Environmental Impact Study

1112 St. Andrew's Drive and 9421 County Road 93

Town of Midland

Prepared for:
Georgian Bay General Hospital

Prepared by:
Azimuth Environmental
Consulting, Inc.

November 2023

AEC 23-126

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

November 16, 2023 AEC 23-126

Georgian Bay General Hospital
c/o Matthew Lawson, President & CEO
1112 St. Andrew's Drive, PO Box 760
Midland, ON L4R 4P4

Re: **Environmental Impact Study for a Proposed Development on 1112 St. Andrew's Drive and 9421 County Road 93, Town of Midland, County of Simcoe**

Dear Mr. Lawson:

Azimuth Environmental Consulting, Inc. was retained to provide an Environmental Impact Study report for a proposed development at the location described above. The purpose of this report is to provide the Town of Midland and other review agencies with an understanding of natural environmental conditions and potential for impacts related to the proposed development on significant natural heritage features and functions of the property and adjacent lands. This report also documents natural environmental features present on the property and adjacent lands with regard to woodlands, Species at Risk and their habitat.

Should 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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1.0 INTRODUCTION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by Georgian Bay General Hospital to undertake an Environmental Impact Study (EIS) for a proposed development in the Town of Midland (the "Town"), County of Simcoe (the "County"). The proposed development concept involves phased construction of a new Georgian Bay General Hospital Mental Health Centre, a new hospital with amenities (*e.g.* parking, service access roads) and possible subsequent demolition of parts of the existing hospital for additional parking. The development would involve two properties: 1112 St. Andrew's Drive (site of existing hospital) and the adjacent property to the west located at 9421 County Road 93 (hereafter "the property" unless otherwise specified). The property is approximately (~) 19 hectares (ha) in size. A map illustrating the property limits in their regional context is shown on Figure 1. It is our understanding that the Town has requested an EIS be undertaken due to presence of mapped woodlands in the study area and planning amendment application considerations. The EIS is part of Official Plan and Zoning By-law Amendment applications, and a subsequent Site Plan Application for the new hospital. The study area is not in the jurisdiction of an Ontario conservation authority.

The purpose of this study is to identify the candidate Natural Heritage Features and Functions (NHFFs) present in the study area and address potential impacts to those NHFFs. A review of background information, concomitant with a detailed field program, was undertaken in spring/summer 2023 to identify significant NHFFs. This report also examines potential for Species at Risk (SAR) protected under Ontario's *Endangered Species Act,* 2007 (ESA) in the study area. The potential for negative impacts to NHFFs resulting from the proposed development is considered, and recommendations for avoidance and mitigation are provided.

For the purposes of this EIS, the study area comprises the property shown on Figures 1-3 and adjacent lands [within approximately 120 metres (m) of the property limits]. Natural features in the overall planning area beyond the defined study area are discussed where applicable throughout this report.

2.0 PLANNING CONTEXT

2.1 Provincial Planning Policy (2020)

The Provincial Policy Statement (PPS) (MMAH, 2020) outlines policies related to natural heritage features (Section 2.1) and water resources (Section 2.2). Ontario's *Planning Act*, (1990) requires that planning decisions shall be consistent with the PPS. The study area

for this assessment is located entirely in **Ecoregion 6E**. According to the PPS development and site alteration shall not be permitted in:

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

Similarly, Section 2.1.5 of the PPS states that, 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:

a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E; and 7E;
b) *significant woodlands* in Ecoregions 6E; and 7E;
c) *significant valleylands* in Ecoregions 6E; and 7E;
d) *significant wildlife habitat*;
e) *significant areas of natural and scientific interest*; and,
f) *coastal wetlands* in Ecoregions 5E, 6E; and 7E that are not subject to policy 2.1.4(b).

It is ultimately the responsibility of the Province and/or the Municipality to designate areas identified within Section 2.1.4 and 2.1.5 of the PPS as "significant".

Section 2.1.6 of the PPS states that development and site alteration is not permitted in fish habitat except in accordance with federal and provincial requirements.

Section 2.1.7 of the PPS states that development and site alteration shall not be permitted in the habitat of Threatened and Endangered species, except in accordance with provincial and federal requirements.

Furthermore, under Section 2.1.8 of the PPS, no development or site alteration will be permitted on lands adjacent to 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 has been evaluated and it has been demonstrated there will be no negative impacts on the natural features and their ecological functions.

2.2 Endangered Species Act (2007)

Ontario's ESA provides regulatory protection to Endangered and Threatened species prohibiting harassment, harm and/or killing of individuals and destruction of their habitats. Habitat is broadly characterized in 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 out its life processes including reproduction, rearing of young, hibernation, migration or feeding.

The various schedules of the ESA included under O. Reg. 230/08 identify SAR in Ontario. These include species listed as Extirpated, Endangered, Threatened and Special Concern. As noted above, only species listed as Endangered and Threatened receive protection from harm and destruction to habitat on which they depend.

2.3 County of Simcoe (2023)

The property is shown by the County's Official Plan (OP; County of Simcoe, 2023) as occurring in the Settlements designation (Schedule 5.1; Appendix A). The property and adjacent lands do not occur in the vicinity of a Provincially Significant Wetland (PSW), Locally Significant Wetland, watercourse or Area of Natural and Scientific Interest (ANSI) – Provincial or Regional – in accordance with Schedules 5.2.2 and 5.2.3 of the County OP (Appendix A).

Simcoe County Mapping (2023) illustrates the presence of woodlands on the property (Appendix A).

2.4 Town of Midland (2019)

The 1112 St. Andrew's Drive property is shown in the Town's OP (Town of Midland, 2019) as being within the Built Boundary and mapped within the Commercial Corridor. The majority of this property is designated as Strategic Growth Areas I, with Greenlands mapped along the western, northern and eastern fringes of the property (Schedules A and C; Appendix A). The 9421 County Road 93 property is outside the Built Boundary, part of a Secondary Plan Area and designated as Greenlands - Natural Heritage (Schedules A and C; Appendix A).

Section 4.5.3(f) (iii) states the following use may be permitted, subject to an EIS: "The extension of municipal infrastructure, in accordance with the policies of this Section."

The Town OP does not contain criteria for determining woodland significance, nor is Significant Woodland mapping available on OP Schedules.

2.5 Federal *Fisheries Act*

The *Fisheries Act* includes protections for fish and fish habitat in the form of standards, codes of practice, and guidelines for projects near water. The *Fisheries 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", [Section 35(1)], otherwise

known as HADD. In cases where impacts to fish and fish habitat cannot be avoided, and the project does not fall within waterbodies where Fisheries and Oceans Canada (DFO) review is not required, proponents are asked to submit a request for review to their Fish and Fish Habitat Protection Program regional office to determine approval requirements. All projects are encouraged to avoid causing the death of fish and a HADD of fish habitat, using measures to protect fish and fish habitat that include standards and codes of practice for common works, undertakings and activities.

3.0 STUDY APPROACH

A combination of background information and field data were used to fulfill the objectives of this EIS. Azimuth undertook the following activities for this study:

- Conducted the following field surveys on the property to document existing natural heritage features, functions and species:
    - Completed a plot-based evaluation/mapping of candidate bat snag trees on the property during leaf-off conditions. Azimuth also collected data on general habitat sensitivities during this visit, such as possible vernal pools (April 6, 2023);
    - Evaluated/mapped vegetation community types based on Ecological Land Classification methods (ELC; Ecological Land Classification for Southern Ontario: First Approximation and its Applications. SCSS Field Guide FG-02; Lee *et al*., 1998, updated 2008) (May 31-July 12, 2023);
    - Conducted a detailed vascular plant inventory during spring (May 31, 2023) and summer (July 12, 2023) with regard for SAR plants, including Butternut (*Juglans cinerea*) and Black Ash (*Fraxinus nigra*);
    - Completed one evening calling amphibian survey related to potential woodland breeding amphibian habitat (April 20, 2023), noting no calling amphibians were recording that would necessitate additional surveys;
    - Conducted two dawn breeding bird surveys (June 2023);
    - Conducted acoustic monitoring to determine presence/absence of SAR bats (June 1-12, 2023);
    - Recorded all incidental wildlife observations during property visits;
- Completed a desktop Significant Woodland assessment in regards to the woodlands on the property and surrounding lands;
- Completed an assessment of potential SAR and their habitat in the study area;
- Completed a Significant Wildlife Habitat (SWH) assessment in the study area; and,
- Assessed the potential direct and indirect impacts of the proposed development on the NHFFs identified on or adjacent to the property.

The above activities were provided to the Town as a Terms of Reference for the field program and impact assessment on March 31, 2023. A response was received from the Town's peer reviewer, Severn Sound Environmental Association (SSEA), on June 14, 2023 (Appendix A). The SSEA requested that ELC descriptions include vegetation community size estimates on- and off-property, particularly for potential or confirmed Significant Woodlands, and information regarding age structure and rare plants. The SSEA also requested that surveys for Eastern Whip-poor-Will be completed if suitable potential habitat is present on the property. Since no habitat for Eastern Whip-poor-Will is present, the surveys were not completed. A point count station duration of 5 minutes (min) for dawn breeding bird surveys was determined to be acceptable with SSEA (Appendix A).

3.1 Background Information

A review of the following background documents provided information on property characteristics, habitat, wildlife, rare species and communities and general cultural/historic aspects of the study area:

- Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC; MNRF, 2023);
- Ontario Ministry of Natural Resources (OMNR) Natural Heritage Reference Manual (NHRM; OMNR, 2010);
- Atlas of the Breeding Birds of Ontario (OBBA; Cadman *et al.*, 2007);
- iNaturalist (NHIC) Rare Species of Ontario (iNaturalist, 2023);
- Ontario Reptile and Amphibian Atlas (ORAA; Ontario Nature, 2023);
- MECP's Species at Risk Ontario list (MECP, 2023);
- Air photos available for the study area (Google, VuMap);
- Government of Canada's Species at Risk Public Registry;
- Atlas of the Mammals of Ontario (Dobbyn, 1994);
- Aquatic/fisheries SAR interactive mapping (DFO, 2023);
- Simcoe County interactive mapping (2023);
- County OP (2023); and,
- Town OP (2019).

3.2 Vegetation Community Mapping and Surveys

Prior to undertaking field studies, an initial classification of vegetation communities was undertaken using recent air photo imagery for an area encompassing the study area. Vegetation community boundaries were then checked in the field on May 31 and July 12, 2023 during the growing season when the emergent ground cover vegetation layer was

present (surveyor: David d'Entremont). Vegetation community types were classified using ELC protocols.

Property visits were undertaken by a qualified ecologist with existing knowledge related to rare, Threatened and Endangered plant species with potential to occur in the area. The property assessment was focused during ELC work to ensure that appropriate effort was made to detect any federally or provincially designated species, notably SAR as identified under the ESA (*e.g.* Butternut, Black Ash – both Endangered). Any observations of rare plant species were noted.

As part of an assessment of whether or not woodland vegetation communities on the property were part of a Significant Woodland, the tracing tool in Google Earth Pro was used to estimate the size (in ha) of contiguous woodland cover on and adjacent to the property not separated by gaps (*e.g.* roads ≤20m wide, highways, manicured lots) based on current aerial imagery. Mapping of woodlands prepared by Plan B Natural Heritage as part of a Town OP review (Plan B, 2017), shows a gap in woodland cover along Vindin Street. Consequently, the extent of contiguous woodland cover beyond the study area captured in Azimuth's estimate of woodland cover was limited to lands south of Vindin Street. Since municipal criteria to determine woodland significance were not available at the time of preparing this report, determination of whether or not woodlands were Significant Woodlands was based on provincial criteria in the NHRM (OMNR, 2010).

3.3 Wildlife Surveys

Wildlife species using the study area were identified from direct observation, auditory signs and/or through interpretation of other signs (tracks, scats, vocalizations, *etc.*) as a matter of course while conducting field surveys.

3.3.1 Species at Risk

The SAR screening undertaken for the scope of this assignment included an assessment of SAR with potential to occur at the County scale. The County list was modified based on habitat features in the area and species' ranges. Where potentially suitable habitat was present, the assessment also considered SAR occurrence records from OBBA ("highest breeding evidence" for 10x10km grid square 17TNK85) (Cadman *et al.*, 2007), iNaturalist ("Verifiable" and "Threatened" filters) ((iNaturalist, 2023) and the NHIC database (Appendix B). Habitat requirements and appropriate designations (Endangered, Threatened or Special Concern) are outlined in Table 1. The SAR assessment followed the MECP guidance document - Client's Guide to Preliminary Screening for SAR (MECP, 2019) that emphasizes SAR screenings are to be undertaken as a proponent-driven exercise.

Records from NHIC indicated the presence of one Restricted Species in the general area. The identity of the Restricted Species was verified through direct query with NHIC staff. The SAR assessment included consideration of habitat potential for the Restricted Species. The identity of the Restricted Species should not be part of the public record.

3.3.2 Breeding Birds

Two dawn breeding bird surveys were conducted on May 31 and June 13, 2023 guided by point count methodology presented in Appendix D of the OBBA Guide for Participants (2001). All surveys were conducted no earlier than one half hour before sunrise and were completed prior to 10:00am. Surveys were completed under suitable weather conditions [*i.e.* no precipitation and light winds (Beaufort wind scale ≤3), see Table 4], with an observation period of 5min carried out at the three point count station shown on Figure 2. Use of 5min point count surveys was approved by the SSEA (Appendix A). The point count stations used conferred reasonable property coverage.

3.3.3 Amphibian Breeding

The first spring visit on April 6, 2023 included screening for possible presence of vernal pool habitat in woodlands on the property. Azimuth conducted one evening calling amphibian survey on April 20, 2023 to assess amphibian breeding potential on and adjacent to the property in accordance with the Great Lakes Marsh Monitoring Program (Bird Studies Canada, 2008). In accordance with the protocol, the amphibian survey was completed during the period between 30min after sunset and midnight, on an evening with winds Beaufort <4. The survey occurred during the early spring (April 15-30) period only on an evening with a minimum temperature of 5°C and no precipitation (surveyor: Jordan Wrobel; start time 8:55pm, end time 9:11pm).

Given the results of the early spring survey, mid and late spring evening calling amphibian surveys were considered to not be required, as per the approved Terms of Reference. Survey station locations used allowed detection of evening calling amphibians (if present) on the property and adjacent lands (Figure 2).

3.3.4 Bats and Bat Habitat

Several bat species (including Endangered bats Little Brown Myotis, Northern Myotis and Tri-colored Bat) may use large trees [*e.g.* ≥25 centimetres (cm) diameter at breast height (DBH)], although trees smaller than 25cm DBH in early stages of decay may also be used by roosting bats (MECP, 2022a; MECP, 2022b). Consequently, trees of any DBH size were considered in the assessment of potential bat snags. Trees used for roosting by bats are described as "snag" trees – those having features such as cracks, splits, cavities/holes, hollows, *etc.* that could feasibly provide access for bats.

Azimuth ecologists conducted a bat snag mapping exercise on April 6, 2023 under suitable weather conditions using the plot-based snag density method in accordance with provincial protocols (MECP, 2022b) (surveyors: David d'Entremont, Scott Tarof). Based on the provincial protocol (MECP, 2022b) and property size, thirteen (13) 12.6m fixed radius (0.05ha) plots were established at random in ~13ha of tree canopy covered ELC vegetation communities, thereby providing reasonable property coverage (plot centroids shown on Figure 2). Suitable snag trees with potential for use by bats to establish maternity and/or day roosts during the summer were identified using binoculars (MECP, 2022b). All snag trees in each plot were identified, the DBH was measured and snag features were recorded. Consideration of snag features included an evaluation of decay class category, which ranged from Decay Class #1 (least amount of decay) to Decay Class #6 [highest extent of decay (*i.e.* advanced decay of main trunk of tree with no live branches but tree not completely dead)]. A "high quality" bat snag tree was defined based on its overall characteristics (*e.g.* decay class #1 or #2, combination of snag features typically 3-10m or higher in the tree) and was considered to have the greatest potential for use by bats.

For each plot, snag data were used to calculate the total number of bat snags (overall and high quality) and the density of snag trees (# snags/ha; overall and high quality). Overall snag density values were categorized [0-25 (low density), 26-50 (medium density), 51+ (high density)] to portray the distribution of bat snag habitat across the property with potential for use by roosting bats (if present). The survey was completed during leaf-off conditions, with good visibility in the communities and under dry conditions (*e.g.* no precipitation or recent snowfall). Global Positioning System (GPS) coordinates were obtained for each plot centroid.

Acoustic monitoring provides reliable presence/absence data and relative occurrence of bat species for a monitored area. Four (4) acoustic monitors were deployed on June 1, 2023. Acoustic monitors were placed in woodlands northeast (monitor #4, see Figure 2) and northwest (monitors #1-3, see Figure 2) of the existing hospital by David d'Entremont and Jordan Wrobel under suitable weather conditions (temperature 26°C, winds Beaufort 1, cloud cover 0%, no precipitation) and in accordance with provincial protocols (MECP, 2022b). Monitors were positioned proximal to areas where candidate bat snag trees were present and/or where the habitat was most suitable to detect echolocating bats, while also considering to the extent possible that bats generally prefer foraging near woodland edges and/or in woodland gaps.

Since unequivocal identification of fresh leaf clusters that may be used by roosting bats (*e.g.* Tri-colored Bats) in a dense tree canopy in full leaf-out would be speculative, and no provincial protocol for surveying leaf clusters is available, only general observations of

overt leaf clusters were included in the survey effort. Monitors were checked and data downloaded mid-way through the acoustic survey period (June 6, 2023) under suitable weather conditions (temperature 19°C, winds Beaufort 2, cloud cover 20%, no precipitation) and at the end of the survey period (temperature 16°C, winds Beaufort 2, cloud cover 100%, minimal precipitation). Monitors were retrieved on June 12, 2023. Acoustic monitors were left in situ for 10 consecutive nights. Agency guidelines require that acoustic monitoring for bats be conducted for a minimum of 10 nights, with at least 10 nights in June (MECP, 2022b; MECP email correspondence). Monitors were programmed to record bat echolocation calls from 30min before sunset to 30min after sunrise.

Acoustic data were collected using Wildlife Acoustics SM3BAT bioacoustic monitors; each monitor was connected to an SMM-U1 ultrasonic microphone. Acoustic data were analyzed using Kaleidoscope V5.1.9g software designed by Wildlife Acoustics. Identification of SAR bat species was based on a combination of auto-classification by the software, and subsequent manual analysis of call characteristics for species confirmation. Relative activity levels by species or group were estimated using Kaleidoscope's auto-classification algorithm, and were based on the number of bat "passes" (*i.e.* a bat flying by a recording monitor while echolocating). Auto-classification threshold criteria were set at ≥16 pulses and ≥60% match ratio to identify the best quality calls for analysis and species confirmations. Certain species (*e.g.* Big Brown Bat versus Silver-haired Bat, different *Myotis* sp.) are difficult to differentiate acoustically with respect to bat passes. These species were grouped in the analysis of relative activity levels. Qualifications of ecologists who completed the field program are provided in Appendix C.

3.4 Fish and Fish Habitat

Background mapping from municipal, provincial and federal resources was reviewed to determine whether or not watercourses or drainage features were present in the study area that could provide possible fish habitat on the property and/or on adjacent lands.

