the north/northeast – (*see attached Natural Features Map*).

#### **Consolidated SAR List Expected in Area Based on Habitat<sup>2</sup>:**

- Reptiles and Amphibians: Blanding's Turtle (THR), Snapping Turtle (SC), Northern Map Turtle (SC);





- Birds: Barn Swallow (THR), Chimney Swift (THR), Eastern Wood Pewee (SC);
- Plants: Butternut (END); and
- Insects: Monarch Butterfly (SC).

<sup>2</sup>*List of SAR to be assessed relative to the activity/proposed development.*

**Information Requested:**

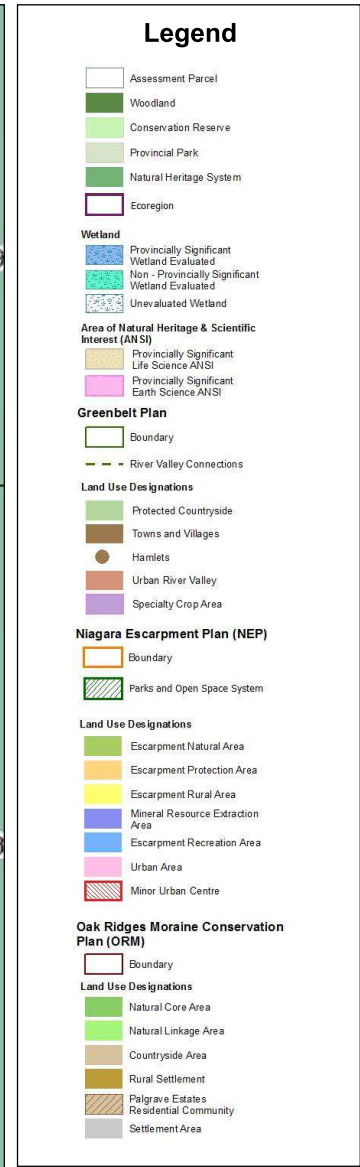
- Confirmation that the consolidated list of SAR expected in the area based on habitat includes all SAR of concern to the MECP with respect to this activity; or
- Provision of additional information related to SAR of concern to the MECP with respect to the activity/proposed development<sup>3</sup>.

<sup>3</sup>*If SAR of concern are deemed “Restricted”, Azimuth will protect the species identity within reporting that would become part of the public record.*

3735 Menoke Beach Rd., Severn: Field Map Showing Property Location and Approximate Property Boundary (Red)







0.3 0 0.16 0.3 Kilometers



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 and Forestry (OMNRF) 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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## Scott Tarof

---

**From:** Eplett, Megan (MECP) [Megan.Eplett@ontario.ca]  
**Sent:** Friday, June 12, 2020 1:09 PM  
**To:** Scott Tarof  
**Subject:** RE: 19-371 3735 Menoke Beach Road, Severn - MECP SAR Information Request

Hello Scott,

Thank you for compiling preliminary information regarding species at risk for this site. Given that the area appears to be agricultural I would suggest adding Bobolink and Eastern Meadowlark to you species of consideration should agricultural areas on site be suitable for these species.

Thank you,

Megan

**Megan Eplett | Management Biologist | Permissions and Compliance | Species at Risk Branch | Ontario Ministry of Environment, Conservation and Parks**  
50 Bloomington Road, Aurora, Ontario, L4G 0L8 | Phone: 289-221-1794 | Email: [megan.eplett@ontario.ca](mailto:megan.eplett@ontario.ca)

---

**From:** Scott Tarof <starof@azimuthenvironmental.com>  
**Sent:** Thursday, April 23, 2020 9:51 AM  
**To:** Species at Risk (MECP) <SAROntario@ontario.ca>  
**Subject:** 19-371 3735 Menoke Beach Road, Severn - MECP SAR Information Request

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Good morning.

Please find attached our request for additional SAR and background information related to an EIS for an 89-lot development in Severn Township. We have completed our online search for SAR.

Please acknowledge receipt.

Thank you.

Warm regards,

*Dr. Scott Tarof (PhD Biology)*

Terrestrial Ecologist  
Certified Ontario MNR Wetland Evaluator  
Contract Faculty (Biology, Physical Geography), York University

Due to COVID-19, our staff are working remotely. Overall, projects are proceeding but some schedules are affected. Municipal and provincial offices are closed to the public and most agency staff are working from home, which may delay the approval process and services we rely on. Our offices are closed to the public, but I can be reached on my cell or via email. I look forward to talking with you.



Azimuth Environmental Consulting, Inc.  
642 Welham Road, Barrie, ON, L4N 9A1  
ph: (705) 721-8451 ext 230  
cell: (705) 715-7105  
[starof@azimuthenvironmental.com](mailto:starof@azimuthenvironmental.com)  
[www.azimuthenvironmental.com](http://www.azimuthenvironmental.com)

*Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering*



## Michael Gillespie

---

**From:** Shirley, Brent (MNRF) [brent.shirley@ontario.ca]  
**Sent:** Tuesday, December 1, 2020 11:25 AM  
**To:** Michael Gillespie  
**Subject:** RE: AEC19-371 3735 Menoke Beach Road - Fisheries Timing Window Confirmation

Hi Mike,

Hope all is well with you and family during these times. We are all doing fairly well and working remotely for the foreseeable future.

There is a lack of data on the watercourse, but there are no records of brook trout or other fall spawning fish species in the smaller watercourses that flow into Lake Couchiching on the west side. I think the in-water timing window you mentioned below is good for that watercourse. There is no reason to believe that there are any fall spawning fish species in that area.

Best Regards,  
Brent

---

**From:** Michael Gillespie <mgillespie@azimuthenvironmental.com>  
**Sent:** November 30, 2020 4:28 PM  
**To:** Shirley, Brent (MNRF) <brent.shirley@ontario.ca>  
**Subject:** AEC19-371 3735 Menoke Beach Road - Fisheries Timing Window Confirmation

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Good afternoon Brent,

I hope you and everyone at MNRF Midhurst are doing well. I am writing to request confirmation of fisheries timing restrictions for a property at 3735 Menoke Beach Road in the Township of Severn. Azimuth is completing an EIS for this property, on which residential development is anticipated to encroach upon part of a pond/wetland basin to the north (south of Amigo Drive, east of Menoke Beach Road; please see attached figures). This basin provides year-round fish habitat for generalist species such as Brook Stickleback, and common minnow species; however, it also presents potential seasonal habitat for species such as Northern Pike. It outlets at Amigo Road to an unnamed watercourse that flows into Lake Couchiching approximately 750m to the north. Based on site conditions and the pond basin providing potential habitat for coolwater/warmwater fish species, a restricted timing window of March 15 to July 15 is proposed for any required in-water work. All standard mitigative measures for in and near water work (erosion and sediment controls, construction in a dry work area, dewatering using an envirobag only after fish salvage with a valid licence, etc.) will be in place for the protection of fish/fish habitat, and maintenance of downstream water quality and quantity. Wildlife salvage with a valid licence will also be undertaken.

Please let me know if the abovementioned fisheries timing window restriction is acceptable to MNRF, and if you require any additional information.

Thank you in advance for your time.

Regards,

**Mike Gillespie, B.Sc.Env.,**

## **Fisheries Ecologist**

Azimuth Environmental Consulting, Inc  
642 Welham Road  
Barrie, ON L4N 9A1

Phone: (705) 721 - 8451 ext. 203  
Fax: (705) 721 - 8926  
[www.azimuthenvironmental.com](http://www.azimuthenvironmental.com)

*Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering*

---

**From:** Michael Gillespie  
**Sent:** Friday, September 18, 2020 12:59 PM  
**To:** 'MIDHURSTINFO (MNRF)'  
**Cc:** Scott Tarof  
**Subject:** AEC19-371 3735 Menoke Beach Road - Fish Information Request

Good afternoon,

Azimuth is completing an Environmental Impact Study for a property at 3735 Menoke Beach Road, in the Township of Severn (County of Simcoe). As seen in the attached figures, there is a watercourse on adjacent lands to the north of the property. This watercourse flows to the northeast/north, before discharging into Lake Couchiching. It is located in the Black-Severn Watershed.