4.0 EXISTING CONDITIONS

4.1 Land Use

The ~19ha property is located along the western edge of the core populated area of Midland, ~1.5km northwest of Little Lake and ~2km southwest of Georgian Bay. The property is bound by County Road 93 to the west and Penetanguishene Road to the east. The site of the existing Georgian Bay General Hospital, the property is comprised of the built hospital and amenities footprint (~7ha) surrounded by ~13ha of woodlands (Figure

2). Topography in the study areas is generally flat at ~240m above sea level (mASL), with relief sloping gradually toward 245mASL to the west (VuMap 2.0).

At the landscape scale, adjacent lands are a combination of established residential neighbourhoods (to the east), commercial land use (to the south/southwest) and woodlands (to the east and west).

4.2 Terrestrial Resources

4.2.1 Vegetation

The limits of the two (2) ELC community types and hedgerow identified in the study area are illustrated on Figure 2. A complete list of vascular plant species identified on the property is presented in Table 2; summary descriptions of the vegetation communities are presented in Table 3. Appendix D provides a photographic record of the property.

The 9421 County Road 93 property is a Dry-Fresh Sugar Maple-Ironwood/Sugar Maple-White Birch-Poplar Deciduous Forest (FODM5-3/FODM5-10; ~9.6ha) ELC vegetation community. On the 1112 St. Andrew's Drive property, ELC vegetation communities are comprised of four remnant Dry-Fresh Oak-Hardwood Deciduous Forest (FODM2-1; ~3.5ha) areas and a hedgerow (Figure 2, Table 3). The four FODM2-1 communities were assessed as one community because they presented in the field as remnants of a historical contiguous woodland block of similar composition. Woodlands on the property are approximately 35-40 years old, based on a review of County historical aerial imagery. The western polygon of the FODM2-1 community between County Road 93 and St. Andrew's Drive essentially resembled a wide hedgerow. At the landscape scale, vegetation communities north and west of 9421 County Road 93 had similar characteristics as the FODM5-3/FODM5-10 community on the property.

A total of 176 vascular plant species were identified on the property, 33 of which (19%) are considered native to Ontario (Table 2). None of the vegetation communities or species documented were of federal or provincial conservation concern (MNRF, 2023).

4.2.1.1 Rare and Uncommon Plants

There are no elements of occurrence (EO_ID) in the study area for provincially Endangered or Threatened, or provincially rare vegetation species according to the NHIC database (MNRF, 2023).

No plant species considered Endangered or Threatened were identified during property investigations, including no Butternut trees. Further, no provincially rare (S1-S3) species were observed during the field program (NHIC, 2023).

4.2.2 Wildlife

4.2.2.1 Mammals

Evidence of two mammalian species [Eastern Gray Squirrel (direct observation), Groundhog (hole)] was observed during the field program. Given the study area proximity to large natural areas in the greater landscape, it is expected that the following other mammals could conceivably be encountered in the study area: small mammal species (various mice, voles, and shrews), Mouse-eared Bat, Eastern Chipmunk, Northern Flying Squirrel, weasel species, Striped Skunk, Eastern Cottontail, Snowshoe Hare, Porcupine, Raccoon, Red Fox, Coyote and White-tailed Deer.

4.2.2.2 Reptiles and Amphibians (Herpetofauna)

No evening calling amphibian species were identified during the early spring survey, and no wetlands were present in the study area. One Gray Tree Frog was heard calling on adjacent lands as an incidental observation on May 31, 2023. Based on background review of ORAA data, the most recent evening calling amphibian records in 10km x 10km grid square 17NK85 were at least 10 years old (Appendix B).

No salamanders or newts were observed over the course of the field program. No evidence of vernal pooling providing breeding opportunities for salamanders was observed during the field program.

No turtles or snakes were observed. Data from ORAA indicate five turtle records for grid square 17NK85 from 1983-2019 (Appendix B), but since there is no habitat for the turtle species listed in the study area, the records are considered to relate to locations outside the study area. Two records for SAR snakes in the grid square are 10-54 years old (Appendix B).

4.2.2.3 Birds

Twenty-one (21) bird species were recorded during dawn breeding bird surveys, all of which are typical of urban woodland habitat (Table 4). An additional four (4) bird species were identified incidentally during the remainder of the field program (Table 4). Two Eastern Wood-pewee (Special Concern) were detected on the property during both dawn breeding bird surveys (Figure 2). No other SAR birds were detected in the study area.

4.2.2.4 Bats and Bat Habitat

Bat snag mapping identified a total of 30 candidate bat snag trees in the 13 plots with characteristics suitable for potential use by bats (Figure 2). Overall mean snag density on the property was 46.2 snags/ha (Table A). Candidate bat snag trees identified varied in decay class. Of the 30 bat snags, 13/30 (43%) are considered high quality snag trees with

the greatest potential for use by bats (Table A). These 13 deciduous trees (mean density = 20 snags/ha, Table A) had snag characteristics rendering the trees most suitable for use by maternity and/or day roosting bats due to the size, number and height of snag characteristics observed. Figure 2 shows the snag density range distribution. Overt/distinct live leaf clusters were not observed.

Table A. Results of Plot-Based Bat Snag Mapping.

		Overall		High Quality	
Plot No.	**ELC Polygon**	**No. of Snags**	**Density (#/ha)¥**	**No. of Snags**	**Density (#/ha)**
1	FODM5-3/FODM5-10	3*	60	2	40
2	FODM5-3/FODM5-10	3*	60	3	60
3	FODM5-3/FODM5-10	1*	20	1	20
4	FODM5-3/FODM5-10	1	20	0	0
5	FODM5-3/FODM5-10	7*	140	5	100
6	FODM5-3/FODM5-10	3*	60	2	40
7	FODM5-3/FODM5-10	3	60	0	0
8	FODM5-3/FODM5-10	1	20	0	0
9	FODM5-3/FODM5-10	0	0	0	0
10	FODM5-3/FODM5-10	5	100	0	0
11	FODM5-3/FODM5-10	0	0	0	0
12	FODM2-1	1	20	0	0
13	FODM2-1	2	40	0	0
Total No. or Mean Density		**30**	**46.2 snags/ha**	**13**	**20.0 snags/ha**

¥See Figure 2 for overall snag density range distribution on the property.
*One or more high quality snags.

A total of five (5) bat species were detected acoustically, although the level of bat activity (total of ≥1,224 bat passes) was considered to be generally low based on Azimuth's experience in the area (Table B). Acoustic data confirmed the presence of one SAR bat species using treed habitat on the property: Little Brown Myotis (Table B). Detection of a second SAR bat species, Northern Myotis, was possible but could not be confirmed due to call quality/intensity. Based on acoustic data analyzed, relative bat activity levels were higher in the southeastern region of the FODM5-3/FODM5-10 ELC community (*i.e.*

Monitor #1) and in the FODM2-1 community (*i.e.* Monitor #4) compared to other regions of FODM5-3/FODM5-10 (*i.e.* Monitors #2-3). Since Monitor #3 was functioning during the mid-way check on June 6 and no bat passes were recorded for the duration of the 10-night survey period, it is possible to surmise that Monitor #3 may have malfunctioned during the second half of the 10-night survey period (Table B).

Table B. Results of SAR and non-SAR Bat Acoustic Monitoring.

Monitor No.	ELC Polygon	SAR Bat Species	No. of Bat Passes
1	FODM5-3/FODM5-10	*Myotis* sp. (most/all likely Little Brown Myotis)	≥70
		Big Brown Bat/Silver-haired Bat (most likely Silver-haired Bat)	≥675
		Eastern Red Bat	≥5
		Hoary Bat	≥5
2	FODM5-3/FODM5-10	*Myotis* sp. (most/all likely Little Brown Myotis)	≥10
		Big Brown Bat/Silver-haired Bat (most likely Big Brown Bat)	≥54
3	FODM5-3/FODM5-10	No data*	
4	FODM2-1	*Myotis* sp. (most/all likely Little Brown Myotis)	≥62
		Big Brown Bat/Silver-haired Bat (most likely Big Brown Bat)	≥341
		Eastern Red Bat	≥1**
		Hoary Bat	≥1**

See Figure 2 for acoustic monitor locations.
Each bat "pass" recorded is not necessarily a different individual.
*Monitor #3 confirmed to be functioning and active at the start (June 1, 2023) and mid-way through the survey (June 6, 2023); potential monitor error or no bat activity present/recorded proximal to monitor.
**Other calls inconclusive to refine relative activity level.

Non-SAR bats that receive consideration under provincial SWH criteria (see Section 4.7 below) include Big Brown Bat and Silver-haired Bat. Eastern Red Bat and Hoary Bat are also non-SAR bats but do not receive SWH consideration.

4.3 Species at Risk

The SAR assessment (Table 1) fully considers SAR with potential to occur in the planning area. Based on the SAR assessment in combination with vegetation communities and other environmental features observed during field investigations, the following species are considered below in this report:

- **Threatened or Endangered**:
  - Little Brown Myotis;
  - Northern Myotis (Potential);
- **Special Concern**:
  - Eastern Wood-pewee; and,
  - Monarch.

Only species designated Threatened or Endangered receive individual and habitat protection under Section 9 and Section 10 of the ESA. Special Concern species are further discussed in the context of SWH (Habitat for Special Concern and Rare Wildlife Species) below.

4.4 Wetlands

Consistent with field surveys, there are no wetlands in the study area according to Township, County (Appendix A) or Provincial mapping resources (Appendix B). No wetlands were observed in the study area during the field program. Mapping from NHIC, however, indicates unevaluated wetlands on the other side of County Road 93 ~340m southwest of the property (Appendix B).

4.5 Candidate Significant Woodland

County and provincial mapping show vegetation communities on and adjacent to the property as “Woodlands”, but the Town OP does not contain criteria for assessing woodland significance in the planning area (confirmed by correspondence with the Town).

Woodland cover on the property (FODM2-1, FODM5-3/FODM5-10; Figure 2) is ~13ha in size and occurs extensively off-property. Overall, contiguous woodland cover on the property and regionally (bound by County Road 93 and Fuller Avenue to the west, Vindin Street to the north and residential/commercial development to the southeast and

south) was estimated at approximately 52ha in size based primarily on a desktop mapping exercise. According to the NHRM (OMNR, 2010), woodlands are considered as a single continuous feature even if intersected by narrow gaps 20m or less in width between crown edges. Woodland features on the property would be considered part of a larger area of continuous woodland cover. Consequently, the overall woodland feature meets Woodland Size, Woodland Interior and Linkages criteria (potentially among others) for significance described in the NHRM (OMNR, 2010) and should be considered Candidate Significant Woodland. It follows that woodland units on the property should also be treated as Candidate Significant Woodland for the purposes of this assessment.

4.6 Candidate Significant Valleyland

No portion of the study area is identified as Significant Valleyland nor assigned a similar designation on municipal or provincial mapping resources. There are no valleyland features located in the study area according to provincial guidelines in the NHRM, principally due to the lack of permanent or intermittent watercourses that constitute a defining component of a valleyland feature. No portion of the study area fulfills the well-defined valley morphology and landform prominence required to be considered Candidate Significant Valleyland.

4.7 Candidate Significant Wildlife Habitat

An assessment of the potential for SWH in study area was conducted using criteria outlined in the Significant Wildlife Habitat Technical Guide (OMNR, 2000) and the accompanying Ecoregion 6E Criteria Schedules (MNRF, 2015). An assessment of Candidate and Confirmed SWH categories relative to documented vegetation communities and habitats in the study area is presented in Table 5. The following Candidate/Confirmed SWH types were determined to be present, or have potential to be present in the study area based on the results of the field program:

- Bat Maternity Colonies (Confirmed);
- Habitat for Special Concern and Rare Wildlife Species (Confirmed);
    - Eastern Wood-pewee; and,
    - Monarch.

4.8 Areas of Natural and Scientific Interest

There are no Areas of Natural and Scientific Interest in the study area according to Township, County (Appendix A) or Provincial mapping resources (Appendix B).

4.9 Fish and Fish Habitat

There are no features with potential to provide fish habitat in the study area according to municipal (Appendix A) and provincial (Appendix B) background mapping. No watercourses or drainage features were observed on or proximal to the property during fieldwork. There are no records of aquatic SAR proximal to the property (DFO, 2023; Appendix B).

5.0 NATURAL HERITAGE FEATURES AND FUNCTIONS

The results of Azimuth's field studies, combined with review of background information, indicate the potential for the following candidate NHFFs in the study area:

- Habitat for Threatened or Endangered Species:
    - Little Brown Myotis;
    - Northern Myotis (Potential);
- Candidate Significant Woodland;
- Candidate Significant Wildlife Habitat:
    - Bat Maternity Colonies (Confirmed);
    - Habitat for Special Concern and Rare Wildlife Species (Confirmed);
        - Eastern Wood-pewee; and,
        - Monarch.

6.0 PROPOSED DEVELOPMENT

The proposed development consists of multiple phases. Phase #1 (~2026-2028) would involve construction of a new Georgian Bay General Hospital Mental Health Centre on the northwest side of the existing hospital on the 1112 St. Andrew's Drive property (Figure 3, see also Appendix E for development concept). The Centre would include amenities (*e.g.* temporary parking, service bypass road) and connect to the existing hospital. Phase #2 (~2032-2036) would include building a new Georgian Bay General Hospital, parking and service access roads. The new hospital footprint would be mostly located on the 9421 County Road 93 property, but would extend partially onto 1112 St. Andrew's Drive and have new access off County Road 93 (Figure 3, Appendix E). In Phase #3 (~2037), portions of the old hospital may be demolished. The development concept shows that demolished sections of the old hospital would be replaced with additional parking. Phase timing is approximate and may change.

A detailed Site Plan in CAD is not yet available. It is recognized that Figures may need to be updated at a later date to include professional CAD overlays of the Site Plan. The impact assessment below may require amendment based on the detailed Site Plan.

7.0 IMPACT ASSESSMENT

This impact assessment is prepared regarding the construction footprint of the proposed development concept and associated grading limits, as described above and shown on Figure 3.

7.1 Habitat for Threatened or Endangered Species

Impacts with regards to the ESA and Habitat of Threatened or Endangered species are covered under Section 9 and 10 of the ESA. Section 9 deals directly with killing, harming or harassing living members of a species. Section 10 covers destruction or damage to habitat of Threatened or Endangered species. The following Threatened or Endangered species have the potential or are confirmed to occur in the limits of the study area.

7.1.1 Endangered Bats

Plot-based bat snag mapping identified suitable SAR bat habitat in the FODM5-3/FODM5-10 ELC vegetation community throughout the 9421 County Road 93 property, and in the eastern FODM2-1 community at 1112 St. Andrew's Drive (Table A, Figure 2). Bat snag tree density, including high quality bat snags, was higher within the southeastern and northeastern portions of the FODM5-3/FODM5-10 ELC polygon relative to other areas within this polygon. No high quality bat snags were present in the FODM2-1 community. Acoustic monitoring results indicated presence of Little Brown Myotis and possibly Northern Myotis, confirming habitat use by Endangered bats.

As per the proposed development concept (Figure 3), land alterations are proposed in the central portion of the FODM5-3/FODM5-10 ELC polygon located at 9421 County Road 93, and in one corner of the western FODM2-1 ELC polygon located between County Road 93 and St. Andrew's Drive on the 1112 St. Andrew's Drive property. No land alterations are proposed in the three FODM2-1 ELC polygons in the eastern region of 1112 St. Andrew's Drive. For both development phases (Phase #1, Phase #2), land alterations would include tree removals in FODM5-3/FODM5-10 and the northwest corner of the western FODM2-1 ELC polygon to accommodate construction. As such, the proposed development would result in a direct impact (loss) of 5.3/13ha (40.8%) of SAR bat habitat on the property. Post-development, 7.7ha (59.2%) of bat snag habitat (*e.g.* proximal to Plots #6-8, 10-13) would remain (Figure 3). Plot #6 includes some high quality bat snag trees. In areas of the province where tree cover is extensive (including in the Town of Midland), MECP guidance regarding SAR bats indicates that the important factor is that development not result in loss of overall ecological function of habitat (MECP 2022a).

The FODM5-3/FODM5-10 ELC community is part of a larger woodland feature. In consideration of habitat availability for SAR bats at the landscape level, the additional estimated 1,573ha (1,586ha-13ha = 1,573ha) of regional Candidate Significant Woodland cover off-property most likely contain habitat for SAR bats. It follows that, although the proposed development will result in loss of 5.3ha of SAR bat habitat on the property, at the landscape level, approximately 1,573ha of habitat and habitat function for SAR bats would be available in the area. Consequently, there is no expectation that the proposed development would result in loss of ecological habitat functions for SAR bats, nor would the development lead to habitat fragmentation or loss of habitat connectivity. Bats would still be able to move throughout the area to forage, find suitable day or maternity roost sites, *etc*.

Provided that mitigation measures recommended in Section 8.0 below are followed, the potential for indirect impacts to SAR bats and their habitat is considered mitigable.

7.2 Candidate Significant Woodland

According to the PPS, development and site alteration are not permitted in Significant Woodlands in Ecoregion 6E unless it can be demonstrated that there will be no negative impacts upon the feature and its ecological functions. The woodland feature on the property is treated as Candidate Significant Woodland for the purposes of this assessment.

The NHRM (OMNR, 2010) outlines several criteria that contribute to the ecological functionality of a woodland feature, analyzed in the sections below.

7.2.1 Woodland Size

The Candidate Significant Woodland feature represents a forested block that remains unbroken (≤20m gaps per NHRM criterion). The block is bound by County Road 93 and Fuller Avenue to the west, Vindin Street to the north and residential/commercial development to the southeast and south. A preliminary mapping exercise suggests that the total woodland size is ~52ha. Woodland mapping by planning area (Appendix A) shows ~22% woodland cover in Simcoe County. The woodland therefore exceeds the 20ha woodland size threshold to qualify as Significant Woodland in accordance with NHRM standards.

Under the proposed development concept, 5.3ha of woodland (part of FODM5-3/FODM5-10, northwest corner of western FODM2-1; Figure 3) would be cleared, resulting in ~10% of the total Candidate Significant Woodland being removed from within the property. Given the regional extent of the Candidate Significant Woodland, removal of ~10% of the feature would not compromise woodland form, its ecological

functions or represent a substantial loss of woodland cover in the broader planning area. An estimated 90% of the Significant Woodland will remain post-development.

7.2.2 Woodland Interior

Woodland interior is defined as any portion of woodland greater than 100m from any woodland edge, including those less than 20m in width such as roads or hydro corridors (NHRM, 2010).

Based on the overall shape of woodlands on the property and a 100m buffer from the woodland edge (NHRM, 2010), 0.80ha of woodland interior habitat is present in the FODM5-3/FODM5-10 ELC polygon (Figure 3). Under the proposed development concept, all of this interior woodland habitat would be removed. The Candidate Significant Woodland feature, however, has extensive continuous cover north, east and west of the proposed development. Woodland interior habitat is even more extensive north of Vindin Street. As such, loss of 0.80ha of woodland interior habitat on the property is negligible in the regional context. Based on these considerations, there is no expectation that the proposed development would result in an ecological impact to Candidate Significant Woodland interior habitat. Furthermore, the overall form of the Candidate Significant Woodland would remain and not be further fragmented as a result of the proposed development.

7.2.3 Proximity to Other Woodlands or Other Habitats

No other known significant natural features or fish habitat are present in the study area that have the potential to be impacted by the proposed development. As discussed above, woodlands in proximity to the development footprint comprise the same Candidate Significant Woodland feature. It follows that there is no expectation that the proposed development would impact other woodlands or other natural habitat areas.

7.2.4 Linkages

Based on municipal land use mapping, the Candidate Significant Woodland on the property is in a "defined natural heritage system" (Town OP; Appendix A). However, over 50% of the proposed development footprint is located in the Commercial Corridor and Strategic Growth Areas I - outside the limits of a defined natural heritage system.

Most of the woodlands on the property (94%) represent non-interior Candidate Significant Woodland habitat (Figure 3), and do not provide direct wildlife linkages to other significant natural heritage features in the area. The regional forested block would not become fragmented as a result of the proposed development, and would not lose habitat connectivity in the Candidate Significant Woodland feature. Woodlands in the development parcel (FODM5-3/FODM5-10, FODM2-1; Figure 2) are in a highly

urbanized environment and have undergone substantial anthropogenic degradation, as characterized by a plant community assemblage containing approximately 81% non-native species. Wildlife conveyance across the landscape would not be impeded by the proposed development. Rather, wildlife would be expected to use the remaining adjacent woodland habitat to move through the area and bypass the development.

Based on these considerations, the proposed development would not limit movement of wildlife in the area, and therefore, there is no expectation that the proposed development would result in a negative ecological impact to linkage functions in the Candidate Significant Woodland.

7.2.5 Water Protection

The Candidate Significant Woodland does not contain surface water features such as seepage, springs, open water units, wetland communities or similar aquatic features in the study area. There is no fish or fish habitat in the study area. Consequently, there is no expectation that the proposed development would impact ecological water protection functions associated with the Candidate Significant Woodland.

7.2.6 Woodland Diversity

No provincially or regionally rare species, high native diversity, variable terrain, valley system, *etc.* were detected in the study area. In addition, approximately 81% of inventoried vascular plant species on the property are non-native (Table 2). As a result, there is no expectation that the proposed development would impact woodland diversity function in the Candidate Significant Woodland.

7.2.7 Uncommon Characteristics

There were no areas of unique species composition, provincially rare (S1-S3) species, or "old-growth" areas observed in the study area. Woodland polygons in the study area consist of young to early-intermediate-aged trees, and conditions reflect a history of anthropogenic change and urbanization. Consequently, the proposed development would not pose a negative impact to uncommon characteristics of the Candidate Significant Woodland.

7.2.8 Assessment

Providing that conformance is demonstrated for environmental considerations and mitigation described below, based on the woodland assessment, no negative ecological impacts to the Candidate Significant Woodland feature would be anticipated to result from the proposed development.

7.3 Candidate Significant Wildlife Habitat

According to the PPS, development and site alteration are not permitted in SWH in Ecoregion 6E unless it can be demonstrated there will be no negative impacts on the feature or its ecological functions. For the purposes of this assessment, Candidate/Confirmed SWH described below is treated as significant:

- Bat Maternity Colonies (Confirmed);
- Habitat for Special Concern and Rare Wildlife Species (Confirmed);
    - Eastern Wood-pewee; and,
    - Monarch.

7.3.1 Bat Maternity Colonies

Endangered bat species use bat snag trees of varying DBH in early stages of decay for maternity roosting (MECP, 2022a; MECP, 2022b). Maternity colonies are typically found in deciduous or mixed woodlands where trees are of suitable size and provide snag features for use by bats. As described in Section 4.2.2.4, bat snag habitat occurs on the property. Using acoustic monitoring, Big Brown Bat/Silver-haired Bat were detected using habitat in the southeastern, northwestern and eastern regions of the property (Figure 2). It follows that SWH related to bat maternity colony habitat function was confirmed (Table 5), although the precise number of Big Brown Bats/Silver-haired Bats recorded are not known.

Please see Section 7.1.1 above for an impact assessment regarding SAR bats and SAR bat habitat. The potential for impact described in relation to SAR bats and their habitat would apply to the Bat Maternity Colonies SWH function. The proposed development would not compromise the SWH function because the function would remain post-development on the property and regionally. See Section 8.0 for mitigation measures recommended to mitigate against potential indirect impacts.

7.3.2 Habitat for Special Concern and Rare Wildlife Species

<u>Eastern Wood-pewee</u>

Eastern Wood-pewee (Special Concern) generally occur in intermediate-aged to mature deciduous and mixed woodlands with relatively open understory (COSEWIC, 2012). Two singing Eastern Wood-pewee were detected in the FODM5-3/FODM5-10 ELC community during both dawn breeding bird surveys (Figure 2). Given the repeated detections, the individuals are considered to be Probable breeders (Table 4) and detection locations treated as being within breeding territories, confirming the SWH function. While listed as Special Concern, Eastern Wood-pewee are commonly found throughout immature to mature woodlots in Ontario. The proposed development would not result in complete loss of the FODM5-3/FODM5-10 woodland on the property (Figure 3), and

similar habitat occurs extensively across the landscape as part of the larger woodland feature. Consequently, there would be no expectation of the development posing a direct impact for Eastern Wood-pewee in regards to SWH function. Function would remain post-development locally and regionally. See Section 8.0 for recommendations regarding mitigation of potential indirect impacts.

Monarch

Monarch Butterfly depends on its host plant, Milkweed (*Asclepias spp.*), to carry out its life processes including nectaring and larval development (COSEWIC, 2016). A small number of Common Milkweed (*Asclepias syriaca*) plants were identified in the County Road 93 Right-of-Way (ROW) immediately west of the FODM5-3/FODM5-10 ELC polygon, and one Monarch was observed as an incidental in the ROW on July 12, 2023 (Figure 2). This area of adjacent lands is considered marginal habitat for the species and restricted in size by County Road 93 to the west and woodland to the east.

Higher quality habitat for the species occurs in large meadows and other ROW areas throughout the region. Construction of the new hospital in the adjacent FODM5-3/FODM5-10 ELC polygon abutting the ROW would not be expected to represent a negative impact to habitat function for the species. The extent of ROW habitat loss for Monarch associated with the new hospital access off County Road 93 (Figure 3) would be negligible. The ecological function of the SWH would remain post-development.

Providing that mitigation recommendations described in Section 8.0 below are implemented, there is no expectation that negative indirect impacts to the above Candidate SWH would result from the proposed development.

8.0 RECOMMENDATIONS

8.1 Species at Risk

It should be noted that the absence of a protected species in the study area does not indicate that they will never occur in the area. Given the dynamic character of the natural environment, there is constant variation in habitat use. Care should be taken in the interpretation of presence of species of concern including those listed under the ESA. Changes to policy or the natural environment could result in shifts, removal or addition of new areas to the list of areas currently considered candidate KNHFs. This report is intended as a point in time assessment of the potential to impact SAR; it is not intended to provide long term “clearance” for SAR. While there is no expectation that the assessment should change significantly, it is the responsibility of the proponent to ensure that they are not in contravention of the ESA at the time that site works are undertaken.

A review of the assessment provided in this report by a qualified person should be sufficient to provide appropriate advice at the time of the onset of future works.

8.1.1 Worker Training

Worker training would assist the on-property workers in the identification of SAR with potential to occur in the area. Workers should be instructed to stop work and contact the MECP immediately if any SAR are encountered in the work area. Individuals working on-property should ensure that SAR are not harmed during construction or killed by heavy machinery, vehicles or other equipment.

The contractor should educate all site personnel to ensure that, if identified, SAR are not wantonly injured or killed, and to ensure that damage to features which could constitute habitat is avoided. Information should be conveyed through a SAR expert and include:

- Species habitat and identification;
- Requirements under the ESA including avoidance of harm to the species and damage to relevant habitat;
- Appropriate action to take if the species is encountered;
- How to record sightings and encounters; and,
- That care should be taken when undertaking construction activities to avoid harming the species or damaging/destroying habitat.

The expert should be a qualified biologist who specializes in ecology/biology or SAR.

8.2 Migratory Breeding Birds and Bats

Activities involving removal of trees/vegetation should be restricted from occurring during the avian breeding season. Migratory birds, nests and eggs are protected by the *Migratory Birds Convention Act*, 1994 (MBCA) and the *Fish and Wildlife Conservation Act,* 1997 (FWCA). Environment and Climate Change Canada (ECCC; 2023) outlines dates when activities in any region have potential to impact nests. In Zones C1 and C2, tree/vegetation clearing should be avoided April 1-August 31 of a given year in recognition of Neotropical migratory breeding birds, and from January-February of a given year in recognition of potential winter breeding by owls. If works require tree/vegetation clearing between January-March or April 1-August 31, screening by an ecologist with knowledge of bird species present in the area should be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.

Activities involving tree removal, particularly in woodlands on the property should be avoided **April 1-September 30** of any given year during the active period for bat species that may use snag trees for maternity and/or day roosting. It is anticipated that adherence

to this timing restriction will avoid impacts to individual SAR bats, therefore remaining in compliance with Section 9 of the ESA affording individual protection to Endangered species.

In summary, to avoid potential impacts of tree/vegetation to breeding birds and SAR bats, it is recommended that **clearing be limited to October-December** of a given year.

8.3 Erosion and Sediment Controls

Diligent application of erosion and sediment controls (ESCs) based on best management practices is recommended for all future construction activities to minimize the extent of accidental or unavoidable impacts to adjacent vegetation communities and wildlife habitat. Prior to the commencement of works, silt fencing should be applied along the length of directly adjacent natural or naturalized features, and routine inspection/maintenance of the silt fencing should occur throughout construction. It is recommended that ESCs be maintained until vegetation is re-established post-construction.

Material storage on the property (*e.g.* soil stockpiles) should be located over 30m from natural features where feasible. Material storage areas should be contained with ESCs to avoid potential indirect impacts to natural features on or adjacent to the property.

8.4 Operations

All maintenance activities (including refueling) required during future construction should be conducted at least 30m away from natural features to prevent accidental spillage of deleterious substances that may harm natural environments.

Snow fencing or equivalent should be installed at the limit of the work area to prevent accidental intrusion of machinery operations into adjacent undisturbed natural areas.

The contractor is recommended to have a Contaminant and Spill Management Plan in place prior to initiation of works. This Plan should include keeping an emergency spill kit on site at all times. In the event of a spill, the contractor must report it immediately to the provincial Spills Action Centre (SAC).

8.5 Woodland Habitat Protection/Enhancement

Opportunities for protection/enhancement of the retained woodland feature adjacent to the development footprint are recommended:

- Timing of vegetation/tree removals should demonstrate conformance with the MBCA, FWCA and ESA (Section 8.2 above) to avoid impacts to migratory breeding birds and individual SAR bats;
- Tree protection measures based on Best Management Practices at the time of construction activities commencement should be installed and maintained at the development limit to avoid possible impacts to retained woodlands on the property and/or adjacent lands in the post-clearance environment. Tree protection fencing should comprise silt fencing installed at the dripline of trees adjacent to the limit of tree clearance, providing a barrier between the development limit and adjacent woodlands. Consultation with a Certified Arborist and a Tree Protection Plan can be provided if required by agencies; and,
- Installation of native tree saplings along the retained woodland tree edge proximal to the development limit perimeter is recommended to help mitigate "edge effects".

9.0 CONCLUSIONS

Based on our analysis, it is concluded that the environmental conditions are not limiting to the proposed development through incorporation of the environmental protection measures described in Section 8.0 of this report.

At this time, our findings are summarized as follows:

- The proposed development is consistent with the applicable natural heritage policies of the PPS, ESA, County of Simcoe OP and Town of Midland OP;

- Our impact assessment has given full consideration to habitat requirements of all SAR assumed and documented to occur in the area, and results indicate the proposed development will not result in negative direct or indirect impacts to habitat of SAR, providing conformance is demonstrated to mitigation measures described in Section 8.0. The proposed development is consistent with MECP direction in regards to development not resulting in loss of overall ecological habitat function for SAR bats in areas where woodland canopy cover is extensive;

- The proposed works are not expected to negatively impact the ecological functions of the habitat for Threatened or Endangered species, Candidate Significant Woodland or Candidate Significant Wildlife Habitat outlined in Section 5.0 if the appropriate mitigation measures outlined in Section 8.0 are followed; and,

- No ephemeral, intermittent or permanent drainage features, open water units, fish or fish habitat are expected to be impacted as a result of proposed works.

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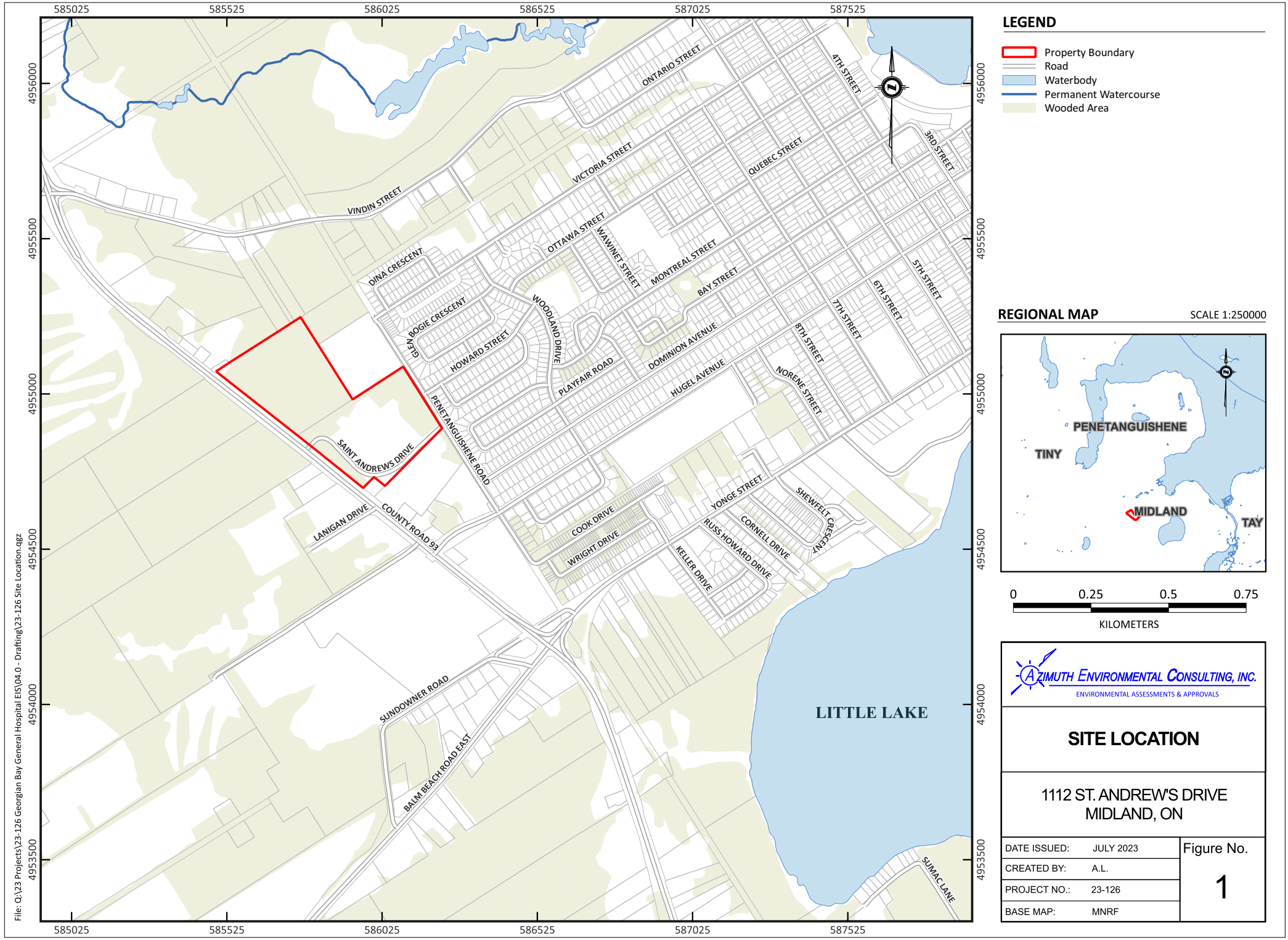


LEGEND

- Property Boundary
- Road
- Waterbody
- Permanent Watercourse
- Wooded Area

REGIONAL MAP

SCALE 1:250000

0 0.25 0.5 0.75

KILOMETERS

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

ENVIRONMENTAL ASSESSMENTS & APPROVALS

SITE LOCATION

1112 ST. ANDREW'S DRIVE
MIDLAND, ON

DATE ISSUED:	JULY 2023
CREATED BY:	A.L.
PROJECT NO.:	23-126
BASE MAP:	MNRF

Figure No. 1

File: Q:\23 Projects\23-126 Georgian Bay General Hospital EIS\04.0 - Drafting\23-126 Site Location.qgz

PENETANGUISHENE ROAD

FODM2-1

HEDGEROW

FODM5-3/
FODM5-10

FODM5-3/
FODM5-10

SAINT ANDREW'S DRIVE

FODM2-1

COUNTY ROAD 93

LEGEND:

- APPROX. PROPERTY BOUNDARY
- CANDIDATE SIGNIFICANT WOODLAND INTERIOR HABITAT

ELC UPLAND COMMUNITIES:

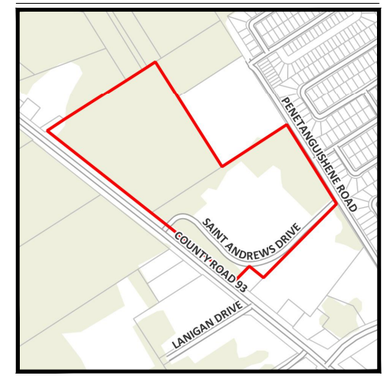
FODM2-1	DRY-FRESH OAK-HARDWOOD DECIDUOUS FOREST TYPE
FODM5-3	DRY-FRESH SUGAR MAPLE-IRONWOOD DECIDUOUS FOREST TYPE
FODM5-10	DRY-FRESH SUGAR MAPLE-WHITE BIRCH-POPLAR DECIDUOUS FOREST TYPE

- EVENING CALLING AMPHIBIAN SURVEY STATION
- DAWN BREEDING BIRD POINT COUNT STATION
- BAT ACOUSTIC MONITOR LOCATION
- EASTERN WOOD-PEWEE SIGHTING
- MONARCH BUTTERFLY SIGHTING

OVERALL BAT SNAG DENSITY AND PLOT #:
(# OF SNAGS/ha)

- LOW (0-25)
- MEDIUM (26-50)
- HIGH (51+)

LOCATION PLAN



0 75.00 150.0
HORIZONTAL SCALE 1:3000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

ENVIRONMENTAL FEATURES

1112 ST. ANDREW'S DRIVE
MIDLAND, ON

DATE ISSUED:	NOVEMBER 2023	Figure No.
CREATED BY:	A.L.	2
PROJECT NO.:	23-126	
REFERENCE:	SIMCOE COUNTY	

PENETANGUISHENE ROAD

NEW MENTAL HEALTH CENTRE (PHASE 1)

FODM2–1

HEDGEROW

FODM5–3/ FODM5–10

NEW HOSPITAL, PARKING AND ACCESS (PHASE 2)

EXISTING HOSPITAL AND PARKING

FODM5–3/ FODM5–10

SAINT ANDREW'S DRIVE

FODM2–1

COUNTY ROAD 93

LEGEND:

APPROX. PROPERTY BOUNDARY

CANDIDATE SIGNIFICANT WOODLAND INTERIOR HABITAT

ELC UPLAND COMMUNITIES:

FODM2–1	DRY–FRESH OAK–HARDWOOD DECIDUOUS FOREST TYPE
FODM5–3	DRY–FRESH SUGAR MAPLE–IRONWOOD DECIDUOUS FOREST TYPE
FODM5–10	DRY–FRESH SUGAR MAPLE–WHITE BIRCH–POPLAR DECIDUOUS FOREST TYPE

OVERALL BAT SNAG DENSITY AND PLOT #:

(# OF SNAGS/ha)