We are aware that the Ministry of Natural Resources and Forestry (MNRF) has made nearly all fish information available in the Land Information Ontario database; however, our review of that database and other online background information sources did not result in us obtaining information on the watercourse name, fish community or thermal regime. While the fish community of Lake Couchiching is very well-established, we would like to kindly request any fisheries information MNRF possesses on that watercourse, if there information available.

Thank you in advance for your time.

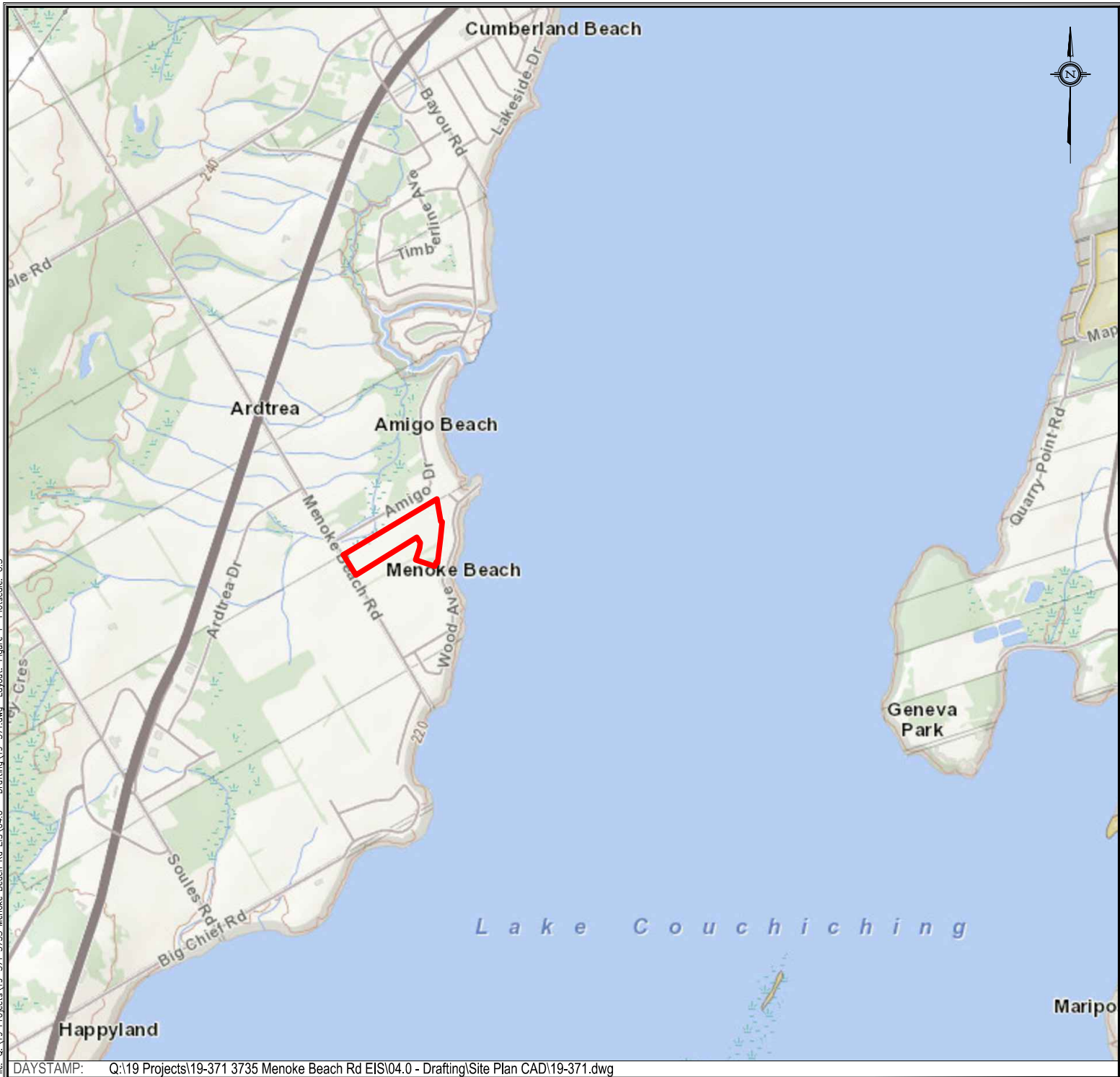
Regards,

**Mike Gillespie, B.Sc.Env.,  
Fisheries Ecologist**

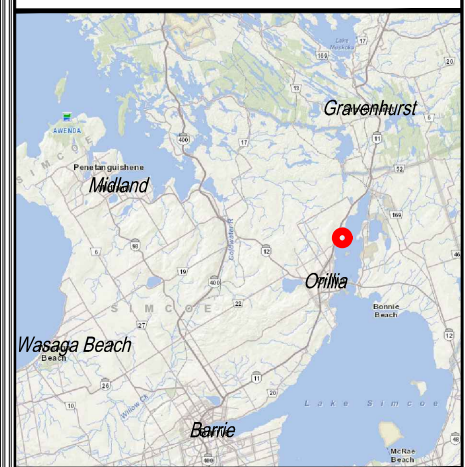
Azimuth Environmental Consulting, Inc  
642 Welham Road  
Barrie, ON L4N 9A1

Phone: (705) 721 - 8451 ext. 203  
Fax: (705) 721 - 8926  
[www.azimuthenvironmental.com](http://www.azimuthenvironmental.com)

Plotted by: IMCCARTNEY on September 3, 2020 at 8:10am  
File: C:\19 Projects\19-371\_3735 Menoke Beach Rd EIS\04.0 - Drafting\19-371.dwg Layout: Figure 1 - PlotScale: 0.5



**LEGEND:**  
— *Approx. Property Boundary*



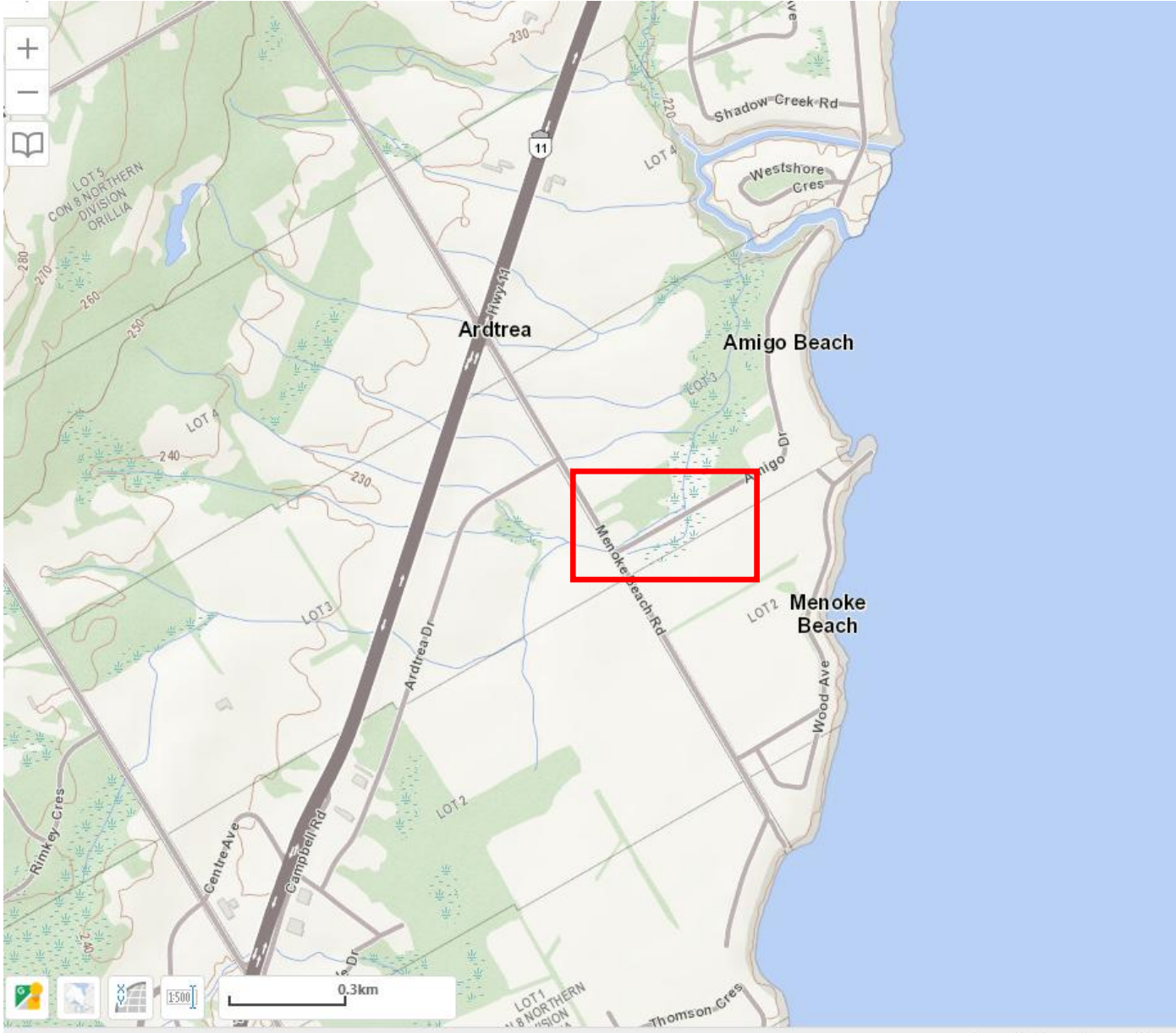
REG MAP



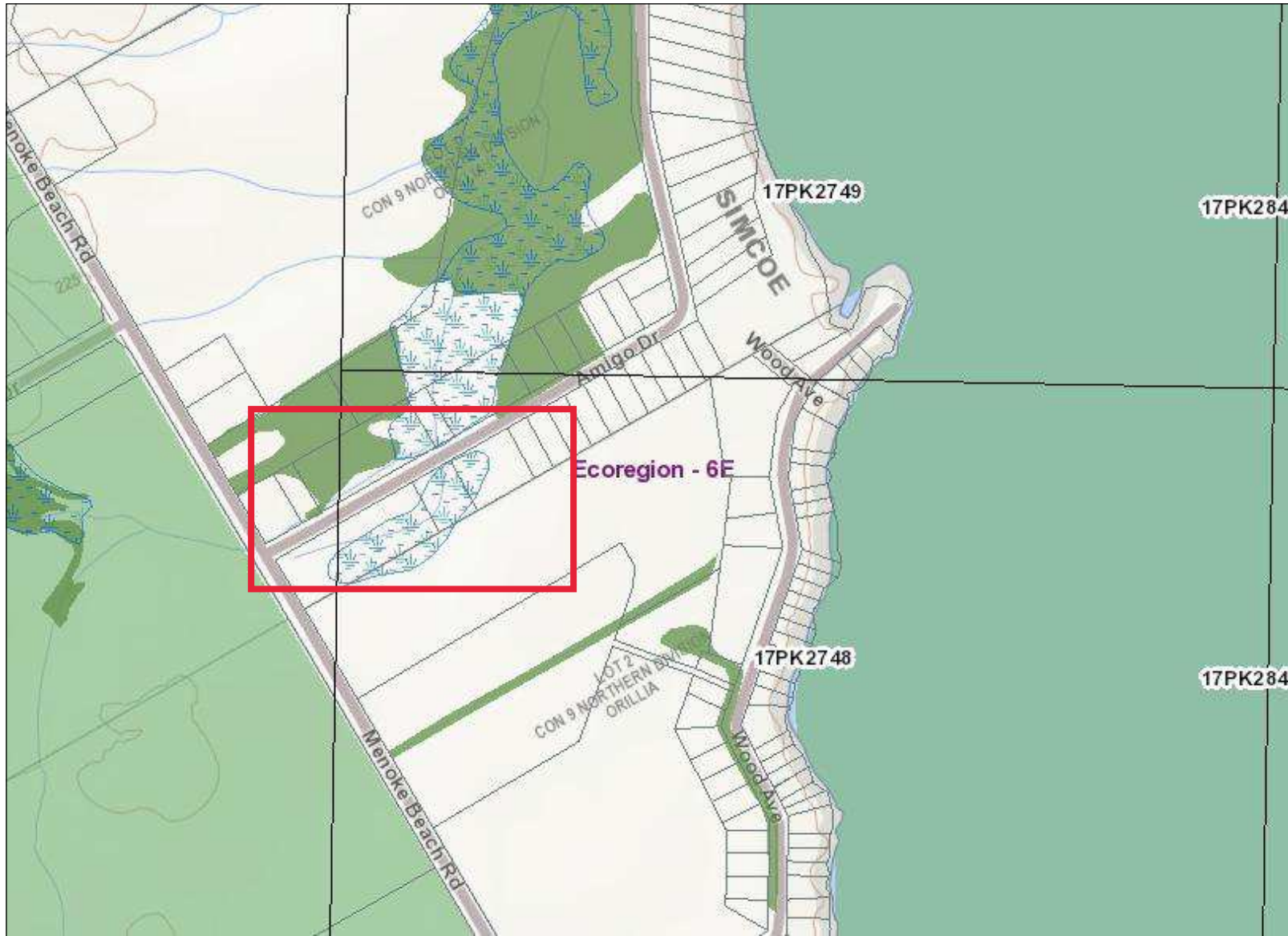
Property Location

3735 Menoke Beach Rd.,  
Township of Severn, ON

DATE ISSUED: July 2020	Figure No.
CREATED BY: JLM	
PROJECT NO.: 19-371	1
REFERENCE: MNR	







**Legend**

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion
- Wetland**
  - Provincially Significant Wetland Evaluated
  - Non - Provincially Significant Wetland Evaluated
  - Unevaluated Wetland
- Area of Natural Heritage & Scientific Interest (ANSI)**
  - Provincially Significant Life Science ANSI
  - Provincially Significant Earth Science ANSI
- Greenbelt Plan**
  - Boundary
  - River Valley Connections
- Land Use Designations**
  - Protected Countryside
  - Towns and Villages
  - Hamlets
  - Urban River Valley
  - Specialty Crop Area
- Niagara Escarpment Plan (NEP)**
  - Boundary
  - Parks and Open Space System
- Land Use Designations**
  - Escarpment Natural Area
  - Escarpment Protection Area
  - Escarpment Rural Area
  - Mineral Resource Extraction Area
  - Escarpment Recreation Area
  - Urban Area
  - Minor Urban Centre
- Oak Ridges Moraine Conservation Plan (ORM)**
  - Boundary
- Land Use Designations**
  - Natural Core Area
  - Natural Linkage Area
  - Countryside Area
  - Rural Settlement
  - Palgrave Estates Residential Community
  - Settlement Area

0.3 0 0.16 0.3 Kilometers



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**APPENDIX G**

**Fisheries Photographs**

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**Photograph 1** – Drainage ditch on property, facing northeast (October 16, 2020).



**Photograph 2** – Drainage ditch on property, facing southwest (October 16, 2020).





**Photograph 3** – Drainage ditch in proximity to ponded/wetland area, facing northeast (October 16, 2020).



**Photograph 4** – Southwest section of wetland, facing north (October 16, 2020).





**Photograph 5** – Southwest section of wetland, facing south (November 4, 2020).



**Photograph 6** – Northeast section of wetland, facing northwest (October 16, 2020).





**Photograph 7** – Northeast section of wetland, facing southeast from Amigo Drive culvert inlet (October 16, 2020).



**Photograph 8** – Amigo Drive culvert outlet (October 16, 2020).





**Photograph 9** – Watercourse (red) downstream/north of Amigo Drive, into which flow from wetland (blue) outlets (October 16, 2020).