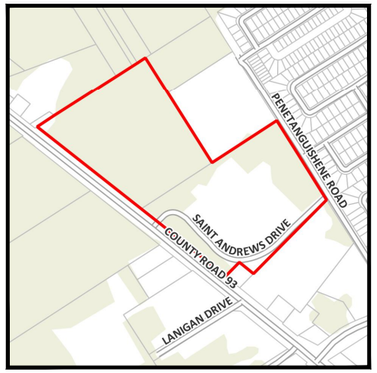
LOW (0–25)

MEDIUM (26–50)

HIGH (51+)

PROPOSED DEVELOPMENT FOOTPRINT (IN PHASES)

LOCATION PLAN



0 75.00 150.0

HORIZONTAL SCALE 1:3000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

ENVIRONMENTAL ASSESSMENTS & APPROVALS

PROPOSED DEVELOPMENT

1112 ST. ANDREW'S DRIVE
MIDLAND, ON

DATE ISSUED:	NOVEMBER 2023	Figure No.
CREATED BY:	A.L.	3
PROJECT NO.:	23-126	
REFERENCE:	SIMCOE COUNTY	

Plotted by: ALU on November 16, 2023 at 10:32am
File: Q:\23 Projects\23-126 Georgian Bay General Hospital EIS\04.0 - Drafting\23-126 Site Layout.dwg Layout: PD Plotscale: 1

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
American Hart's-tongue Fern	*Asplenium scolopendrium* var. *americanum*	SC	SC	Grows on calcareous rocks in deep shade on slopes in deciduous forest. Most occurrences are in maple-beech forest (MECP, 2022). ESA Protection: N/A	Species not detected during detailed plant inventory.
Bald Eagle	*Haliaeetus leucocephalus*	SC	No status	Nests are typically found near the shoreline of lakes or large rivers, often on forested islands (Cadman *et al.* , 2007). ESA Protection: N/A	Property at least 1.5km from a lake and species not detected. Species not expected to occur. Not detected during surveys.
Barn Swallow	*Hirundo rustica*	SC	THR	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, 2011). ESA Protection: Species and general habitat protection	Species OBBA record exists within 10km of study area, but habitat requirements not present in study area (e.g. suitable structures). Species not expected to occur, and not detected during surveys.
Broad Beech Fern	*Phygopteris hexagonoptera*	SC	SC	Rich soils in deciduous forests, such as Maple-Beech forests (MECP, 2022). ESA Protection: N/A	Species not detected during detailed plant inventory.
Butternut	*Juglans cinerea*	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, 2017a). ESA Protection: Species and general habitat protection	Species not observed during the field program.
Canada Warbler	*Cardellina canadensis*	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, 2020). ESA Protection: N/A	Habitat requirements not present in study area (e.g. wet, mixed forest, well-developed understory, abundance of White Cedar) and species not detected. Species not expected to occur, and not detected during surveys.
Cerulean Warbler	*Dendroica cerulea*	THR	END	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, 2010). ESA Protection: Species and general habitat protection	Although potential habitat is present in study area (e.g. deciduous forest with open understory), the forest is considered too small and young to meet species' habitat preferences. Species not detected. Not considered further in the assessment.
Chimney Swift	*Chaetura pelagica*	THR	THR	Nests primarily in chimneys though some populations (*i.e* . in rural northern areas) may nest in cavity trees (COSEWIC, 2018a). Recent changes in chimney design may be a significant factor in recent declines in numbers (Cadman *et al* ., 2007). ESA Protection: Species and general habitat protection	Species OBBA record exists within 10km of study area, but habitat requirements not present in study area and species not detected during surveys. Species not expected to occur.
Restricted Species	*Not Applicable*	THR	END	Broadly speaking, this species is associated with open shoreline habitats within 150m of the water. ESA Protection: Species and regulated habitat protection	Study area is approximately 1.5km from Little Lake and 2km away from Georgian Bay and does not meet habitat requirements. Species not expected to occur.
Eastern Hog-nosed Snake	*Heterodon platirhinos*	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, 2021). ESA Protection: Species and general habitat protection	Habitat requirements not present in study area (e.g. brushland, proximity to water, open grass with areas of rock). Species not expected to occur.

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Eastern Musk Turtle	*Sternotherus oderatus*	SC	SC	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, 2012a). ESA Protection: N/A	Study area is at least 1.5km away from lakes/bays and not near rivers, streams, ponds etc. Species not observed and not expected to occur.
Eastern Wood-pewee	*Contopus virens*	SC	SC	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, 2012b). ESA Protection: N/A	**Habitat present and species detected. Considered further in main text.**
Golden-winged Warbler	*Vermivora chrysoptera*	SC	THR	Areas of early successional scrub surrounded by mature forests including dry uplands, swamp forests, and marshes (COSEWIC, 2006). ESA Protection: N/A	Habitat requirements not present in study area (e.g. early successional scrub field edges surrounded by mature forest), and species not detected. The species not detected during surveys.
Hill's Thistle	*Cirsium hillii*	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, 2004). ESA Protection: Species and general habitat protection	Species not detected during detailed plant inventory.
Lake Sturgeon (Great Lakes - Upper St. Lawrence populations)	*Acipenser fulvescens*	END	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, 2017b). ESA Protection: Species and general habitat protection	Study area is approximately 2km away from Georgian Bay, and not near large rivers. Species not expected to occur.
Least Bittern	*Ixobrychus exilis*	THR	THR	Breed strictly in marshes of emergents (usually cattails) that have relatively stable water levels and interspersed areas of open water (COSEWIC, 2009). ESA Protection: Species and general habitat protection	No marsh habitat on or near the property. Species not detected.
Little Brown Myotis	*Myotis lucifugus*	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 (MNRF, 2014) (COSEWIC, 2013). ESA Protection: Species and general habitat protection	**Potential bat snag habitat occurs on the property (Table A). Acoustic monitoring indicated species most likely present (Table B). Considered further in main text.**
Loggerhead Shrike	*Lanius ludovicianus*	END	END (*mirgrans* 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, 2014). ESA Protection: Species and general habitat protection	Habitat requirements not present in study area (e.g. grassland areas with shrubs/small trees, open areas of bare ground). Species not detected during surveys.

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Louisiana Waterthrush	*Parkesia motacilla*	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, 2015). ESA Protection: N/A	Intermediate-aged forest is present on the property and in the study area, but forest age is generally young-intermediate age, and forest not assoicated with water or wetlands. Species not detected during surveys.
Massasauga (Great Lakes - St. Lawrence population)	*Sistrurus catenatus*	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, 2012c). ESA Protection: Species and general habitat protection	Study area is approximately 2km away from Georgian Bay. Areas of bedrock barrens, swamps, etc. not present. Species would not be expected to occur.
Monarch	*Danaus plexippus*	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, 2016). ESA Protection: N/A	**One Monarch observed within the Right-of-Way on the fringe of the property alongside County Road 93 as an incidental. Minimal Common Milkweed in this area. Considered further in main text.**
Northern Myotis	*Myotis septentrionalis*	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, 2013). ESA Protection: Species and general habitat protection	**Potential bat snag habitat occurs on the property, but acoustic data could not confirm species presence. Considered further in main text.**
Northern Map Turtle	*Grapetemys geographica*	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	Property not associated with rivers or lakes. Nearest lake is approximately 1.5km away (Little Lake). Species not expected to be associated with the property.
Olive-sided Flycatcher	*Contopus cooperi*	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, 2018b). ESA Protection: N/A	Although the forest on-property has a few areas of openings, the openings are generally small. Forest edges not associated with wetlands. Key habitat requirements not met. Species not detected.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	Occurs in open deciduous forests, particularly those dominated by oak and beech, groves of dead trees, floodplain forests, orchards, cemeteries, savannas and savanna-like grasslands. Although the species occupies a range of habitat types, key habitat is characteristically composed of woodlands where tall trees are of large crcumference (i.e.mature cover) and are at a low density. A high density of snag trees is also an indicator of key habitat types (COSEWIC, 2018c). ESA Protection: Species and general habitat protection.	Key habitat features not met (e.g. forest tree species composition, open forest, no orchards, mature/large trees, etc). Species not detected during field program.

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Snapping Turtle	*Chelydra serpentina*	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, 2008). ESA Protection: N/A	Key habitat requirements not present in study area (e.g. slow-moving water, ponds, shallow bays, etc.). Species would not be expected to occur.
Tri-colored Bat	*Perimyotis subflavus*	END	END	Maternity roost sites include forests and modified landscapes (barns or human-made structures). Overwintering sites include mines and caves (COSEWIC, 2013). ESA Protection: Species and general habitat protection	Potential bat snag habitat occurs on the property for bats, but species not detected. Not considered further in the assessment.
West Virginia White	*Pieris virginiensis*	SC	No Status	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	Species not observed during the field program. Toothwort not identified.
Wood Thrush	*Hylocichla mustelina*	SC	THR	Found in moist, deciduous hardwood or mixed stands, often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches (COSEWIC, 2012e). ESA Protection: N/A	Key habitat requirements not present in study area (e.g. mature deciduous forest with dense understory). Species not detected during surveys.

[1] 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)

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 Field

COSEWIC. 2004. 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. 2006. 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. 2008. 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. 2009. 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. 2010. 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. 2011. 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. 2012a. 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. 2012b. 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. 2012c. 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. 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 Wood Thrush *Hylocichla mustelina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 46 pp.

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

COSEWIC. 2014. 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. 2015. 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.

COSEWIC. 2016. COSEWIC assessment and status report on the Monarch *Danaus plexippus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 59 pp.

COSEWIC. 2017a. COSEWIC assessment and status report on the Butternut *Juglans cinerea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 74 pp.

COSEWIC. 2017b. COSEWIC assessment and status report on the Lake Sturgeon *Acipenser fulvescen* s, Western Hudson Bay populations, Saskatchewan-Nelson River populations, Southern Hudson Bay-James Bay populations and Great Lakes-Upper

COSEWIC. 2018a. COSEWIC assessment and status report on the Chimney Swift *Chaetura pelagic* a in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 49 pp.

COSEWIC. 2018b. COSEWIC assessment and status report on the Olive-sided Flycatcher *Contopus cooperi* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 52 pp.

COSEWIC. 2018c. COSEWIC assessment and status report on the Red-headed Woodpecker *Melanerpes erythrocephalu* s in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 60 pp.

COSEWIC. 2020. COSEWIC assessment and status report on the Canada Warbler *Wilsonia Canadensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 54 pp.

COSEWIC. 2021. COSEWIC assessment and status report on the Eastern Hog-nosed Snake *Heterodon platirhinos* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 45 pp.

Ministry of the Environment, Conservation and Parks (MECP). 2022. Species at Risk in Ontario (https://www.ontario.ca/page/species-risk-ontario)

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

Table 2: Vascular Plant Species List, 1112 St. Andrew's Drive and 9421 County Road 93 EIS, Midland (2023)

			[2] ELC Code - Corresponding to Figure 2			[1] Conservation Rank Information			
Family	**[1] Scientific Name**	**[1] Common Name**	**FODM2-1**	**FODM5-3/ FODM5-10**	**Hedgerow**	**S-Rank**	**G-Rank**	**SARO**	**Tracked by MNRF**
Aceraceae	*Acer negundo*	Manitoba Maple	x	x		S5	G5		N
Aceraceae	*Acer pensylvanicum*	Striped Maple		x		S4	G5		N
Aceraceae	*Acer platanoides*	Norway Maple	x			SE5	GNR		N
Aceraceae	*Acer rubrum*	Red Maple	x	x	x	S5	G5		N
Aceraceae	*Acer saccharinum*	Silver Maple		x		S5	G5		N
Aceraceae	*Acer saccharum*	Sugar Maple	x	x	x	S5	G5		N
Anacardiaceae	*Rhus typhina*	Staghorn Sumac	x	x		S5	G5		N
Anacardiaceae	*Toxicodendron radicans var. rydbergii*	Western Poison Ivy	x	x	x	S5	G5		N
Apiaceae	*Aegopodium podagraria*	Goutweed	x			SE5	GNR		N
Apiaceae	*Daucus carota*	Wild Carrot		x		SE5	GNR		N
Apocynaceae	*Apocynum androsaemifolium*	Spreading Dogbane	x	x		S5	G5		N
Apocynaceae	*Apocynum cannabinum*	Hemp Dogbane		x		S5	GNR		N
Apocynaceae	*Asclepias syriaca*	Common Milkweed		x		S5	G5		N
Apocynaceae	*Vinca minor*	Lesser Periwinkle	x	x		SE5	GNR		N
Araliaceae	*Aralia nudicaulis*	Wild Sarsaparilla	x	x	x	S5	G5		N
Asteraceae	*Achillea millefolium*	Common Yarrow		x		SE5?	G5		N
Asteraceae	*Ambrosia artemisiifolia*	Common Ragweed		x		S5	G5		N
Asteraceae	*Arctium minus*	Common Burdock		x		SE5	GNR		N
Asteraceae	*Centaurea stoebe*	Spotted Knapweed		x		SE5	GNR		N
Asteraceae	*Cichorium intybus*	Wild Chicory		x		SE5	GNR		N
Asteraceae	*Cirsium arvense*	Canada Thistle		x		SE5	G5		N
Asteraceae	*Erigeron annuus*	Annual Fleabane	x	x		S5	G5		N
Asteraceae	*Erigeron philadelphicus*	Philadelphia Fleabane	x	x		S5	G5		P
Asteraceae	*Eurybia macrophylla*	Large-leaved Aster	x	x	x	S5	G5		N
Asteraceae	*Euthamia graminifolia*	Grass-leaved Goldenrod		x		S5	G5		N
Asteraceae	*Hieracium lachenalii*	Common Hawkweed		x		SE2?	GNR		N
Asteraceae	*Lactuca canadensis*	Canada Lettuce		x		S5	G5		N
Asteraceae	*Leucanthemum vulgare*	Oxeye Daisy	x	x	x	SE5	GNR		N
Asteraceae	*Matricaria discoidea*	Pineappleweed	x			SE5	G5		N
Asteraceae	*Nabalus sp.*	Rattlesnakeroot species	x	x		-	-	-	-
Asteraceae	*Solidago altissima*	Tall Goldenrod	x	x		S5	G5		P
Asteraceae	*Solidago caesia*	Blue-stemmed Goldenrod		x		S5	G5		N
Asteraceae	*Solidago gigantea*	Giant Goldenrod	x	x	x	S5	G5		P
Asteraceae	*Solidago nemoralis*	Grey-stemmed Goldenrod		x		S5	G5		P
Asteraceae	*Solidago rugosa*	Rough-stemmed Goldenrod		x		S5	G5		N
Asteraceae	*Symphyotrichum cordifolium*	Heart-leaved Aster		x		S5	G5		N
Asteraceae	*Symphyotrichum novae-angliae*	New England Aster		x		S5	G5		N
Asteraceae	*Symphyotrichum urophyllum*	Arrow-leaved Aster	x	x		S4	G4G5		N
Asteraceae	*Tanacetum vulgare*	Common Tansy		x		SE5	GNR		N
Asteraceae	*Taraxacum officinale*	Common Dandelion	x	x	x	SE5	G5		N
Asteraceae	*Tussilago farfara*	Coltsfoot		x		SE5	GNR		N
Betulaceae	*Betula papyrifera*	Paper Birch	x	x		S5	G5		N
Betulaceae	*Ostrya virginiana*	Eastern Hop-hornbeam	x	x		S5	G5		N
Boraginaceae	*Echium vulgare*	Common Viper's Bugloss		x		SE5	GNR		N
Boraginaceae	*Myosotis scorpioides*	True Forget-me-not		x		SE5	G5		N
Brassicaceae	*Alliaria petiolata*	Garlic Mustard	x			SE5	GNR		N
Brassicaceae	*Barbarea vulgaris*	Bitter Wintercress	x			SE5	GNR		N
Brassicaceae	*Berteroa incana*	Hoary Alyssum		x		SE5	GNR		N

Table 2: Vascular Plant Species List, 1112 St. Andrew's Drive and 9421 County Road 93 EIS, Midland (2023)

			[2] ELC Code - Corresponding to Figure 2			[1] Conservation Rank Information			
Family	**[1] Scientific Name**	**[1] Common Name**	**FODM2-1**	**FODM5-3/ FODM5-10**	**Hedgerow**	**S-Rank**	**G-Rank**	**SARO**	**Tracked by MNRF**
Brassicaceae	*Hesperis matronalis*	Dame's Rocket		x		SE5	G4G5		N
Brassicaceae	*Thlaspi arvense*	Field Pennycress		x		SE5	GNR		N
Caprifoliaceae	*Diervilla lonicera*	Northern Bush-honeysuckle	x	x		S5	G5		N
Caprifoliaceae	*Lonicera canadensis*	Canada Fly Honeysuckle		x		S5	G5		N
Caprifoliaceae	*Lonicera dioica*	Limber Honeysuckle	x	x		S5	G5		N
Caprifoliaceae	*Lonicera hirsuta*	Hairy Honeysuckle		x		S5	G5		N
Caprifoliaceae	*Lonicera x bella*	(Lonicera morrowii X Lonicera tatarica)	x	x	x		GNA		N
Caprifoliaceae	*Viburnum acerifolium*	Maple-leaved Viburnum		x		S5	G5		N
Caprifoliaceae	*Viburnum opulus*	Cranberry Viburnum	x	x		S5	G5		N
Caryophyllaceae	*Dianthus armeria*	Deptford Pink		x		SE5	GNR		N
Caryophyllaceae	*Saponaria officinalis*	Bouncing-bet		x		SE5	GNR		N
Caryophyllaceae	*Silene vulgaris*	Bladder Campion		x		SE5	GNR		N
Celastraceae	*Celastrus scandens*	Climbing Bittersweet	x	x		S5	G5		N
Clusiaceae	*Hypericum perforatum*	Common St. John's-wort	x	x	x	SE5	GNR		N
Convolvulaceae	*Calystegia sepium*	Hedge False Bindweed		x		S5	G5		N
Cornaceae	*Cornus alternifolia*	Alternate-leaved Dogwood	x	x		S5	G5		N
Cornaceae	*Cornus rugosa*	Round-leaved Dogwood	x	x		S5	G5		N
Cornaceae	*Cornus sericea*	Red-osier Dogwood		x		S5	G5		N
Cyperaceae	*Carex arctata*	Drooping Woodland Sedge	x	x		S5	G5		N
Cyperaceae	*Carex brevior*	Short-beaked Sedge		x		S4	G5		N
Cyperaceae	*Carex communis*	Fibrous-root Sedge	x	x		S5	G5		N
Cyperaceae	*Carex deweyana*	Dewey's Sedge		x		S5	G5		N
Cyperaceae	*Carex houghtoniana*	Houghton's Sedge		x		S5	G5		N
Cyperaceae	*Carex pedunculata*	Long-stalked Sedge	x	x		S5	G5		N
Cyperaceae	*Carex tonsa*	Deep-green Sedge		x		S5	G5		N
Dennstaedtiaceae	*Pteridium aquilinum*	Bracken Fern	x	x	x	S5	G5		N
Dryopteridaceae	*Dryopteris carthusiana*	Spinulose Wood Fern		x		S5	G5		N
Equisetaceae	*Equisetum arvense*	Field Horsetail		x		S5	G5		N
Ericaceae	*Vaccinium myrtilloides*	Velvet-leaved Blueberry	x			S5	G5		N
Fabaceae	*Amphicarpaea bracteata*	American Hog-peanut		x		S5	G5		N
Fabaceae	*Desmodium canadense*	Canada Tick-trefoil		x		S4	G5		N
Fabaceae	*Desmodium paniculatum*	Narrow-leaved Tick-trefoil		x		S4	G5		N
Fabaceae	*Hylodesmum glutinosum*	Large Tick-trefoil	x	x		S4	G5		N
Fabaceae	*Lathyrus latifolius*	Everlasting Pea		x		SE4	GNR		N
Fabaceae	*Lotus corniculatus*	Garden Bird's-foot Trefoil	x	x		SE5	GNR		N
Fabaceae	*Medicago lupulina*	Black Medick		x		SE5	GNR		N
Fabaceae	*Melilotus albus*	White Sweet-clover		x		SE5	G5		N
Fabaceae	*Trifolium pratense*	Red Clover		x		SE5	GNR		N
Fabaceae	*Trifolium repens*	White Clover	x	x		SE5	GNR		N
Fabaceae	*Vicia cracca*	Tufted Vetch		x	x	SE5	GNR		N
Fagaceae	*Fagus grandifolia*	American Beech	x	x	x	S4	G5		N
Fagaceae	*Quercus rubra*	Northern Red Oak	x	x	x	S5	G5		N
Fumariaceae	*Dicentra canadensis*	Squirrel-corn		x		S5	G5		N
Geraniaceae	*Geranium robertianum*	Herb-Robert		x		S5	G5		N
Hydrophyllaceae	*Hydrophyllum virginianum*	Virginia Waterleaf		x		S5	G5		N
Juglandaceae	*Juglans nigra*	Black Walnut	x			S4?	G5		N
Juncaceae	*Juncus tenuis*	Path Rush	x			S5	GNR		N
Lamiaceae	*Clinopodium vulgare*	Wild Basil		x		S5	G5		N