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**APPENDIX H**

**Background Mapping**

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[Fisheries and Oceans Canada](#)

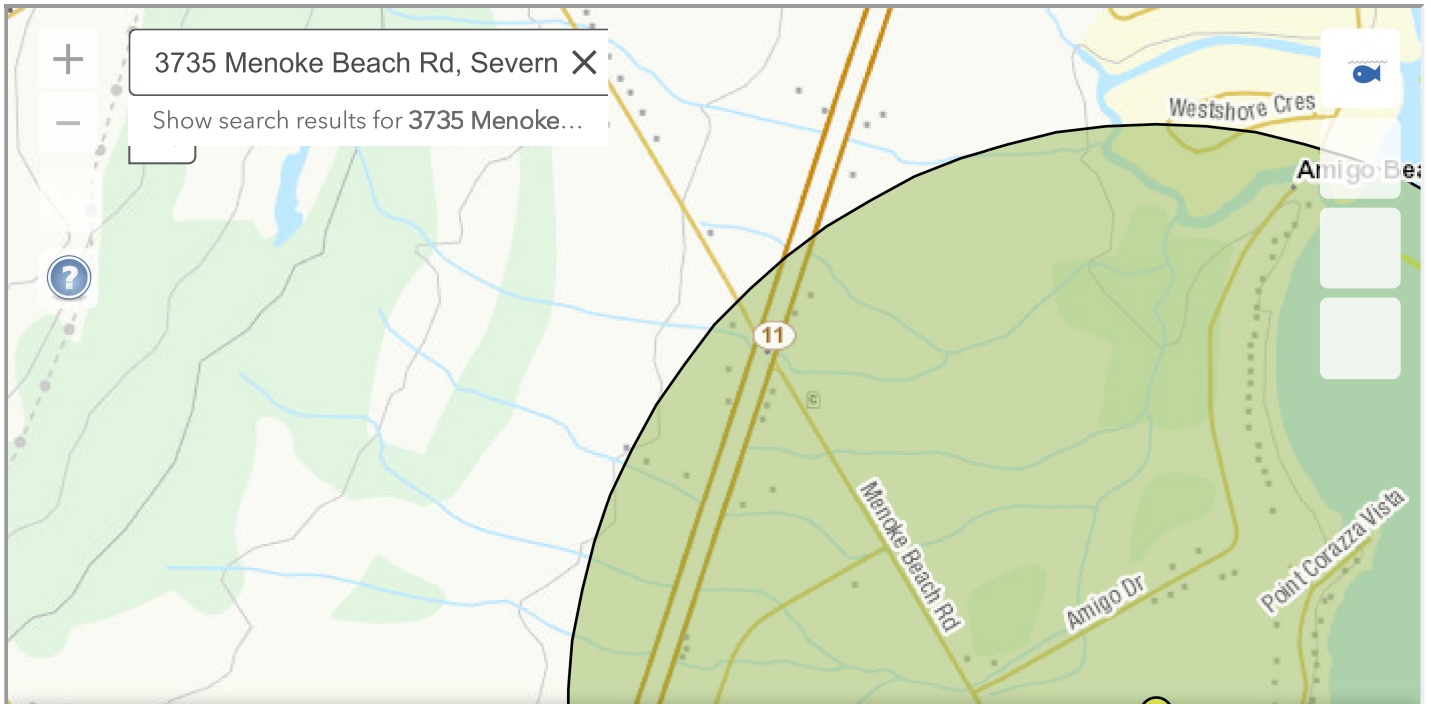
[Home](#) → [Aquatic species](#) → [Aquatic species at risk](#)

# Aquatic species at risk map

We've compiled critical habitat and distribution data for aquatic species listed under the Species at Risk Act (SARA). This map is intended to provide an overview of the distribution of aquatic species at risk and the presence of their critical habitat within Canadian waters. The official source of information is the [Species at Risk Public Registry](#).

If you encounter an aquatic species at risk in an area that isn't currently mapped, please notify your regional [Fisheries Protection Program office](#) to ensure that you're compliant with SARA.

▶ **Information and legend**



### Find Aquatic Species at Risk

Select Area

Results

Save

Clear

**Critical habitat for these species is found within the outlined area:**

No critical habitat

**Species at risk found (or potentially found) within the outlined area:**

[Grass Pickereel](#) - Special Concern

Share this page

**Date modified:**

2019-08-23





# Lake Couchiching

- Waterbody
- Regulations
- Fish
- Stocking
- Survey

## Fish Species Found in Waterbody

### MNRF

Species observed or confirmed by MNRF. This list may contain historical records

Species	Last Observation Date
Black Crappie	-
Bowfin	-
Brown Bullhead	18-MAY-91
Burbot	-
Channel Catfish	-
Common Carp	18-MAY-91
Lake Trout	-
Lake Whitefish	-
Largemouth Bass	18-MAY-91
Muskellunge	-
Northern Pike	-
Pumpkinseed	18-MAY-91
Rainbow Smelt	-
Rock Bass	18-MAY-91
Smallmouth Bass	-
Walleye	-
White Sucker	-
Yellow Perch	-

### Public

Species reported by the public (unconfirmed)

[Report a Species](#)

Species	Last Observation Date
Bluegill	16-JUL-19
Brown Bullhead	28-JUL-17
Largemouth Bass	16-JUL-19
Muskellunge	28-JUL-17
Northern Pike	16-JUL-19
Smallmouth Bass	16-JUL-19
Walleye	20-AUG-19
Yellow Perch	16-JUL-19



ADVERTISEMENT

**It is your responsibility to know what is in your baitbucket**

The only live fish that may be lawfully possessed for use as bait are baitfish

**Learn More**

# The Atlas of Canada - Toporama

Instructions: Keyboard Navigation ?

**Toporama**

- Menu
- Search and Map Information ?
- Map Layers and Legend(s) ?
- Measuring and Drawing Tools ?
- Download Maps and Data ?
- Import Data ?

Location  
Menoke Beach, Simcoe, Ontario  
(Unincorporated area)

Scale: 0 0.15 0.3km

You have questions? [Contact GeoGratis.](#)

## Scott Tarof

---

**From:** Jesse McCartney  
**Sent:** Friday, August 7, 2020 12:18 PM  
**To:** Scott Tarof  
**Subject:** FW: 19-371 Land Information Ontario Search  
**Attachments:** image001.jpg

I already sent you lio for this

---

**From:** Jesse McCartney  
**Sent:** April 23, 2020 9:17 AM  
**To:** Scott Tarof  
**Subject:** RE: 19-371 Land Information Ontario Search

Nothing for the stream to the north of the property

Lake Couchiching  
Point

Banded Killifish, Bluntnose Minnow, Brown Bullhead, Common Carp, Golden Shiner, Iowa Darter, Largemouth Bass, Mottled Sculpin, Pumpkinseed, Rock Bass, Spottail Shiner

Cool Regime

lake trout, creek chub, walleye, central mudminnow, pugnose minnow, black bullhead, Carps and Minnows, blackchin shiner, blacknose shiner, spottail shiner, rosyface shiner, spotfin shiner, sand shiner, rainbow smelt, yellow perch, logperch, northern redb

---

**From:** Scott Tarof  
**Sent:** April 22, 2020 12:10 PM  
**To:** Jesse McCartney  
**Subject:** 19-371 Land Information Ontario Search

Hi Jesse.

Could you please do an LIO search for SAR information on or adjacent to this two-lot property at 3735 Menoke Beach Rd. in Severn (see attached map for location)?

<M:\Projects3\19 Projects\19-371 3735 Menoke Beach Rd EIS\01.0 - Project Startup\01.1 - Proposal\19-371 New Start Up 191205.docx>

Thank you.

Warm regards,

*Dr. Scott Tarof (PhD Biology)*

Terrestrial Ecologist  
Certified Ontario MNRW Wetland Evaluator  
Contract Faculty (Biology, Physical Geography), York University

Due to COVID-19, our staff are working remotely. Overall, projects are proceeding but some schedules are affected. Municipal and provincial offices are closed to the public and most agency staff are working from

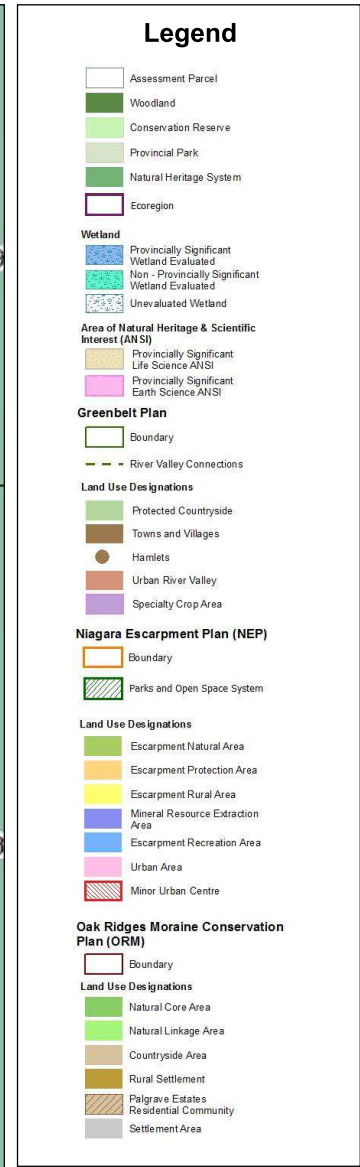
home, which may delay the approval process and services we rely on. Our offices are closed to the public, but I can be reached on my cell or via email. I look forward to talking with you.



Azimuth Environmental Consulting, Inc.  
642 Welham Road, Barrie, ON, L4N 9A1  
ph: (705) 721-8451 ext 230  
cell: (705) 715-7105  
[starof@azimuthenvironmental.com](mailto:starof@azimuthenvironmental.com)  
[www.azimuthenvironmental.com](http://www.azimuthenvironmental.com)

*Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering*





0.3 0 0.16 0.3 Kilometers



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# 3735 Menoke Beach Rd., Severn Township





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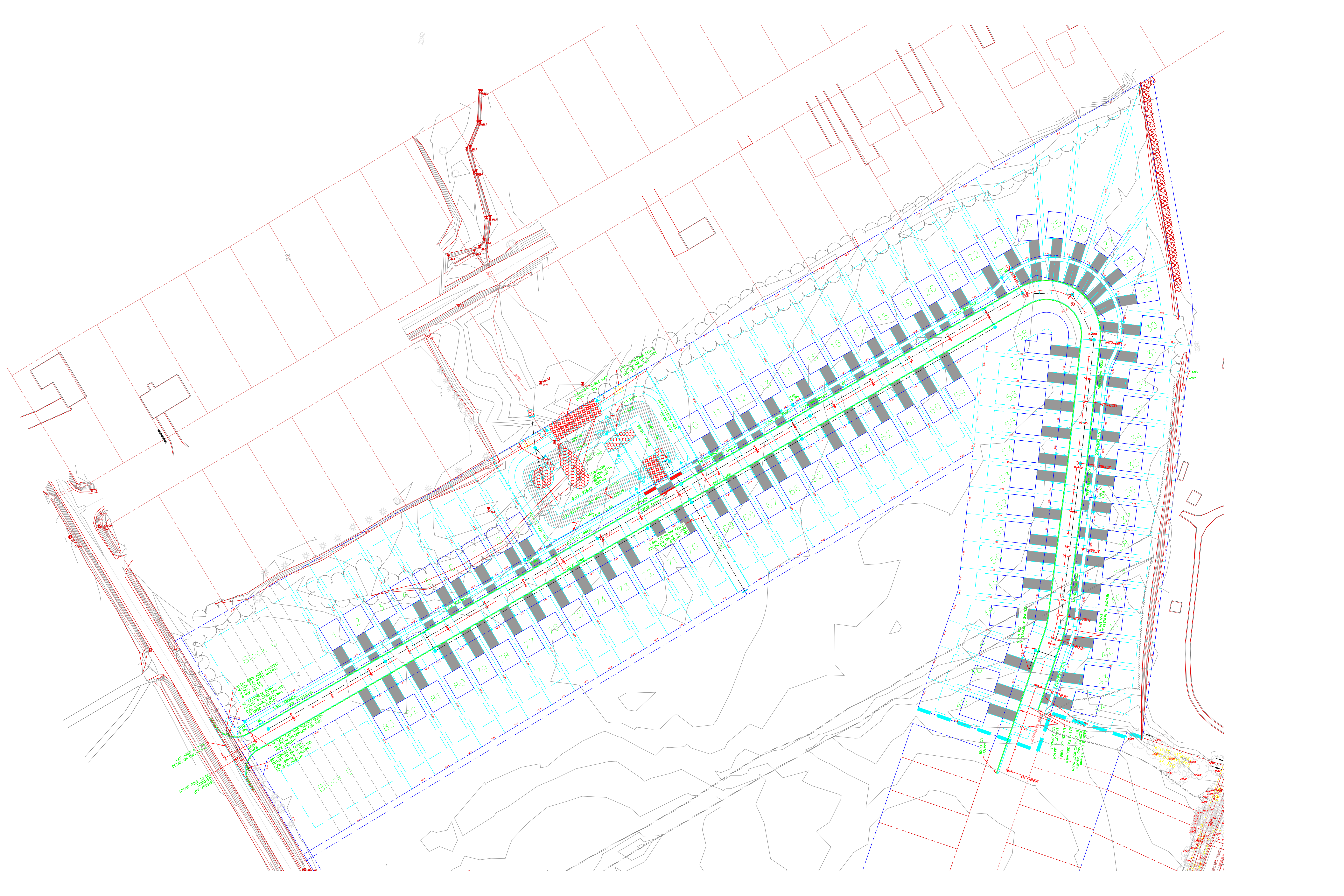
**APPENDIX I**