Table 2: Vascular Plant Species List, 1112 St. Andrew's Drive and 9421 County Road 93 EIS, Midland (2023)

			[2] ELC Code - Corresponding to Figure 2			[1] Conservation Rank Information			
Family	**[1] Scientific Name**	**[1] Common Name**	**FODM2-1**	**FODM5-3/ FODM5-10**	**Hedgerow**	**S-Rank**	**G-Rank**	**SARO**	**Tracked by MNRF**
Lamiaceae	*Glechoma hederacea*	Ground-ivy		x		SE5	GNR		N
Lamiaceae	*Monarda fistulosa*	Wild Bergamot		x		S5	G5		P
Lamiaceae	*Prunella vulgaris*	Common Self-heal	x			S5	G5		N
Liliaceae	*Hemerocallis fulva*	Orange Daylily		x		SE5	GNA		N
Liliaceae	*Maianthemum canadense*	Wild Lily-of-the-valley	x	x		S5	G5		N
Liliaceae	*Maianthemum racemosum*	Large False Solomon's Seal	x	x	x	S5	G5T5		N
Liliaceae	*Polygonatum pubescens*	Hairy Solomon's Seal	x	x		S5	G5		N
Liliaceae	*Trillium grandiflorum*	White Trillium	x	x	x	S5	G5		N
Monotropaceae	*Hypopitys monotropa*	Pinesap		x		S4	G5		N
Monotropaceae	*Monotropa uniflora*	Indian-pipe	x	x		S5	G5		N
Oleaceae	*Fraxinus americana*	White Ash	x	x	x	S4	G4		N
Oleaceae	*Fraxinus pennsylvanica*	Red Ash	x	x		S4	G4		N
Oleaceae	*Ligustrum vulgare*	European Privet		x		SE5	GNR		N
Onagraceae	*Circaea canadensis*	Broad-leaved Enchanter's Nightshade	x	x		S5	G5		N
Onagraceae	*Oenothera biennis*	Common Evening-primrose		x		S5	G5		N
Orchidaceae	*Epipactis helleborine*	Broad-leaved Helleborine	x	x		SE5	GNR		N
Orobanchaceae	*Conopholis americana*	American Cancerroot	x	x		S4	G5		N
Oxalidaceae	*Oxalis stricta*	Upright Yellow Wood-sorrel		x		SE5	G5		N
Phytolaccaceae	*Phytolacca americana*	Common Pokeweed		x		S4	G5		N
Pinaceae	*Picea abies*	Norway Spruce			x	SE3	G5		N
Pinaceae	*Picea glauca*	White Spruce	x	x		S5	G5		N
Pinaceae	*Pinus strobus*	Eastern White Pine	x	x	x	S5	G5		N
Plantaginaceae	*Plantago lanceolata*	English Plantain		x		SE5	G5		N
Plantaginaceae	*Plantago major*	Common Plantain	x		x	SE5	G5		N
Poaceae	*Agrostis gigantea*	Redtop		x		SE5	G4G5		N
Poaceae	*Bromus inermis*	Smooth Brome		x	x	SE5	G5T5		N
Poaceae	*Dactylis glomerata*	Orchard Grass		x	x	SE5	GNR		N
Poaceae	*Dichanthelium latifolium*	Broad-leaved Panicgrass		x		S4	G5		N
Poaceae	*Dichanthelium linearifolium*	Linear-leaved Panicgrass		x		S5	G5		N
Poaceae	*Elymus repens*	Quackgrass	x	x		SE5	GNR		N
Poaceae	*Lolium arundinaceum*	Tall Ryegrass		x		SE5	GNR		N
Poaceae	*Oryzopsis asperifolia*	Rough-leaved Mountain Rice	x	x		S5	G5		N
Poaceae	*Phalaris arundinacea*	Reed Canarygrass	x	x		S5	G5		N
Poaceae	*Phleum pratense*	Common Timothy		x		SE5	GNR		N
Poaceae	*Poa compressa*	Canada Bluegrass	x	x		SE5	GNR		N
Poaceae	*Poa nemoralis*	Eurasian Woodland Bluegrass	x	x		SE4	G5TU		N
Poaceae	*Poa pratensis*	Kentucky Bluegrass	x	x		S5	G5		P
Poaceae	*Setaria viridis*	Green Foxtail		x		SE5	GNR		N
Polygonaceae	*Polygonum aviculare*	Prostrate Knotweed		x		S4?	G5		N
Polygonaceae	*Rumex crispus*	Curled Dock		x		SE5	GNR		N
Polygonaceae	*Rumex obtusifolius*	Bitter Dock	x	x		SE5	GNR		N
Primulaceae	*Lysimachia borealis*	Northern Starflower	x	x		S5	G5		N
Pyrolaceae	*Chimaphila umbellata*	Common Pipsissewa	x			S5	G5		N
Pyrolaceae	*Pyrola elliptica*	Shinleaf		x		S5	G5		N
Ranunculaceae	*Actaea pachypoda*	White Baneberry	x	x		S5	G5		N
Ranunculaceae	*Actaea rubra*	Red Baneberry		x		S5	G5		N
Ranunculaceae	*Anemone virginiana*	Tall Anemone		x		S5	G5		N
Ranunculaceae	*Aquilegia canadensis*	Red Columbine		x		S5	G5		N

Table 2: Vascular Plant Species List, 1112 St. Andrew's Drive and 9421 County Road 93 EIS, Midland (2023)

			[2] ELC Code - Corresponding to Figure 2			[1] Conservation Rank Information			
Family	**[1] Scientific Name**	**[1] Common Name**	**FODM2-1**	**FODM5-3/ FODM5-10**	**Hedgerow**	**S-Rank**	**G-Rank**	**SARO**	**Tracked by MNRF**
Ranunculaceae	*Clematis virginiana*	Virginia Clematis		x		S5	G5		N
Rhamnaceae	*Frangula alnus*	Glossy Buckthorn	x	x	x	SE5	GNR		N
Rhamnaceae	*Rhamnus cathartica*	European Buckthorn	x	x		SE5	GNR		N
Rosaceae	*Amelanchier arborea*	Downy Serviceberry	x	x		S5	G5		N
Rosaceae	*Crataegus sp.*	Hawthorn species	x	x		-	-	-	-
Rosaceae	*Fragaria virginiana*	Wild Strawberry		x		S5	G5		N
Rosaceae	*Geum aleppicum*	Yellow Avens	x			S5	G5		N
Rosaceae	*Malus pumila*	Common Apple			x	SE4	G5		N
Rosaceae	*Prunus serotina*	Black Cherry	x	x	x	S5	G5		N
Rosaceae	*Prunus virginiana*	Chokecherry	x	x	x	S5	G5		N
Rosaceae	*Rosa blanda*	Smooth Rose		x		S5	G5		N
Rosaceae	*Rubus allegheniensis*	Allegheny Blackberry	x	x		S5	G5		N
Rosaceae	*Rubus idaeus ssp. strigosus*	North American Red Raspberry	x	x		S5	G5T5		N
Rosaceae	*Rubus occidentalis*	Black Raspberry		x		S5	G5		N
Rosaceae	*Sorbus aucuparia*	European Mountain-ash	x	x		SE4	G5		N
Rubiaceae	*Galium circaezans*	Licorice Bedstraw		x		S5	G5		N
Rubiaceae	*Galium odoratum*	Sweet-scented Bedstraw		x		SE1	GNR		N
Rubiaceae	*Galium triflorum*	Three-flowered Bedstraw	x			S5	G5		N
Rubiaceae	*Mitchella repens*	Partridgeberry		x		S5	G5		N
Salicaceae	*Populus grandidentata*	Large-toothed Aspen	x	x	x	S5	G5		N
Salicaceae	*Populus tremuloides*	Trembling Aspen	x	x	x	S5	G5		N
Salicaceae	*Salix discolor*	Pussy Willow	x			S5	G5		N
Scrophulariaceae	*Linaria vulgaris*	Butter-and-eggs	x	x		SE5	GNR		N
Scrophulariaceae	*Verbascum thapsus*	Common Mullein		x		SE5	GNR		N
Smilacaceae	*Smilax herbacea*	Herbaceous Carrionflower	x	x	x	S4?	G5		N
Solanaceae	*Solanum dulcamara*	Bittersweet Nightshade		x		SE5	GNR		N
Tiliaceae	*Tilia americana*	Basswood	x	x		S5	G5		N
Ulmaceae	*Ulmus americana*	White Elm	x	x		S5	G4		N
Verbenaceae	*Verbena bracteata*	Large-bracted Vervain		x		SE3	G5		N
Verbenaceae	*Verbena hastata*	Blue Vervain		x		S5	G5		N
Vitaceae	*Parthenocissus vitacea*	Thicket Creeper	x	x	x	S5	G5		N
Vitaceae	*Vitis riparia*	Riverbank Grape	x	x	x	S5	G5		N

[1] Nomenclature and Conservation Rankings based on Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC, 2022).

[2] ELC Codes based on Ecological Land Classification for Southern Ontario manual (Lee et al. 1998, and 2008 updates)

3Conservation Rankings: From Ontario Ministry of Natural Resources, Natural Heritage Information Centre (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 – Infraspecific 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

Ecological Land Classification[1]					
System	**Community Class**	**Community Series**	**Ecosite/Vegetation Type**	**Composition**	**Ground Cover**
Terrestrial	Forest	FOD, Deciduous Forest	FODM2-1, Dry - Fresh Oak - Red Maple Deciduous Forest	The canopy is dense, dominated by Northern Red Oak and Red Maple, with lesser elements of Sugar Maple, White Ash and Large-toothed Aspen. The subcanopy is consistently dense, comprised of elements of Sugar Maple, Eastern Hop-hornbeam, Red Maple, Northern Red Oak and White Ash.	The understory is typically dense, comprised of a variable assemblage of species including White Ash, Chokecherry, Bracken Fern, Large-toothed Aspen, Red Maple and several other species. The ground layer is dense, variable, comprised of Western Poison Ivy, Ash seedlings, Bracken Fern, Wild Lily-of-the-valley, False Solomon's Seal, Raspberry, Rough-leaved Mountain Rice, Northern Bush-honeysuckle and numerous other species.
				General Community Notes: Community is a young to early-intermediate-aged forest, with the older canopy trees dominated by species typical of secondary succession or post-plantation circumstances in Simcoe County, including Northern Red Oak and Red Maple. Species assemblage is somewhat variable and disturbed, however an assortment of forest understory species persist in some capacity. Estimated size of the four polygons: 3.5ha Compared to the adjacent FODM5-3/FODM5-10 community, this community is more dominated by Red Maple in the canopy and less-dominated by Sugar Maple and Large-toothed Aspen. Additionally, it appears younger overall with a denser understory, and is distinct in 1978 aerial imagery (County of Simcoe, 2023). Several disturbed forest fragments surrounding the hospital parking lot share similar characteristics and have been included as part of this community.	

Ecological Land Classification[1]					
System	**Community Class**	**Community Series**	**Ecosite/Vegetation Type**	**Composition**	**Ground Cover**
Terrestrial	Forest	FOD, Deciduous Forest	FODM5-3/ FODM5-10, Dry Fresh Sugar Maple - Oak Deciduous Forest/Dry - Fresh Sugar Maple - White Birch - Poplar Deciduous Forest	The canopy is dense, dominated relatively equally by Sugar Maple, Large-toothed Aspen and Northern Red Oak, with occasional Red Maple. The Large-toothed Aspen and Northern Red Oak tend to be older and taller, forming a supercanopy over the (typically) younger Sugar Maples. The subcanopy is somewhat dense, dominated primarily by Sugar Maple, with lesser elements of Eastern Hop-hornbeam and sporadic Red Maple, American Beech and White Ash.	The understory is typically somewhat sparse with with locally dense areas, and is primarily composed of Sugar Maple, Bracken Fern, Large-toothed Aspen, Ash and American Beech. The ground layer is dense to somewhat dense, most commonly composed of Wild Lily-of-the-valley, Wild Sarsaparilla, White Trillium, Western Poison Ivy and elements of False Solomon's Seal, Rough-leaved Mountain Rice, Rattlesnakeroot, Ash seedlings, *Carex* sedges and others.
				General Community Notes: Community is a young to early-intermediate-aged forest, with the older canopy trees dominated by species typical of secondary succession or post-plantation circumstances in Simcoe County, including shade-intolerant and moderately shade-tolerant species such as Large-toothed Aspen and Northern Red Oak. 1978 aerial imagery of this forest, as well as forest off property to the northeast and west across County Road 93, show elements of a regular matrix of trees and may be suggestive of historical plantation (County of Simcoe, 2023). Forest structure appears slightly older than the adjacent FODM2-1, with more evidence of natural thinning, a comparatively sparse understory, more regular forest understory species, and with Sugar Maples abundant within the lower canopy. Estimated size: 9.6ha. Species assemblage within the core of this forest is relatively uniform, with a limited self-similar set of recurring species dominating the canopy, subcanopy, understory and ground layers across broad sections of the forest polygon. However, this species diversity and variability increases towards some disturbed edges, and particularly along the County Road 93 roadside, where the managed road right-of-way edge forms a minor inclusion of meadow and naturally regenerating thicket.	
Terrestrial	N/A	N/A	Hedgerow	Community is a largely deciduous hedgerow comprised of several similar elements to nearby forests. The canopy is largely comprised of Northern Red Oak with lesser elements of Large-toothed Aspen and Trembling Aspen. The subcanopy primarily includes Northern Red Oak and Sugar Maple.	The understory and ground layers are somewhat dense and disturbed, comprised largely of Chokecherry, Hybrid Honeysuckle (*Lonicera x bella*), Western Poison Ivy, Bracken Fern and others.
County of Simcoe. 2023. Interactive Map - County of Simcoe (GIS). Available online: https://opengis.simcoe.ca/public/					

Table 4: Dawn Breeding Bird Summary, 1112 St. Andrew's Drive and 9421 County Road 9 EIS, Midland (2023)

Surveyors: Dr. Scott Tarof, David d'Entremont

AEC23-126

			Location[1,2]									**Conservation Rankings**[3]				
			1		**2**		**3**									
FAMILY	**SCIENTIFIC NAME**	**COMMON NAME**	**Visit 1**	**Visit 2**	**Visit 1**	**Visit 2**	**Visit 1**	**Visit 2**	**Adjacent Lands**	**Breeding Status**	**Incidental**	**GRANK**	**SRANK**	**ESA**	**SARA**	**TRACK**
Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing		S		S		S		Po		G5	S5			N
Cardinalidae	*Passerina cyanea*	Indigo Bunting								X	√	G5	S5B			N
Corvidae	*Corvus brachyrhynchos*	American Crow	H	C		C			C	Pr	✓	G5	S5			N
Corvidae	*Cyanocitta cristata*	Blue Jay	H	S	H					Pr		G5	S5			N
Fringillidae	*Spinus tristis*	American Goldfinch		S						Po		G5	S5			N
Icteridae	*Agelaius phoeniceus*	Red-winged Blackbird								X	√	G5	S5			N
Laridae		Gull sp.								X	√	G5	S5			N
Paridae	*Poecile atricapillus*	Black-capped Chickadee	S	C				C		Pr	✓	G5	S5			N
Parulidae	*Seiurus aurocapilla*	Ovenbird			S	S	S	S		Pr		G5	S5B			N
Parulidae	*Setophaga pinus*	Pine Warbler		S					S	Po		G5	S5B,S3N			N
Parulidae	*Setophaga virens*	Black-throated Green Warbler						S		Po		G5	S5B			N
Passerellidae	*Melospiza melodia*	Song Sparrow		C						Po		G5	S5			N
Passerellidae	*Spizella passerina*	Chipping Sparrow					S			Po		G5	S5B,S3N			N
Picidae	*Colaptes auratus*	Northern Flicker				C		C		Po		G5	S5			N
Picidae	*Melanerpes carolinus*	Red-bellied Woodpecker								X	√	G5	S5			N
Picidae	*Dryobates pubescens*	Downy Woodpecker						C		Po		G5	S5			N
Sittidae	*Sitta canadensis*	Red-breasted Nuthatch						S		Po		G5	S5			N
Troglodytidae	*Troglodytes aedon*	House Wren	S	S				S		Pr	✓	G5	S5B			N
Troglodytidae	*Troglodytes hiemalis*	Winter Wren						S		Po		G5	S5B,S4N			N
Turdidae	*Catharus fuscescens*	Veery						C		Po		G5	S5B			N
Turdidae	*Turdus migratorius*	American Robin	S	S, VIS				S, C		Pr	✓	G5	S5			N
Tyrannidae	*Contopus virens*	Eastern Wood-pewee			S	S	S	S		Pr		G5	S4B	SC	SC	Y
Tyrannidae	*Myiarchus crinitus*	Great Crested Flycatcher				S				Po		G5	S5B			N
Vireonidae	*Vireo gilvus*	Warbling Vireo				S				Po		G5	S5B			N
Vireonidae	*Vireo olivaceus*	Red-eyed Vireo	S	S	S	S	S	S		Pr		G5	S5B			N

[1] **Visit 1**: May 31, 2023, Observer: David d'Entremont, Tempurature 15°C, Cloud Cover 5% , Wind: B0, Precipitation: Nil, Search Time 06:40 to 07:15; **Visit 2**: June 13, 2023, Observer: Scott Tarof, Tempurature 12°C, Cloud Cover 0% , Wind: B1, Precipitation: Nil, Search Time 08:15 to 08:48.

[2] Breeding Bird Evidence Codes: X - Species observed, C - Call heard, FO - Flyover (Species presence); H - Species observed in its breeding season in suitable nesting habitat, S - Singing male (Possible Breeding); P - Pair observed , T - Territorial behaviour, A - Agitated behaviour or anxiety calls of adult, V - Visiting a probably nest site, N - Nest building or excavation of nest hole (Probable Breeding); DD - Distraction display or injury feigning, NU - Used Nest or egg shells, FY - Recently fledged young, AE - Adult leaving or entering nest sites, FS - Adult carrying fecal sac, CF - Adult carrying food for young, NE - Nest containing eggs, NY - Nest with young seen or heard (Confirmed Breeding).