**Site Plan and SWMP**

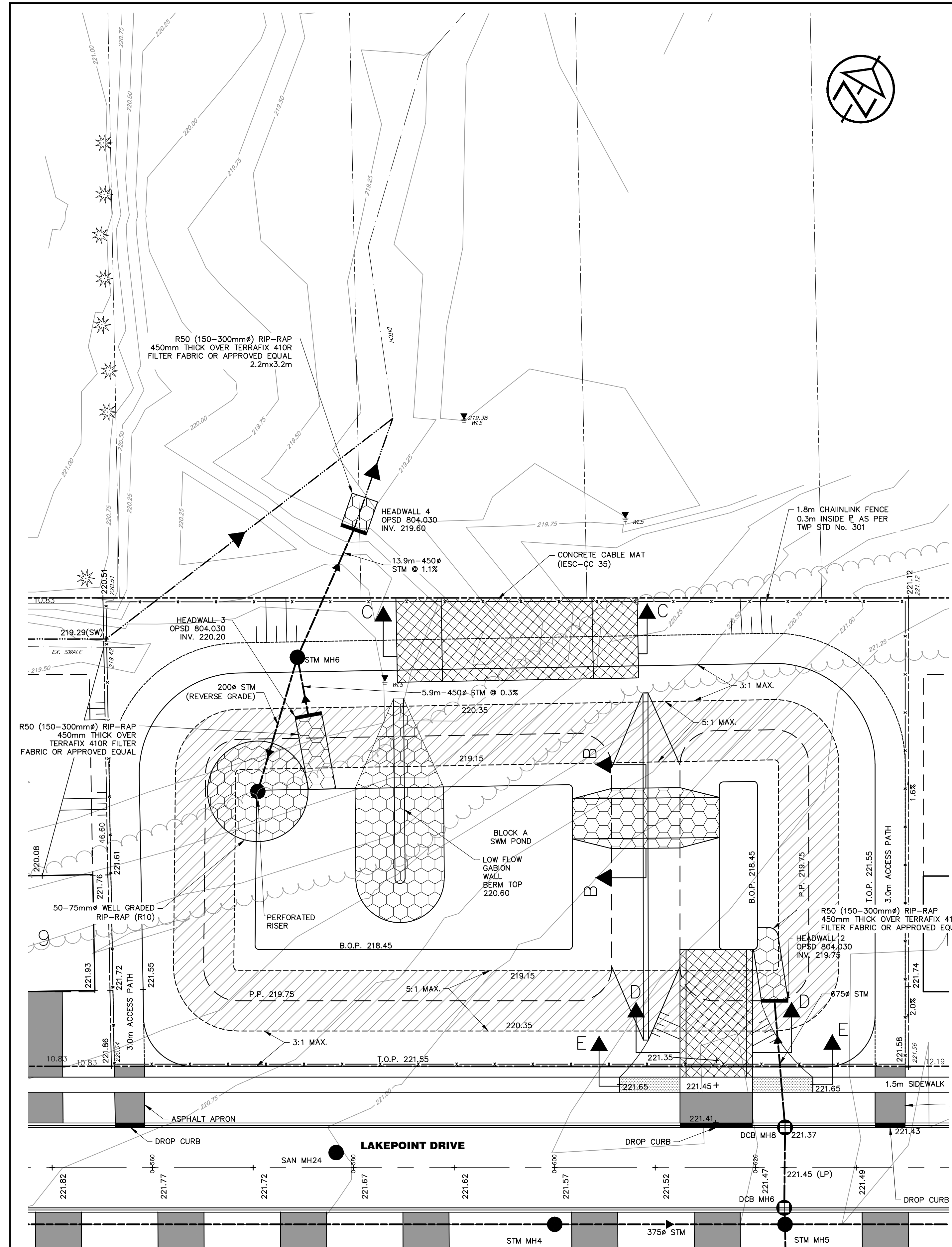
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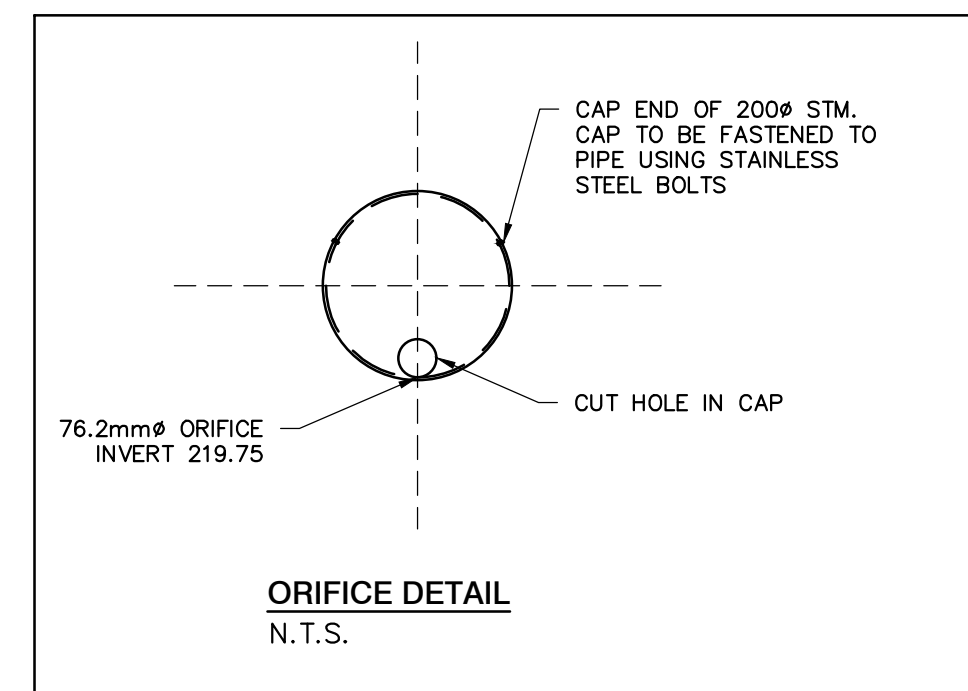
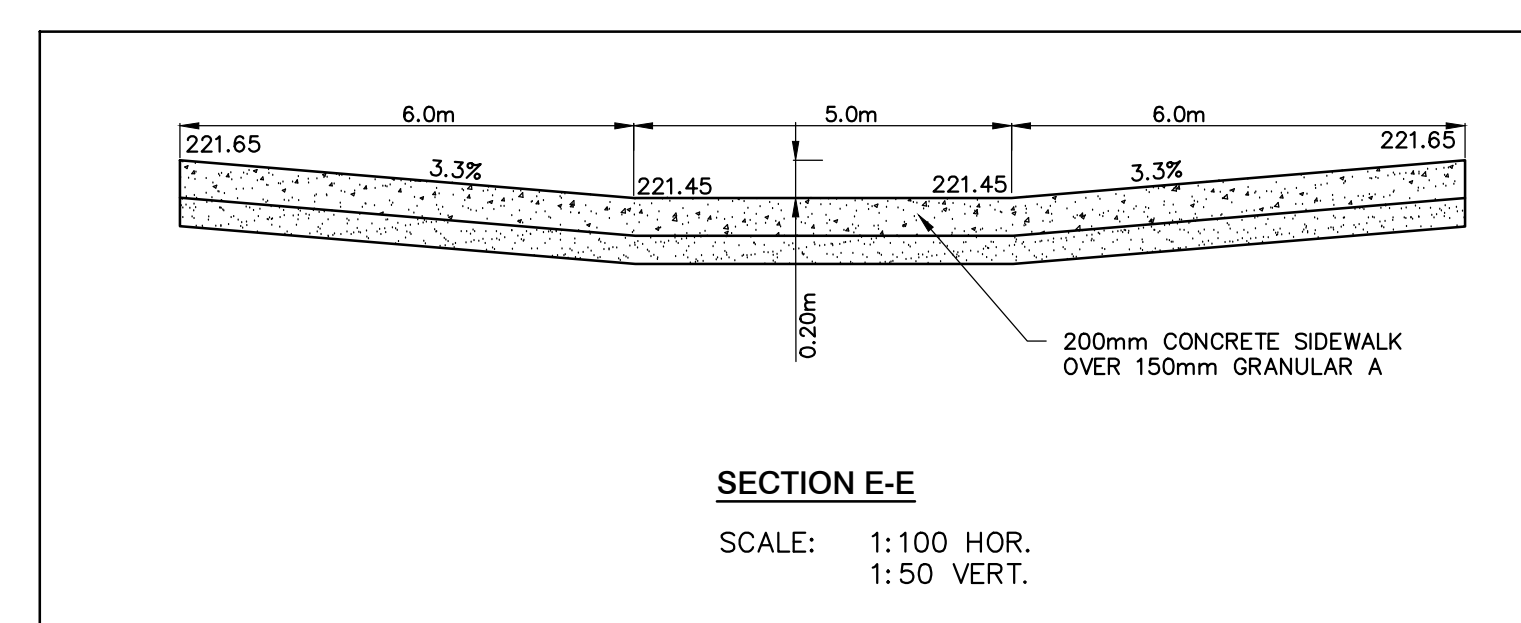
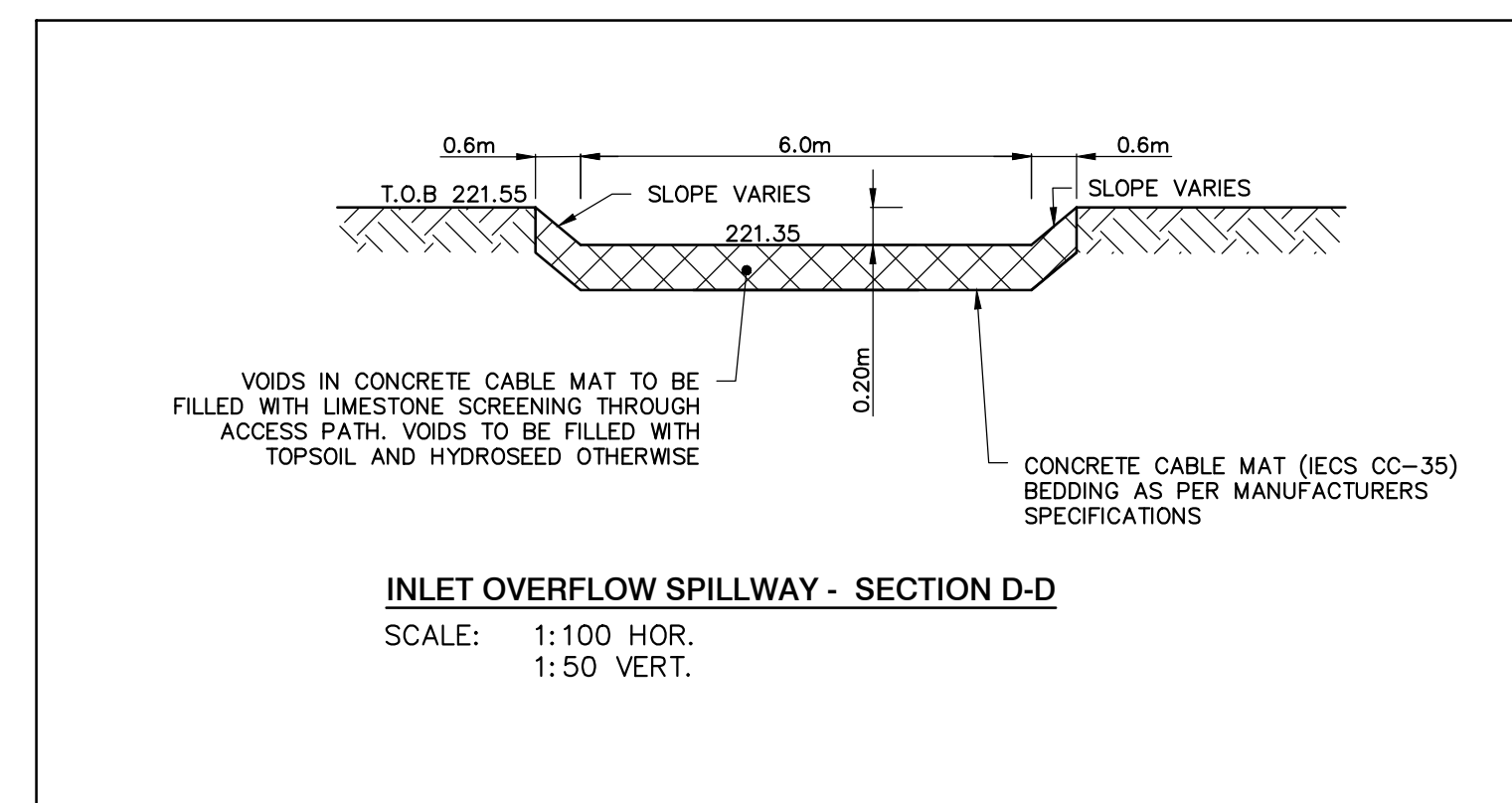
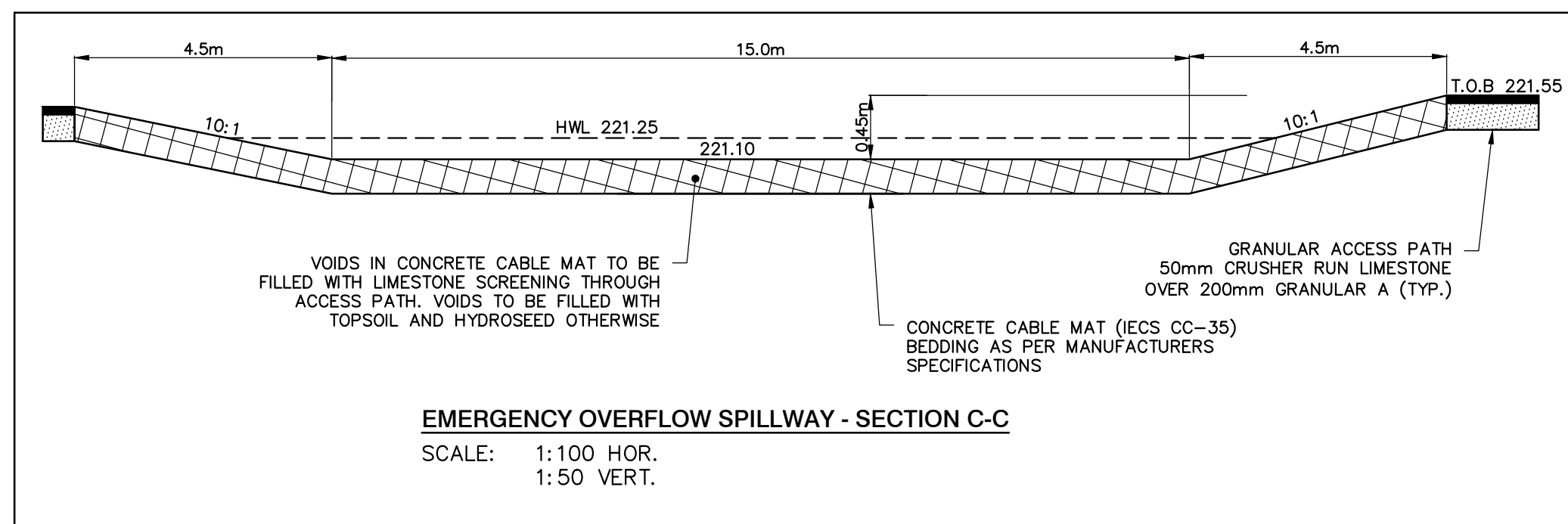
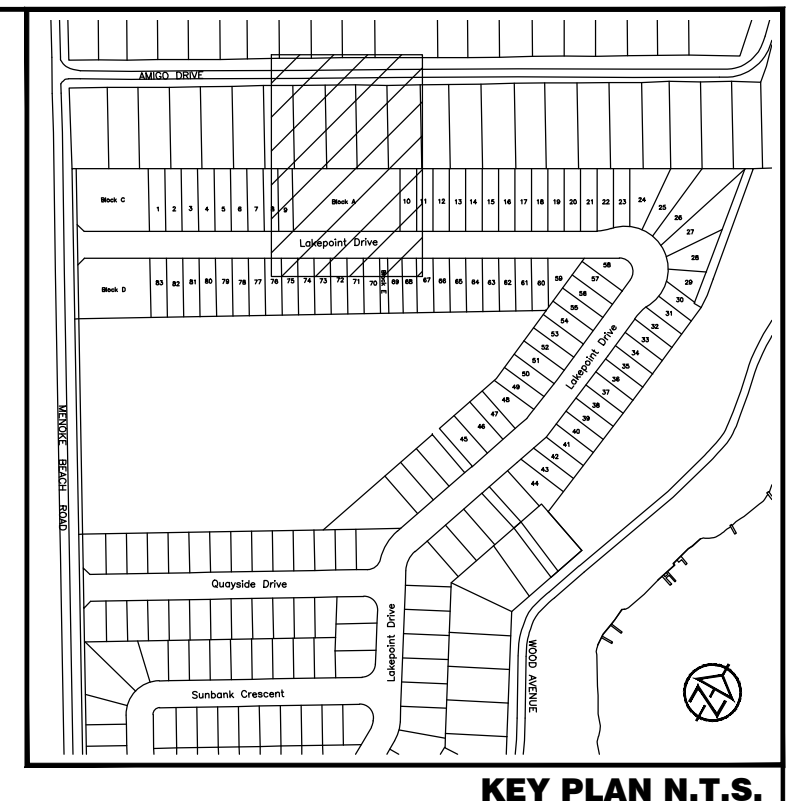
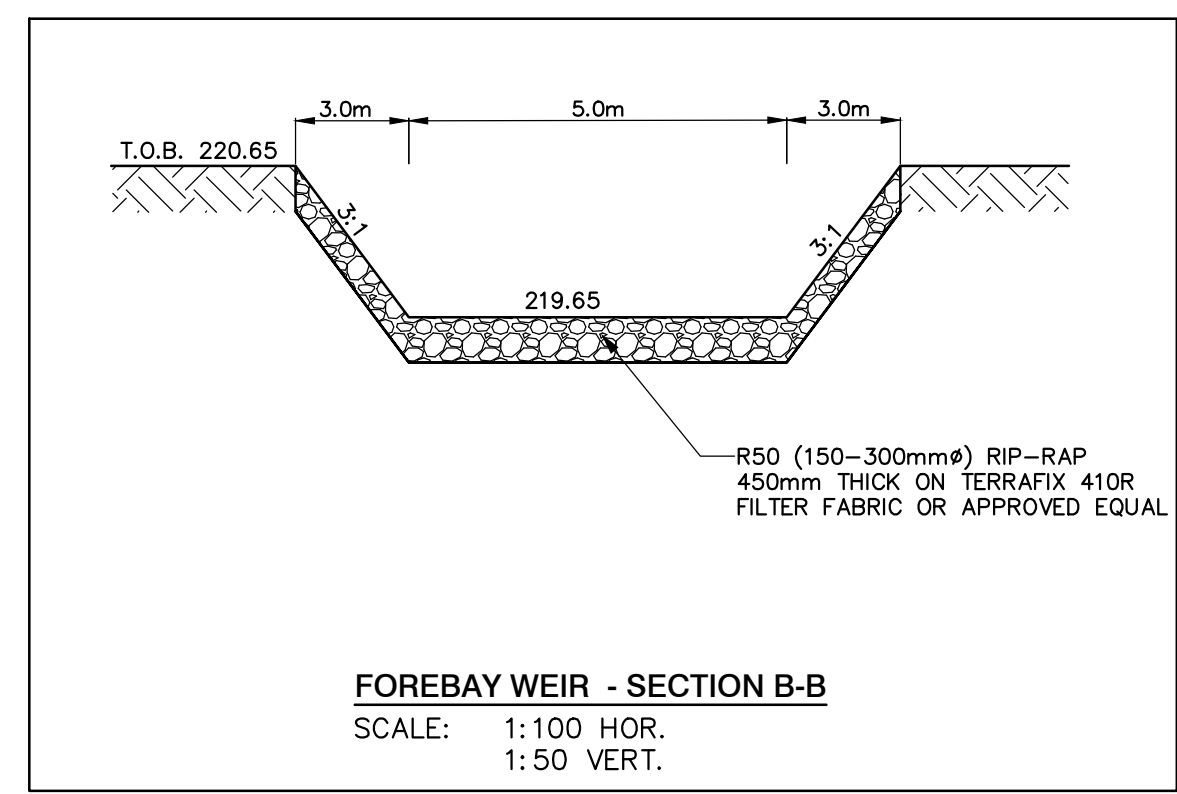