[3] Conservation Rankings: From Ontario Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (https://www.ontario.ca/page/natural-heritage-information-centre).

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

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; M = Migratory Populations; SARO: EXT - Extirpated, END - Endangered, THR - Threatened, SC - Special Concern.

Track (Is the species tracked provincially?) = Y - Yes, N = No, P = Partial.

NA - Not Applicable (*i.e.* not native to Ontario), Blank - Not at Risk in Ontario.

Table 5. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E, 1112 and 9421 County Road 93 EIS, Midland (2023)

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	
Waterfowl Stopover and Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	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). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. Information Sources • Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. • Reports and other information available from Conservation Authorities • Sites documented through waterfowl planning processes (*e.g.* EHJV implementation plan) • Field Naturalist Clubs • Ducks Unlimited Canada • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	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" • Any mixed species aggregations of 100 or more individuals required. • 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. • 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). • SWHMiST Index #7 provides development effects and mitigation measures.	The ELC ecosites do not occur on the property or on adjacent lands. The wildlife habitat is not present. The study area would not be expected to provide the habitat function.
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** 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.	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	• 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. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). Information Sources • Environment Canada • Naturalist clubs often are aware of staging/stopover areas • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (*e.g.* EHJV implementation plan) • Ducks Unlimited projects • Element occurrence specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas	Studies carried out and verified presence of: • Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. • The combined area of the ELC ecosites and a 100m radius area is the SWH. • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • 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). • SWHMiST Index #7 provides development effects and mitigation measures.	The ELC ecosites do not occur on the property or on adjacent lands. The wildlife habitat is not present and listed species not observed. The study area would not be expected to provide the habitat function.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Shorebird Migratory Stopover Area **Rationale:** High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	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	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • 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. • Sewage treatment ponds and storm water ponds do not qualify as a SWH. Information Sources • Western hemisphere shorebird reserve network • Canadian Wildlife Service (CWS) Ontario Shorebird Survey • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs • Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	Studies confirming: • Presence of 3 or more of listed species and > 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) • Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #8 provides development effects and mitigation measures.	The ELC ecosites do not occur on the property or on adjacent lands. The wildlife habitat is not present and listed species not observed. Nearest mapped wetland area is approximately 340m to the southwest and is surrounded by woodlands. The study area would not be expected to provide the habitat function.
Raptor Wintering Area **Rationale:** Sites used by multiple species of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **Special Concern:** Short-eared Owl Bald Eagle	Hawks/Owls: 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. Bald Eagle: 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).	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. • Field area of the habitat is to be windswept with limited snow depth or accumulation. • Eagle sites have open water, large trees and snags available for roosting. Information Sources: • OMNRF Ecologist or Biologist Field Naturalist Clubs • Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area • Data from Bird Studies Canada • Results of Christmas Bird Counts Reports and other information available from Conservation Authorities.	Studies confirm the use of these habitats by: • 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. • 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. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #10 and #11 provides development effects and mitigation measures.	Although FOD ecosite is present, the property does not provide the combination (or size) of field/upland forest habitat to provide raptor wintering function.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Bat Hibernacula **Rationale:** Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH • The locations of bat hibernacula are relatively poorly known. Information Sources • OMNRF for possible locations and contact for local experts • Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern • Development and Mines for location of mine shafts. • Clubs that explore caves (*e.g.* Sierra Club) • University Biology Departments with bat experts.	• All sites with confirmed hibernating bats are SWH. • The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms • 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. • SWHMiST Index #1 provides development effects and mitigation measures.	No caves, mine shafts, underground foundations and karsts. No suitable habitat in study area.
Bat Maternity Colonies **Rationale:** Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario. • Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. • 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. Information Sources • OMNRF for possible locations and contact for local experts • University Biology Departments with bat experts.	• Maternity Colonies with confirmed use by; o >10 Big Brown Bats o >5 Adult Female Silver-haired Bats • The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. • Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #12 provides development effects and mitigation measures.	**FOD ecosite occurs on the property and contains candidate bat snag trees that could potentially be used by maternity roosting bats. Acoustic results indicate probable presence of Big Brown Bat and Silver-haired Bat. Considered further in main text.**
Turtle Wintering Areas **Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle **Special Concern:** Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	• 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. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. Information Sources • EIS studies carried out by Conservation Authorities. • Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites. • OMNRF Ecologist or Biologist • Field Naturalist clubs • Natural Heritage Information Center (NHIC)	• Presence of 5 over-wintering Midland Painted Turtles is significant. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • 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. • 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) • Congregation of turtles is more common where wintering areas are limited and therefore significant • SWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat.	The listed ELC community series do not occur on or near the property. The nearest mapped wetland area is approximately 340m southwest of the property across County Road 93. Habitat associated with the study area not suitable for overwintering turtles. The study area would not be expected to provide the habitat function.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Reptile Hibernaculum **Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	**Snakes:** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **Special Concern:** Milksnake Eastern Ribbonsnake **Lizard:** **Special Concern** (Southern Shield population)**:** Five-lined Skink	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. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3	• 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. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • 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. • Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. Information Sources • In spring, local residents or landowners may have observed the emergence of snakes on their property (*e.g.* old dug wells). • Reports and other information available from Conservation Authorities. • Field Naturalists clubs • University herpetologists • Natural Heritage Information Center (NHIC) • OMNRF ecologist or biologist may be aware of locations of wintering skinks	Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • 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) • Note: If there are Special Concern Species present, then site is SWH • Note: 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. • SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for skink is significant. • SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.	No features were identified in the study area that could provide suitable reptile hibernaculum. The study area would not be expected to provide the habitat function.
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) **Rationale:** 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.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation. Information Sources • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas • Bird Studies Canada; *NatureCounts* http://www.birdscanada.org/birdmon/ • Field Naturalist Clubs.	Studies confirming: • Presence of 1 or more nesting sites with 8or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. • 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”. • SWHMiST Index #4 provides development effects and mitigation measures.	No suitable habitat in the study area and listed ecosites are not present. Listed species not observed during surveys. The study area would not be expected to provide the habitat function.
Colonially-Nesting Bird Breeding Habitat	Great Blue Heron Black-crowned Night-Heron	SWM2 SWM3 SWM5	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.	Studies confirming: • Presence of 5 or more active nests of Great Blue Heron or other listed species.	No suitable habitat in the study area and listed ecosites/species not present. Key habitat requirements not met. The study area would not

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
(Tree/Shrubs) **Rationale:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Egret Green Heron	SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Most nests in trees are 11 to 15 m from ground, near the top of the tree. Information Sources • Ontario Breeding Bird Atlas, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony • Aerial photographs can help identify large heronries. • Reports and other information available from CAs. • MNRF District Offices • Local naturalist clubs	• 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 <15.0ha with a colony is the SWH. • 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. • SWHMiST Index #5 provides development effects and mitigation measures.	be expected to provide the habitat function.
Colonially-Nesting Bird Breeding Habitat (Ground) **Rationale:** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6; MAS1 – 3; CUM CUT CUS	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. Information Sources • Ontario Breeding Bird Atlas , rare/colonial species records. • Canadian Wildlife Service • Reports and other information available from CAs. • Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area • MNRF District Offices • Field Naturalist clubs	Studies confirming: • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • 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 <3.0ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #6 provides development effects and mitigation measures.	One gull *sp.* observed as an incidental fly-over. Property not associated with a rocky island/peninsula nor is it on a lake/large river. No suitable habitat in study area. Species not observed.
Migratory Butterfly Stopover Areas **Rationale:** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral Special Concern Monarch	Combination of ELC Community Series; need to have present one Community Series from each land class: Field: CUM CUT CUS Forest: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	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. • 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. • 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. • 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. Information Sources • OMNRF (NHIC) • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs • Toronto Entomologists Association • Conservation Authorities	Studies confirm: • 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. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 **or** >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • SWHMiST Index #16 provides development effects and mitigation measures.	Property is not located within 5km of Lake Ontario. Although the FOD ecosite is present, there is no suitable habitat present in study area. The habitat function would not be expected to occur.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Landbird Migratory Stopover Areas **<u>Rationale:</u>** Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website. All migratory songbirds. Canadian Wildlife Service Ontario website:	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. • If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes. • The largest sites are more significant. • 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 . <u>Information Sources</u> • Bird Studies Canada • Ontario Nature • Local birders and naturalist club • Ontario Important Bird Areas (IBA) Program	Studies confirm: • Use of the habitat by >200 birds/day and with >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. • 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”. • SWHMiST Index #9 provides development effects.	FOD woodlot meets the size requirement (>10ha) but not located within 5km of Lake Ontario.
Deer Yarding Areas **<u>Rationale:</u>** 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.	White-tailed Deer	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. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	• 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. • 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%. • OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual". • Woodlots with high densities of deer due to artificial feeding are not significant.	No Studies Required: • Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. • 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). • 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. • 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. • SWHMiST Index #2 provides development effects and mitigation measures.	ELC ecosites listed are not present on the property or adjacent. MNRF mapping shows no deer yarding habitat in study area. The property would not be expected to provide the habitat function.
Deer Winter Congregation	White-tailed Deer	All Forested Ecosites with these ELC Community	• Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on	Studies confirm: • Deer management is an MNRF responsibility, deer	Although the FOD ecosite occurs on the property, it is well below the size threshold of

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Areas **<u>Rationale:</u>** 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.		Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	MNRF studies or assessment. • 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 . • If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. • Large woodlots > 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. • Woodlots with high densities of deer due to artificial feeding are not significant. <u>Information Sources</u> • MNRF District Offices • LIO/NRVIS	winter congregation areas considered significant will be mapped by MNRF. • 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. • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. • 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. • SWHMiST Index #2 provides development effects and mitigation measures.	>100ha to typically be considered for this potential SWH function. No deer winter congregation areas mapped in area (MNRF mapping). The property would not be expected to provide the habitat function.

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	
Cliffs and Talus Slopes **Rationale:** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	Most cliff and talus slopes occur along the Niagara Escarpment. Information Sources • The Niagara Escarpment Commission has detailed information on location of these habitats. • OMNRF District • Natural Heritage Information Center (NHIC) has location information available on their website • Field Naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes • SWHMiST Index #21 provides development effects and mitigation measures.	No cliffs or talus slopes.
Sand Barren **Rationale;** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	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%.	A sand barren area >0.5ha in size. Information Sources • MNRF Districts • Natural Heritage Information Center (NHIC) has location information available on their website. • Field Naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Sand Barrens • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) • SWHMiST Index #20 provides development effects and mitigation measures.	No sand barrens.
Alvar **Rationale;** 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.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Species:** 1) *Carex crawei* 2) *Panicum philadelphicum* 3) *Eleocharis compressa* 4) *Scutellaria parvula* 5) *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 6E.	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.	An Alvar site > 0.5 ha in size. Information Sources • Alvars of Ontario (2000), Federation of Ontario Naturalists. • Ontario Nature – Conserving Great Lakes Alvars. • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	• Field studies that identify four of the five **Alvar Indicator Species** at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. • SWHMiST Index #17 provides development effects and mitigation measures.	No alvar.
Old Growth Forest	Forest Community Series:	Old Growth forests are	Woodland areas 30 ha or greater in size or with at least	Field Studies will determine:	Overall contiguous FOD woodland community

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Rationale: 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.	FOD FOC FOM SWD SWC SWM	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.	10 ha interior habitat assuming 100 m buffer at edge of forest. Information Sources • OMNRF Forest Resource Inventory mapping • OMNRF Districts. • Field Naturalist clubs • Conservation Authorities • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments	• If dominant trees species are >140 years old, then the area containing these trees is Significant Wildlife Habitat. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics. • SWHMiST Index #23 provides development effects and mitigation measures.	tree cover on and off the property is >1,500ha (desktop exercise), meeting the size (≥30ha) criterion for candidacy, but the size of the interior habitat (3ha) does not meet the criterion for interior habitat size (>10ha). The woodland composition also does not constitute old growth forest (large mature over-canopy trees, heavy mortality creating mosaic canopy gaps, *etc.*). Candidate criteria not met. Not considered further in the assessment.
Savannah **Rationale:** Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.	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. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	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. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #18 provides development effects and mitigation measures.	No savannah.
Tallgrass Prairie **Rationale:** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	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. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	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. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #19 provides development effects and mitigation measures.	No tallgrass prairie.
Other Rare Vegetation Communities **Rationale:** Plant communities that often contain rare species which depend on the habitat for survival.	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.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. • Area of the ELC Vegetation Type polygon is the SWH. • SWHMiST Index #37 provides development effects and mitigation measures.	No rare vegetation communities in study area.

1.2.2 Specialized Habitat for Wildlife

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Nesting Area **Rationale;** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 **Note: includes adjacency to Provincially Significant Wetlands**	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. Information Sources • Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. • Reports and other information available from Conservation Authorities.	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWHMiST Index #25 provides development effects and mitigation measures.	Listed ELC ecosites not present on or adjacent to the property. Study area not adjacent to a PSW. None of the listed species observed during field surveys. The habitat function would not be expected to occur.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat **Rationale;** Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey **Special Concern** Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. • Nests located on man-made objects are not to be included as SWH (*e.g.* telephone poles and constructed nesting platforms). Information Sources • Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. • MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF Districts • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented • Reports and other information available from Conservation Authorities. • Field Naturalists clubs	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #26 provides development effects and mitigation measures.	FOD ELC ecosite present on property but not adjacent to a riparian feature. Listed species not observed nor were possible nests of listed species. Habitat function would not be expected to occur.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Woodland Raptor Nesting Habitat **Rationale:** Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. Information Sources • OMNRF Districts. • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH . (The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl – A 200m radius around the nest is the SWH. • Broad-winged Hawk and Coopers Hawk– A 100m radius around the nest is the SWH. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial. (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWHMiST Index #27 provides development effects and mitigation measures.	Contiguous FOD woodland community tree cover on the property and at the landscape level meets the size criterion for candidacy (≥ 30ha), but with a 200m buffer edge, the feature is determined to not have interior habitat for nesting woodland raptors. Does not meet criteria for candidacy. Not considered further in the assessment.
Turtle Nesting Areas **Rationale;** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle Special Concern Species Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. Information Sources • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Center (NHIC) • Field Naturalist clubs	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles. • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • SWHMiST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	ELC ecosites listed are not present. Areas of exposed mineral soil not present. Habitat function would not be expected to occur.
Seeps and Springs **Rationale;** Seeps/Springs are typical of headwater areas	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.	Field Studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees	Areas of potential seeps/springs not observed in study area. The habitat function would not be expected to occur.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
and are often at the source of coldwater streams.		Ecosite within the headwater areas of a stream could have seeps/springs.	Information Sources • Topographical Map • Thermography • Hydrological surveys conducted by Conservation Authorities and MOE. • Field Naturalists clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	and groundwater condition need to be considered in delineation the habitat. • SWHMiST Index #30 provides development effects and mitigation measures.	
Amphibian Breeding Habitat (Woodland). **<u>Rationale:</u>** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	• Presence of a wetland, pond or woodland pool (including vernal pools) >500m^2 (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. Information Sources • Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records. • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. • OMNRF District • OMNRF wetland evaluations • Field Naturalist clubs • Canadian Wildlife Service • Amphibian Road Call Survey • Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm; • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWHMiST Index #14 provides development effects and mitigation measures.	While FOD ELC ecosite is present on the property, no internal wetland areas, ponds or vernal pools observed during surveys. The early spring amphibian survey did not detect any evening calling amphibians. The habitat function would not be expected to occur.
Amphibian Breeding Habitat (Wetlands) **<u>Rationale;</u>** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (*e.g.* Bull Frog) may be adjacent to woodlands.	• Wetlands>500m^2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation. Information Sources • Ontario Herpetofaunal Summary Atlas (or other similar atlases) • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count.	Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. **or;** Wetland with confirmed breeding Bullfrogs are significant. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #15 provides development effects and mitigation measures.	ELC community classes listed are not present in study area. The habitat function would not be expected to occur.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
			• OMNRF Districts and wetland evaluations • Reports and other information available from Conservation Authorities		
Woodland Area-Sensitive Bird Breeding Habitat **<u>Rationale:</u>** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren **Special Concern:** Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. • Interior forest habitat is at least 200 m from forest edge habitat. <u>Information Sources</u> • Local bird clubs. • Canadian Wildlife Service (CWS) for the location of forest bird monitoring. • Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #34 provides development effects and mitigation measures.	The FOD community is estimated at approximately 35-40 years old based on County historical aerial imagery. The community would not be considered a mature forest, and no interior habitat on the property. Candidate habitat criteria not met. The following listed species were detected during dawn bird surveys: Ovenbird Black-throated Green Warbler Winter Wren Veery Only one of the four species was considered a Probable breeder on the property (Ovenbird; specifically at 9421 County Road 93) (Table 4). Confirmatory criteria also not met. Not considered further in the assessment.

1.3 Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Marsh Breeding Bird Habitat **Rationale;** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. Information Sources • OMNRF District and wetland evaluations. • Field Naturalist clubs • Natural Heritage Information Center (NHIC) Records. • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes; **or** breeding by any combination of 5 or more of the listed species. • Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #35 provides development effects and mitigation measures.	ELC ecosites listed not present in study area. Species not observed. The property would not be expected to provide the habitat function.
Open Country Bird Breeding Habitat Sources Defining Criteria **Rationale;** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha. • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #32 provides development effects and mitigation measures.	Listed ELC ecosites not present. Listed species not observed. The property would not be expected to provide the habitat function.
Shrub/Early Successional Bird Breeding Habitat **Rationale;** This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats>10ha in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (*i.e.* no row-cropping, haying or live-stock pasturing in the last 5 years). • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #33 provides development effects and mitigation measures.	ELC ecosites not present. Listed species not observed. The property would not be expected to provide the habitat function.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Terrestrial Crayfish **Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish; (*Cambarus Diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. Information Sources • Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998.	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. • SWHMiST Index #36 provides development effects and mitigation measures.	Listed ELC ecosites not present. The habitat function would not be expected to occur.
Special Concern and Rare Wildlife Species **Rationale:** These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites Information Sources • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website "Get Information" : http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species *e.g.* specific nesting habitat or foraging habitat. • SWHMiST Index #37 provides development effects and mitigation measures.	**Two Special Concern species were detected on the property (Eastern Wood-pewee, Monarch) and habitat present. Confirmatory criteria met. Considered further in main text.**

1.4 Animal Movement Corridors

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Movement Corridors **Rationale;** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. • Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (**Amphibian Breeding Habitat –Wetland)** of this Schedule. Information Sources • MNRF District Office • Natural Heritage Information Center (NHIC) • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. • Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • SWHMiST Index #40 provides development effects and mitigation measures.	Amphibian breeding habitat not present on the property, thus no movement corridor habitat function.
Deer Movement Corridors **Rationale:** Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	White-tailed Deer	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when **Deer Wintering Habitat** is confirmed as SWH from Table 1.1 of this schedule. • A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). Information Sources • MNRF District Office • Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway. • Shorter corridors are more significant than longer corridors. • SWHMiST Index #39 provides development effects and mitigation measures.	No deer wintering habitat present.