**PLAN**  
1:250



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**BENCHMARKS**  
TBM1 - ELEVATION XXX.XXX  
DESCRIPTION  
TBM2 - ELEVATION XXX.XXX  
DESCRIPTION

**NOTES**

No.	REVISION DESCRIPTION	DATE	ENGINEER STAMP
1.	1ST SUBMISSION	AUG. 2020	

**ENGINEER STAMP**  
LICENSED PROFESSIONAL ENGINEER  
D. J. W. TWIGGER  
100141556  
August 12, 2020  
PROVINCE OF ONTARIO

**MENOKE BEACH DEVELOPMENTS INC.**  
**BLOCK 'C' MENOKE BEACH SUBDIVISION**  
TOWNSHIP OF SEVERN  
**STORMWATER MANAGEMENT**  
**PLAN & DETAILS**

**TATHAM ENGINEERING**  
DESIGN: CU/AO FILE: 304844-9 DWG:  
DRAWN: CU DATE: APRIL 2020 **SWM-1**  
CHECK: TK SCALE: AS SHOWN



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**APPENDIX J**

**Source Water Protection Screening Letter**

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August 20<sup>th</sup>, 2020

David Ketcheson, Senior Environmental Engineer / Partner  
Azimuth Environmental Consulting, Inc.  
642 Welham Road  
Barrie, ON  
L4N 9A1

Dear Mr. Ketcheson,

**RE: Proposed Zoning Bylaw Amendment and Draft Plan of Subdivision  
3735 Menoke Beach Rd; ARN: 435101000700202  
Township of Severn, County of Simcoe**

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Risk management staff of the Severn Sound Environmental Association (SSEA) has reviewed the following files sent via email on August 18, 2020 pertaining to the Proposed Zoning Bylaw Amendment and Draft Plan of Subdivision Application at 3735 Menoke Beach Rd (*“the property”*):

- County of Simcoe Pre-Consultation Comments, dated November 19, 2019 by County of Simcoe staff (file name: *191119 – County PreCon Comments – Annotated.pdf*)
- *Draft Plan of Subdivision* drawing, dated October 7, 2019 by MHBC (file name: *Draft Plan Submission.pdf*)
- IPZ overlay figure (file name: *200817 – 19-371 – IPZ Mapping.pdf*)

The following comments relevant to drinking water source protection are offered and are applicable to the application as it is presented in the above mentioned files. The below comments may become null and void if changes to the application are made.

Based on the County of Simcoe pre-consultation comments noted above, it is the SSEAs understanding that the proposed Zoning Bylaw Amendment and Draft Plan of Subdivision Application would allow for the development of a residential subdivision that would contain the following:

- 89 single detached units
- Stormwater Management Block
- Internal Road (municipally owned and maintained)
- Road Widening Block along Menoke Beach Road

The property is partially located within the Intake Protection Zone 2 (IPZ-2) of the West Shore municipal drinking water system with a vulnerability score of 5.6. For any of the 22 prescribed



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drinking water threats defined in O.Reg. 287/07 to be considered a significant drinking water threat in an Intake Protection Zone, a vulnerability score of 8 or higher is required.

Although there is potential for some of the prescribed drinking water threats to occur in a residential setting (i.e. onsite sewage system, application of fertilizer, the handling and storage of fuel or DNAPLs) for this specific application, they would not be considered significant drinking water threats and therefore, neither Section 57 (Prohibition) nor Section 58 (Risk Management Plan) of the *Clean Water Act, 2006* would apply. Subsequently, a *Clean Water Act* section 59 notice from the Township of Severn Risk Management Official would not be required, as the application is currently presented on the lands it is proposed on.

If you have any questions, please contact the undersigned.

Yours truly,



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Melissa Carruthers,  
Risk Management Official/ Inspector for the Township of Severn  
Severn Sound Environmental Association  
[mcarruthers@severnsound.ca](mailto:mcarruthers@severnsound.ca)

CC: Scott Tarof, Terrestrial Ecologist, Azimuth Environmental Consulting, Inc.  
Maryann Hunt, Planner III, County of Simcoe  
Andrea Woodrow, Director of Planning & Development, Township of Severn  
Katie Mandeville, Planner, Township of Severn  
Julie Cayley, Executive Director, Severn Sound Environmental Association