1.5 Exceptions for EcoRegion 6E

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
6E-14 **Rationale:** The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bears.	**Mast Producing Areas** Black Bear	All Forested habitat represented by ELC Community Series: FOM FOD	• Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species. • Forested habitats need to be large enough to provide cover and protection for black bears.	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). Information Sources Important forest habitat for black bears may be identified by OMNRF.	All woodlands > 30ha with a 50%composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST Index #3 provides development effects and mitigation measures.	Not on Bruce Peninsula.
6E- 17 **Rationale:** Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population	Lek Sharp-tailed Grouse	CUM CUS CUT	• The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. • Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated.	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. • Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) • Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting Information Sources • OMNRF district office • Bird watching clubs • Local landowners • Ontario Breeding Bird Atlas	Studies confirming lek habitat are to be completed from late March to June. • Any site confirmed with sharp-tailed grouse courtship activities is considered significant • The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat • SWHMiST Index #32 provides development effects and mitigation measures	Not on Manitoulin Island.

APPENDICES

Appendix A: Municipal Background and Correspondence
Appendix B: Provincial and Federal Background
Appendix C: Ecologist Qualifications
Appendix D: Photographic Record
Appendix E: Proposed Development Concept

APPENDIX A

Municipal Background and Correspondence

COUNTY OF SIMCOE
For the Greater Good

SCHEDULE 5.1

To the County of Simcoe Official Plan

LAND USE DESIGNATIONS

Designations

- Greenlands
- Agricultural
- Rural
- Strategic Settlement Employment Areas and Economic Employment Districts
- Lands not subject to this plan
- Settlement Area Boundary Under Appeal
- (1) General Location of Site-Specific Appeals
- Lands Subject to Non-Decision

Reference Data

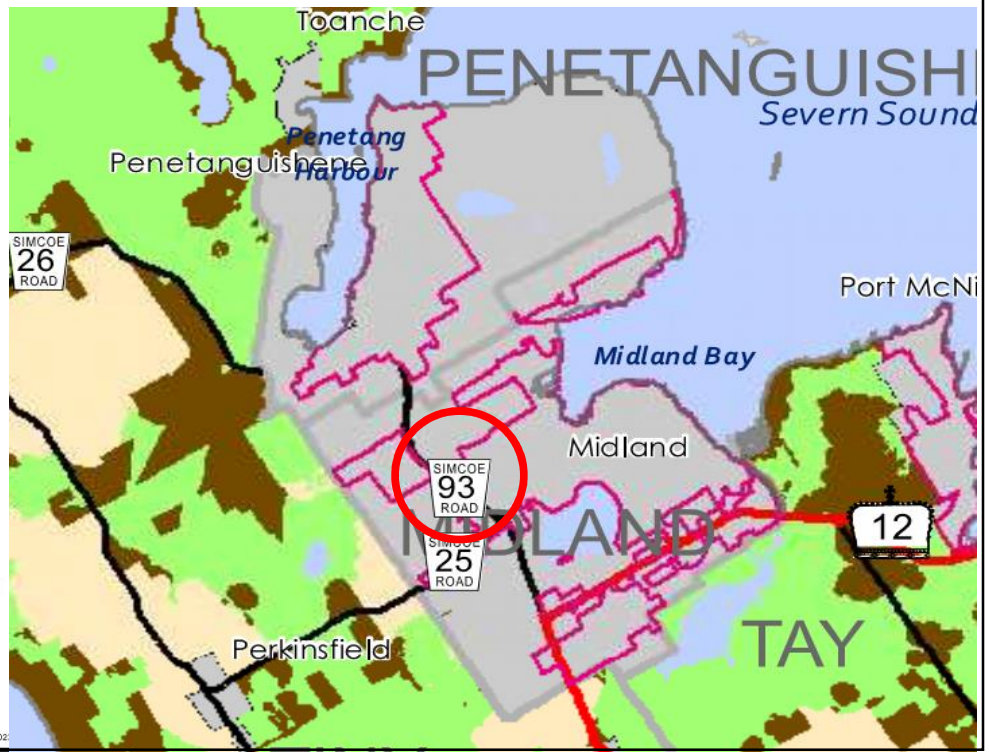
- Settlement Area Boundary
- Built Boundaries
- Special Development Area: Friday Harbour Resort
- Greenbelt Plan - Protected Countryside (Refer to Schedule 5.3.3 For Details)
- Niagara Escarpment Plan Area
- Oak Ridges Moraine Conservation Plan Area
- Provincial Highway
- County Road
- Trans Canada Pipeline
- 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

Office Consolidation February 2023

Printed: 202



COUNTY OF SIMCOE
For the Greater Good

SCHEDULE 5.2.2

To the County of Simcoe Official Plan

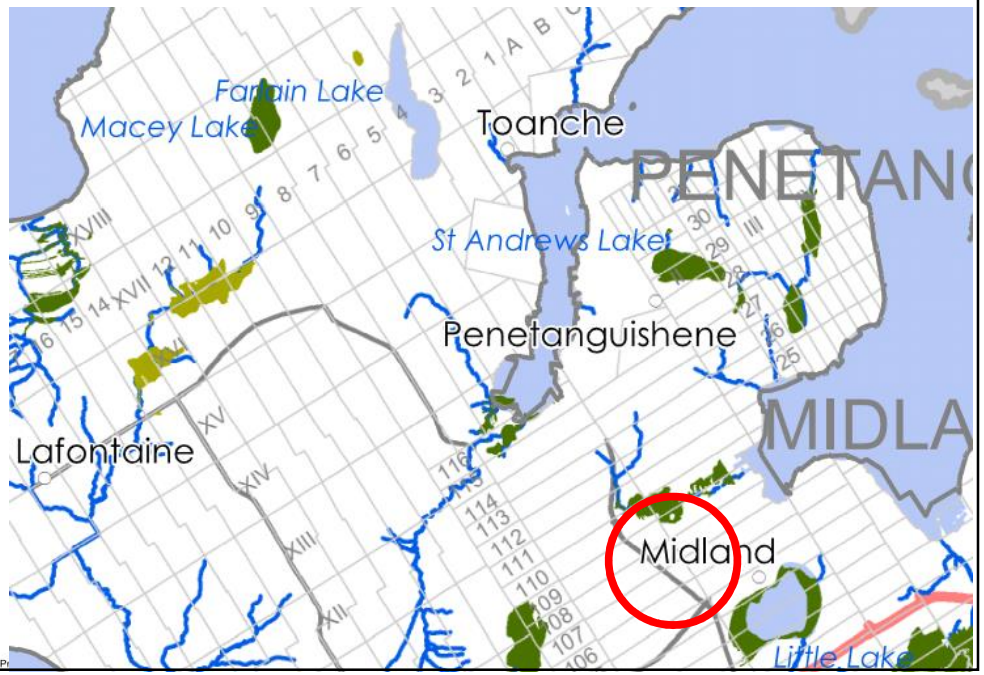
STREAMS AND EVALUATED WETLANDS

- Provincially Significant Wetland
- Locally Significant Wetland
- Watercourse
- Lands not subject to this plan

This schedule must be referred to in conjunction with the text of the County of Simcoe Official Plan - November 25, 2008

Source: Midhurst District MNR

Approved by OMB on May 9, 2016



COUNTY OF SIMCOE
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SCHEDULE 5.2.3

To the County of Simcoe Official Plan

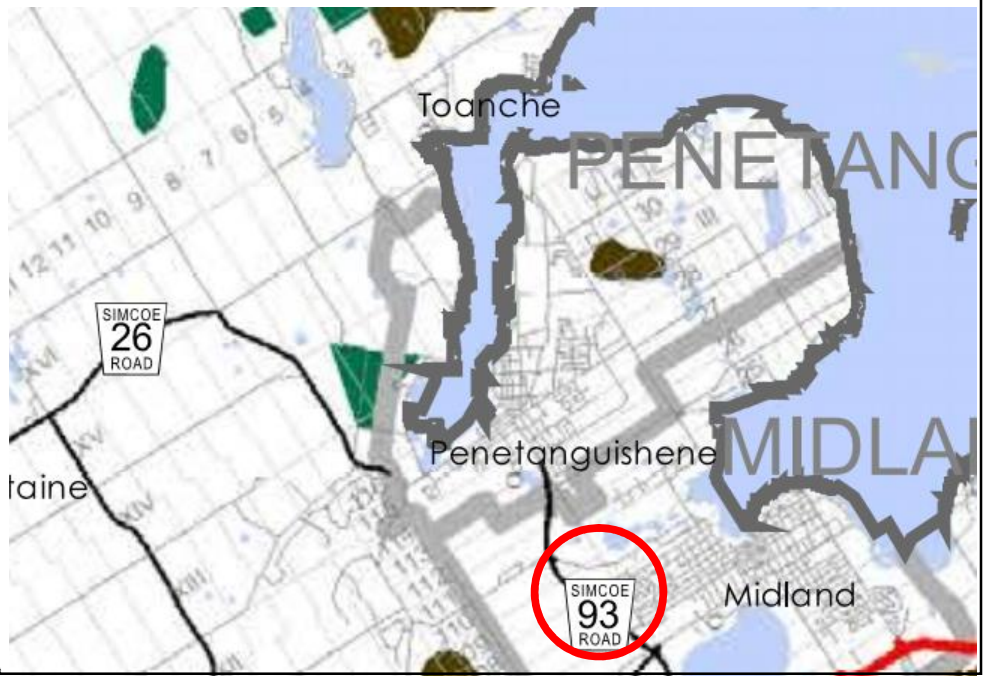
AREAS OF NATURAL AND SCIENTIFIC INTEREST

- Oak Ridges Moraine ANSI
- ANSI - Provincial
- ANSI - Regional
- Lands not subject to this plan

This schedule must be referred to in conjunction with the text of the County of Simcoe Official Plan - November 25, 2008
Source: Ministry of Natural Resources

Approved by the OMB on April 19, 2013

Printed: 5/17/2013

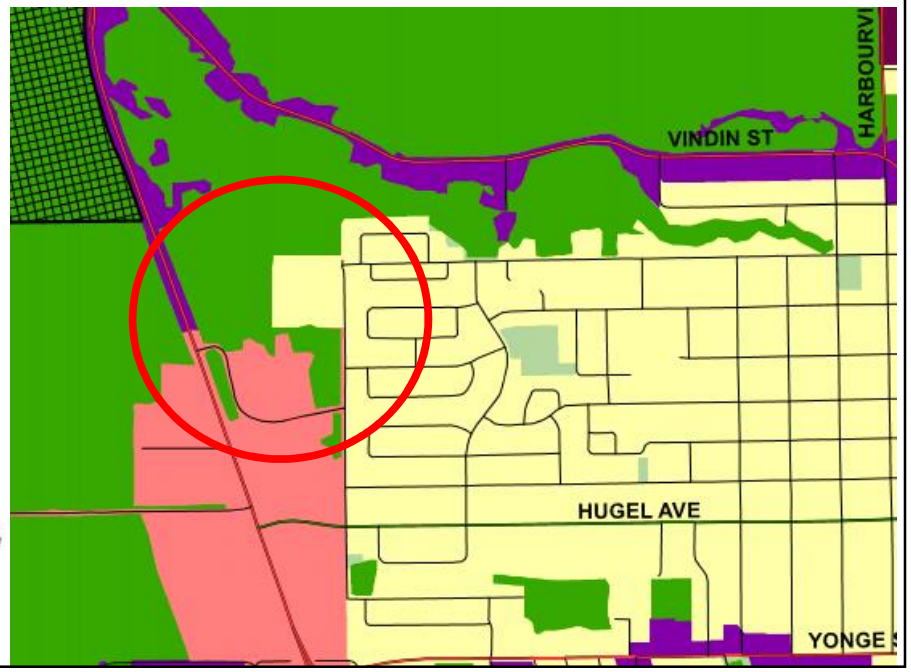


Town of Midland Official Plan Schedule 'C' Land Use

Legend

- Neighbourhood Residential
- Shoreline Residential
- Downtown
- Mixed Use Corridor
- Commercial Corridor
- Employment Area
- Employment Land
- Rural
- Natural Heritage
- Open Space
- Aggregate Extraction Area
- Schedule 'C1'
- Existing Development Approvals

Plan-It Geographical



Town of Midland Official Plan Schedule 'A' Growth Areas

Legend

- Delineated Built Boundary
- Secondary Plan Area
- Municipal Boundary/Settlement Area Boundary

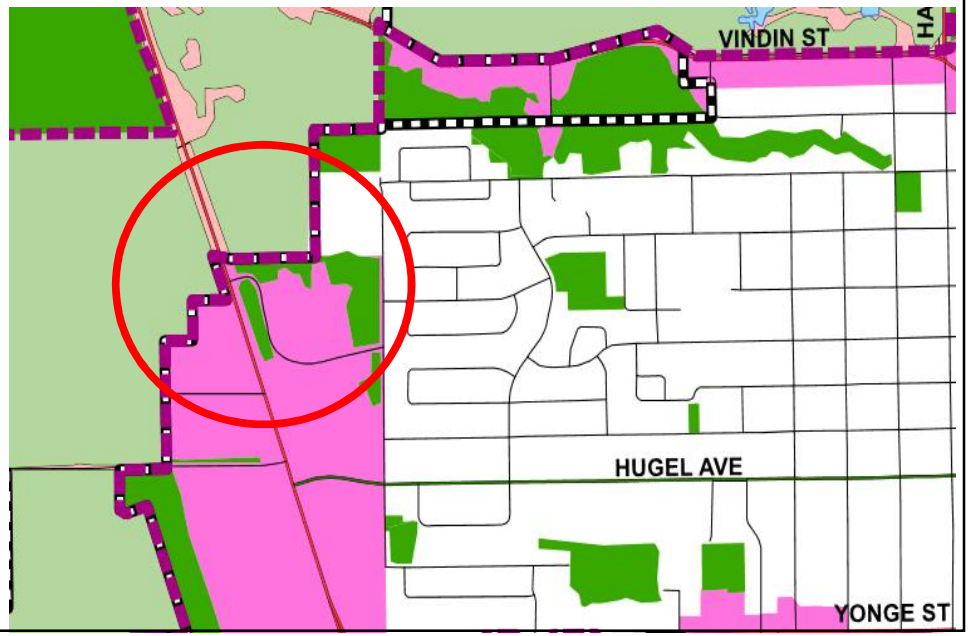
Lands within the Delineated Built Boundary

- Strategic Growth Areas I
- Downtown and Waterfront Strategic Growth Area
- Greenlands

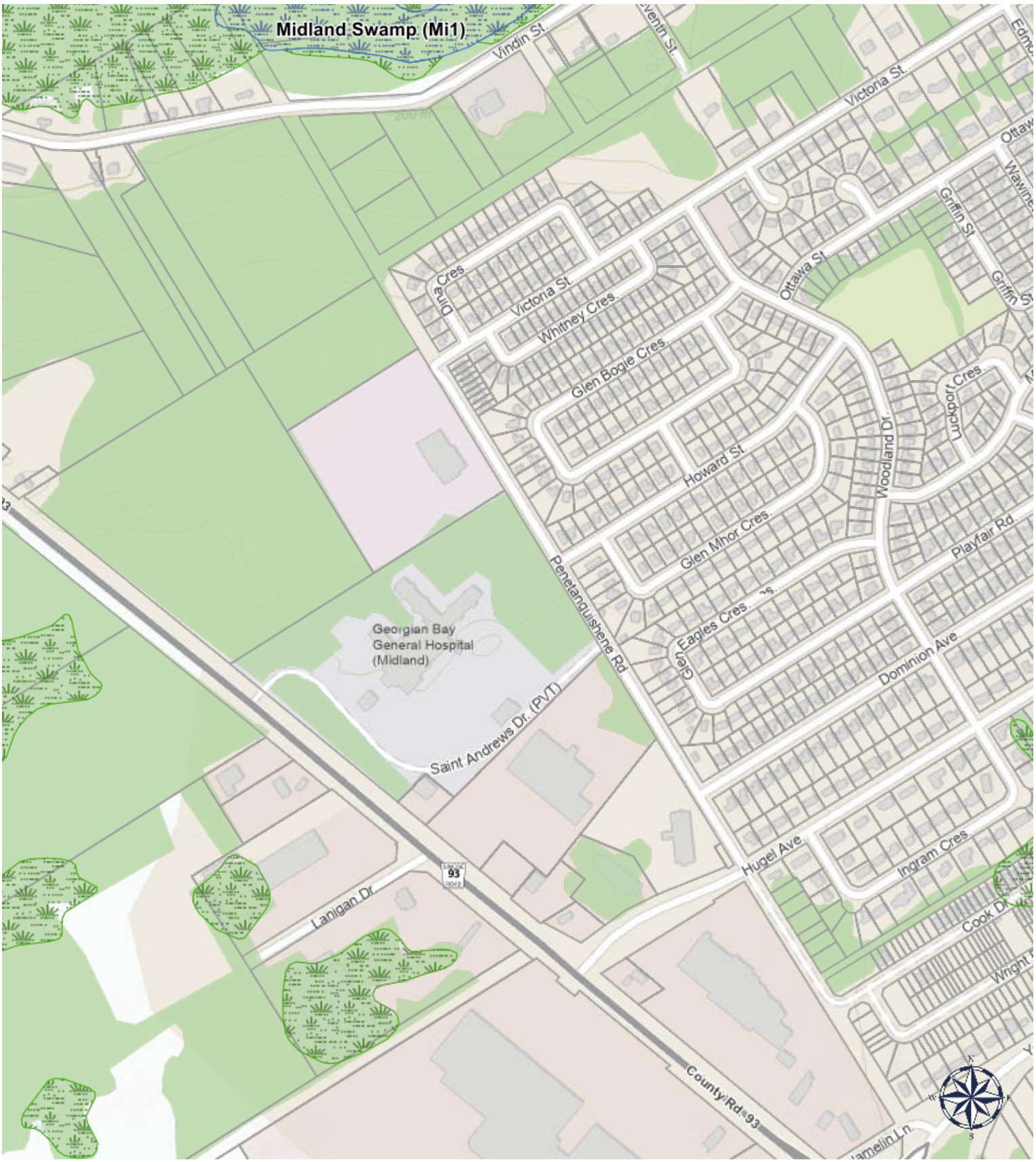
Lands outside the Delineated Built Boundary

- Strategic Growth Areas II
- Greenlands

Plan-It Geographical



23-126 County of Simcoe - Web Map



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Apr 5, 2023

Scott Tarof

From: Scott Tarof
Sent: July 19, 2023 9:32 AM
To: Michelle Hudolin
Cc: Andy Warzin (awarzin@midland.ca)
Subject: RE: 23-126 1112 St. Andrew's Dr. Georgian Bay General Hospital - EIS Terms of Reference

Thank you Michelle.

Warmest regards,
Scott

From: Michelle Hudolin [mailto:MHudolin@severnsound.ca]
Sent: Wednesday, July 19, 2023 9:18 AM
To: Scott Tarof
Cc: Andy Warzin (awarzin@midland.ca)
Subject: RE: 23-126 1112 St. Andrew's Dr. Georgian Bay General Hospital - EIS Terms of Reference

Hello Scott,

Thank you for providing the additional information on dawn bird surveys for GBGH property. Considering that you will be utilizing additional survey data, including from roving surveys as well as other visits to the property to supplement the 5-minute bird counts, I believe surveys for forest birds can be considered sufficient in this specific case for this site.

I would like to note that in future, where a site is significantly forested, consultants should utilize the longer 10-minute survey period in order to be consistent with the early morning Forest Bird Monitoring Program (FBMP) protocol, unless otherwise agreed upon in advance. The FBMP is being coordinated by Birds Canada now (formerly coordinated by Canadian Wildlife Service) and is site-specific as opposed to the broader Ontario Breeding Bird Atlas 10x10 km square surveys that span several years and may have data contributions from a large number of participants for a given area. And of course, where applicable, additional information from other species-specific surveys (e.g., Whip-poor-will) with protocols that differ from FBMP may also be required for sites where there is potential habitat.

Thank you again for providing supplemental information regarding bird surveys for the above site.

Kind regards,
Michelle

Michelle Hudolin | Manager Watershed Resilience, Wetlands & Habitat Biologist
Severn Sound Environmental Association
Tel: 705-534-7283 ext. 202 | MHudolin@severnsound.ca

www.severnsound.ca | Twitter @SSEA_SSRAP | Instagram @severnsoundea

The SSEA office is open by appointment, please call 705-534-7283 if you would like to come in-person. Our staff will continue to operate in a hybrid setting in the office and remotely. We expect this to cause delays in our ability to respond to requests. Thank you for your patience!

From: Scott Tarof <starof@azimuthenvironmental.com>
Sent: July 13, 2023 9:46 AM
To: Michelle Hudolin <MHudolin@severnsound.ca>
Subject: [EXTERNAL] RE: 23-126 1112 St. Andrew's Dr. Georgian Bay General Hospital - EIS Terms of Reference

Hi Michelle.

Azimuth understands the SSEA has concerns regarding a 5-minute point count duration for our dawn breeding bird surveys.

Azimuth uses the Birds Canada/OBBA 5-minute point count approach in our EIS work. In our dawn breeding bird survey fieldwork approach, our surveys are completed within the survey window. Each property is visited twice in a given season specifically for dawn breeding bird surveys (three times if considering SAR grassland birds). We use a suitable number of point count stations for property coverage, recording all birds seen/heard on-property as well as on adjacent lands. In addition to the 5 minutes at a given point count, we complete a "roving" survey in the sense that while we walk to the next point count station we record any bird species not detected during the 5-minute point count and attribute those species to the previous point count location. We also record incidental wildlife observations during other visits to a property, including birds. In summary, the amount of time we spend surveying for birds on a property is, in effect, in the order of hours. We think this approach is sufficient.

All of our 2023 season dawn breeding bird survey work for this property has been completed.

Thank you.
Scott

From: Scott Tarof
Sent: Thursday, July 13, 2023 9:23 AM
To: 'Andy Warzin'
Subject: RE: 23-126 1112 St. Andrew's Dr. Georgian Bay General Hospital - EIS Terms of Reference

Hi Andy.

Thank you for circulating SSEA's follow-up comments on the Terms of Reference. We will connect with SSEA directly in regards to bird survey point count duration.

Warmest regards,
Scott

From: Andy Warzin [mailto:awarzin@midland.ca]
Sent: Wednesday, July 5, 2023 12:57 PM
To: Scott Tarof
Subject: RE: 23-126 1112 St. Andrew's Dr. Georgian Bay General Hospital - EIS Terms of Reference

Hi Scott,

I forward the SSEA your email which included the additional clarification points based on the SSEA initial comments regarding the TOR. I have included the response from the SSEA for your review and consideration.

With respect to Scott's comments/clarification.

- Issues related to groundwater recharge and wellhead protection zones are beyond the scope of natural heritage work;
  The "note not related to the EIS" in my email regarding Drinking Water Source Protection was intended for the Town, not for Azimuth – apologies if this was unclear. I intended that Town staff should connect with Melissa re: the WHPA and Q1/Q2.
- Five minute point counts for dawn breeding bird surveys are standard, as per OBBA, and is the approach we use for projects;
  As noted in my comments on the EIS TOR, the Forest Bird Monitoring Program (FBMP) protocol uses 10 minute point counts. I realize the OBBA uses 5 minute point counts, however the purpose of that survey is to provide data for a large area (10 km x 10 km grid square) and point counts are supplemented by additional observations over a 5 year period, which may result in a more fulsome suite of birds being reported. An EIS in contrast is a snapshot in time of a specific site, and since the subject lands contain a large amount of forest cover, the FBMP protocol is a better fit than the OBBA. **If one or both of the breeding bird surveys have already been completed for the site**, I would like to have a discussion with Azimuth about other options for additional data collection for this year.
- MECP no longer accepts information requests for SAR. Where project-appropriate, Azimuth submits information requests to the MNRF for fisheries sensitivities;
  Noted.
- Since habitat for Eastern Whip-poor-will or Common Nighthawk is not present on/adjacent the property, evening breeding bird surveys were not included as part of Azimuth's scope of work. These surveys are not considered necessary for this project; and,
  Noted. The EIS should describe the site and demonstrate that the habitat does not meet typical conditions used by these species.
- The additional detail requested regarding vegetation communities can be provided.
  Noted.

Feel free to contact me, should you have any additional questions or comments.

Regards,

Andy Warzin, MCIP, RPP
Senior Planner
P: 705-526-4275 ext 2233
E: awarzin@midland.ca

Town of Midland
575 Dominion Avenue,
Midland, Ontario L4R 1R2
www.midland.ca

From: Scott Tarof <starof@azimuthenvironmental.com>
Sent: Thursday, June 15, 2023 10:13 AM
To: Andy Warzin <awarzin@midland.ca>
Cc: Lawson, Matthew <lawsonm@gbgh.on.ca>; Steve Farquharson <sfarquharson@midland.ca>
Subject: RE: 23-126 1112 St. Andrew's Dr. Georgian Bay General Hospital - EIS Terms of Reference

Hi Andy.

Thank you for forwarding the Terms of Reference comments from the Town's natural heritage peer reviewer, SSEA.

SSEA's comments are fairly typical for this peer review agency, and reflect Azimuth's high level of standard in our EIS work, both for fieldwork and reporting. Our surveys are consistent with protocols. The EIS will be consistent with the comments provided by SSEA as appropriate.

A few points for clarification:

- Issues related to groundwater recharge and wellhead protection zones are beyond the scope of natural heritage work;
- Five minute point counts for dawn breeding bird surveys are standard, as per OBBA, and is the approach we use for projects;
- MECP no longer accepts information requests for SAR. Where project-appropriate, Azimuth submits information requests to the MNRF for fisheries sensitivities;
- Since habitat for Eastern Whip-poor-will or Common Nighthawk is not present on/adjacent the property, evening breeding bird surveys were not included as part of Azimuth's scope of work. These surveys are not considered necessary for this project; and,
- The additional detail requested regarding vegetation communities can be provided.

Azimuth trusts this consideration of the Terms of Reference review comments is helpful. If you have any questions please let us know.

Thank you.
Scott

From: Andy Warzin [mailto:awarzin@midland.ca]
Sent: Wednesday, June 14, 2023 9:29 AM
To: Scott Tarof
Cc: Lawson, Matthew; Steve Farquharson
Subject: RE: 23-126 1112 St. Andrew's Dr. Georgian Bay General Hospital - EIS Terms of Reference

Hello Scott,

Planning staff received a response from the Severn Sound Environmental Association as it relates to the proposed TOR for the EIS document. I have included their response below for your review and consideration.

Comments provided by Michelle Hudolin, Manager Watershed Resilience, Wetlands & Habitat Biologist, SSEA:

"I have reviewed the EIS TOR provided by Scott Tarof at Azimuth. I offer the following comments on the proposed scope of work, including modifications/additional explanation (shown in red text) to what has been proposed (which is shown in *italics)* and additional clarification. These comments only relate to natural heritage, and do not cover any other studies that approval agencies may require. The Town and other commenting agencies, if applicable, may have additional study requirements.

Background mapping from the Province's Make a Natural Heritage Map application and Maps.Simcoe identifies a number of known natural heritage features and hydrologic features/areas on or in proximity to the subject property, including woodlands and Significant Groundwater Recharge Area.

Azimuth anticipates the following tasks would be required to complete the assignment:

- *Search the Town, Ministry of Natural Resources and Forestry (MNRF) and Ministry of the Environment and Conservation and Parks (MECP) records to obtain available background information, including current information related to SAR in the nearby area;*
- *Confirm a Terms of Reference with the Town and/or its peer reviewer during initial project stages;*
- *Attend a total of two (2) pre-consultation meetings with the Town, as requested (one Azimuth ecologist);*
- *Conduct the following field surveys:*
    - *General observations and/or plot-based evaluation of candidate bat snag trees in the study area during leaf-off conditions;* the assessment of bat habitat must be consistent with the current provincial Species At Risk Bats Survey Note and protocol for Treed Habitats - Maternity Roost Surveys (i.e., 2022 or successor documents). Note: these documents include notes related to bat use of: trees measuring less than 25 cm DBH, dead or living leaf clusters, and rock features, and thus assessment of bat habitat must include treed areas and rock features (if applicable) and must include both leaf-off and leaf-on conditions. *Azimuth would also collect data on general habitat sensitivities (before April 30, 2023 –* ***completed****);*
    - *Evaluate/map vegetation community types based on Ecological Land Classification methods and complete a spring plant inventory.* ELC descriptions should include the size of the community (both on-site and an estimate for off-site); for development proposals on or adjacent to land identified as potential or confirmed Significant Woodlands, descriptions of species, composition, and age structure are also required. *This visit would also include a screening for vernal pools (May-June, 2023);*
    - *A second summer vascular plant inventory, including screening for Endangered Butternut and/or Black Ash* and any other Species At Risk or rare plants *(July-August 2023);*
    - *One (1) evening calling amphibian survey related to potential woodland breeding amphibian habitat (April 15-30, 2023 –* ***completed****), with up to two (2) additional surveys under a revised scope (May 15-30 and June 15-30, 2023) if calling activity is detected during the first survey (****no calling amphibians detected during first survey****);*
    - *Two (2) dawn breeding bird surveys (June 2023)* using protocols of the Forest Bird Monitoring Program (i.e., 10 minute point counts) and Ontario Breeding Bird Atlas methodologies; if suitable habitat is present for nightjars (e.g., Eastern Whip-poor-will), evening/nocturnal surveys must also be conducted according to Provincial protocols.
    - *Complete ten (10) consecutive nights of bat acoustic monitoring to determine the presence/absence of SAR bats on the property (June 2023);*

- *Record all incidental wildlife observations during property visits;* including evidence of mammals, reptiles, amphibians and birds breeding as well as foraging, shelter/nesting areas and travel corridors [see notes/clarification below about other required wildlife surveys]

- *Email/phone update with the client summarizing fieldwork results;*
- *Complete a desktop Significant Woodland assessment in regards to woodlands on the property and surrounding lands;*
- *Complete an assessment of potential SAR and their habitat in the study area;* Establish and address Species At Risk (SAR) that have potential habitat or have potential to be on-site or the adjacent lands, based on the habitat and features present and as identified through field studies. Background information sources and species occurrence records/range maps will be consulted (e.g., information request to province, NHIC, Ontario Breeding Bird Atlas, Reptiles and Amphibian Atlas, etc.). 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 are not a substitute for on-site surveys; 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 (e.g. Eastern Whip-poor-will). 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). If any SAR or SAR habitat is identified during field investigations, the approval agency must be notified as soon as possible so that the requirement for any additional field work or specific surveys can be assessed. Confirmation of the outcome of consultation with the Ministry of the Environment, Conservation and Parks (MECP) regarding the findings of SAR work with respect to the Endangered Species Act (ESA) will be required from MECP, in writing, to ensure the appropriate provincial review has occurred and compliance with ESA or necessary ESA approvals and/or authorizations are obtained.
- *Complete a Significant Wildlife Habitat assessment in the study area;* including identifying, mapping and describing all potential Significant Wildlife Habitat (SWH); 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 (dawn surveys, nocturnal surveys where suitable habitat for nightjars is present), amphibian surveys (call counts and larval observational surveys), bat habitat surveys, visual surveys/active searching for observations of reptiles (individuals and signs such as shed skins, eggshells), etc. that must be collected during the appropriate season(s) and conditions and using appropriate protocols.
- *Attend up to three (3) one-hour virtual project meetings/calls, as requested; and,*
- *Following receipt of Site/Grading/Erosion and Sediment Control Plans and Stormwater Management Report for the proposed development, assess the potential direct and indirect impacts of the proposed development of 9421 County Road 93 and re-development of 1112 St. Andrew's Drive on natural heritage features and functions identified in the study area.*

Additional notes and clarification on EIS requirements

The EIS will:

1. Describe existing biophysical conditions and appropriately address natural heritage features and hydrologic features/areas and any applicable adjacent lands that are subject to Acts/regulations (e.g., Fisheries Act, Endangered Species Act) and policies (e.g., Provincial Policy Statement, upper- and/or lower-tier Official Plan, Growth Plan for the Greater Golden Horseshoe, etc.). This includes documenting and delineating/mapping the presence and location of any known or previously unknown or undocumented natural heritage features (e.g., wetlands, vernal pools, watercourses, Species At Risk

habitat features, Significant Wildlife Habitat, and vegetation protection zones [where applicable]) during the appropriate season(s), taking into consideration any applicable federal or provincial policies/legislation and guidance documents.

2. Assess potential direct and indirect impacts of the proposal and its interactions with the natural heritage features/areas, sensitive or significant natural heritage features and their related ecological and hydrological functions. The EIS will 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 development envelope which takes into consideration appropriate buffers/setbacks/vegetation protection zones from natural heritage features). Depending on on-site conditions and features, the developable portion(s) of the lands may or may not be consistent with initial concept(s).
3. Identify constraints to development, provide recommendations to avoid and/or mitigate the potential for negative environmental impacts on any features/ecological functions (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) prior to, during or after future site alteration/development, and identify opportunities for enhancement, restoration, or monitoring.

Report & Mapping

4. Map ELC vegetation communities, natural heritage features or functions (e.g., potential or confirmed significant wildlife habitat, SAR habitat, drainage features, wetlands, vernal pools, areas of ground water discharge, etc.), key hydrologic features/areas and associated vegetation protection zones to these features (where applicable), overlaid on current high-quality aerial photos. Mapping is to show the environmental features with the imagery, and also the proposed development together with (e.g., superimposed on) the environmental features and the imagery.
5. Unless otherwise specified, the EIS report should be provided in both hard-copy and electronic formats, and must be legible – e.g., font size of text in the report, figures, tables, and appendices must be reasonable, photocopies of field data sheets must be readable, etc. Electronic formats must allow reviewers to copy and paste text (i.e., not be simply a scan of the hard-copy report), to facilitate commenting by the municipality and applicable agencies/peer reviewer, if necessary. Digital mapping (e.g., ELC) provided to review agencies will be compatible with ArcGIS.
6. The EIS and the biophysical surveys undertaken in support of it 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:
    a. Date, time, and duration of field work/survey (including start time, end time of site investigations)
    b. Sampling locations and/or area searched (i.e., identified on a map)
    c. Purpose of field work and survey protocol(s) used/ summary of investigation methods
    d. Relevant temperature and weather conditions during site investigations (cloud cover, wind speed [Beaufort scale or km/h], precipitation [type and amount])
    e. Personnel involved (name and qualifications)
7. Copies of the approved Terms of Reference and correspondence with relevant agencies will be included as appendices to the EIS.

With the clarification and additions or changes noted above in this email, the scope of work for the EIS is acceptable to SSEA.

Note not related to the EIS: Background mapping also reveals that the property is within a WHPA and Q1/Q2 for Drinking Water Source Protection, so I recommend you connect with Melissa Carruthers, see below contact:

Melissa Carruthers
Manager Source Water Protection - RMO / RMI
Severn Sound Environmental Association

489 Finlayson St, P.O. Box 460, Port McNicoll, ON L0K 1R0
P (705) 534-7283 ext. 205 / Fax (705) 534-7459
MCarruthers@severnsound.ca | www.severnsound.ca | @SSEA_SSRAP

Should you wish to discuss SSEA comments in greater detail, a meeting can be scheduled with Town staff and members of the SSEA. A site visit with town staff and members of the SSEA can also be scheduled.

Feel free to contact me, should you have any additional questions or comments.

Regards,

Andy Warzin, MCIP, RPP
Senior Planner
P: 705-526-4275 ext 2233
E: awarzin@midland.ca

Town of Midland
575 Dominion Avenue,
Midland, Ontario L4R 1R2
www.midland.ca

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From: Scott Tarof <starof@azimuthenvironmental.com>
Sent: Friday, March 31, 2023 3:15 PM
To: Andy Warzin <awarzin@midland.ca>
Cc: Lawson, Matthew <lawsonm@gbgh.on.ca>; MidlandPlanning <planning@midland.ca>
Subject: 23-126 1112 St. Andrew's Dr. Georgian Bay General Hospital - EIS Terms of Reference

Hi Andy.

Azimuth Environmental Consulting, Inc. has been retained by our client to complete a Scoped EIS for the above Georgian Bay General Hospital property. A phased conceptual Site Plan is attached showing the property location, proposed re-development on the existing hospital lot and development on the adjacent lot.

Could you please review the Terms of Reference below for the Scoped EIS and indicate whether or not they are satisfactory? It is our understanding that there is a pre-consultation (with the Town) request for this project. Perhaps once you have had a chance to review the Terms of Reference we can proceed to a pre-consultation meeting.

Azimuth anticipates the following tasks would be required to complete the assignment:

- Search the Town, Ministry of Natural Resources and Forestry (MNRF) and Ministry of the Environment and Conservation and Parks (MECP) records to obtain available background information, including current information related to SAR in the nearby area;

- Confirm a Terms of Reference with the Town and/or its peer reviewer during initial project stages;
- Attend one (1) pre-consultation meeting with the Town, as requested (one Azimuth ecologist);
- Conduct the following field surveys:
    - General observations and/or plot-based evaluation of candidate bat snag trees in the study area during leaf-off conditions. Azimuth would also collect data on general habitat sensitivities (before April 30, 2023);
    - Evaluate/map vegetation community types based on Ecological Land Classification methods and complete a spring plant inventory. This visit would also include a screening for vernal pools (May-June, 2023);
    - A second summer vascular plant inventory, including screening for Endangered Butternut and/or Black Ash (July-August 2023);
    - One (1) evening calling amphibian survey related to potential woodland breeding amphibian habitat (April 15-30, 2023), with up to two (2) additional surveys under a revised scope (May 15-30 and June 15-30, 2023) if calling activity is detected during the first survey;
    - Two (2) dawn breeding bird surveys (June 2023);
    - Record all incidental wildlife observations during property visits;
- Email/phone update with the client summarizing fieldwork results;
- Complete a desktop Significant Woodland assessment in regards to woodlands on the property and surrounding lands;
- Complete an assessment of potential SAR and their habitat in the study area;
- Complete a Significant Wildlife Habitat assessment in the study area;
- Attend up to three (3) one-hour project virtual project meetings/calls, as requested;
- Following receipt of Site/Grading/Erosion and Sediment Control Plans and Stormwater Management Report for the proposed development, assess the potential direct and indirect impacts of the proposed development of 9421 County Road 93 and re-development of 1112 St. Andrew's Drive on natural heritage features and functions identified in the study area;

We look forward to the Town's comments on the above Terms of Reference and direction in regards to a pre-consultation meeting.

Thank you.

Warmest regards,

Dr. Scott Tarof (Ph.D.)
Terrestrial Ecologist
Certified Ontario MNRF Wetland Evaluator

Azimuth Environmental Consulting, Inc.
642 Welham Road
Barrie, Ontario, L4N 9A1
Office: (705) 721-8451 x230
Cell: (705) 715-7105
www.azimuthenvironmental.com

Providing services in hydrogeology, terrestrial and aquatic ecology, environmental engineering and arborist assessment

Scott Tarof

From: Andy Warzin [awarzin@midland.ca]
Sent: September 12, 2023 9:39 AM
To: Scott Tarof
Subject: RE: 23-126 GBGH - Significant Woodlands Inquiry

Morning Scott,

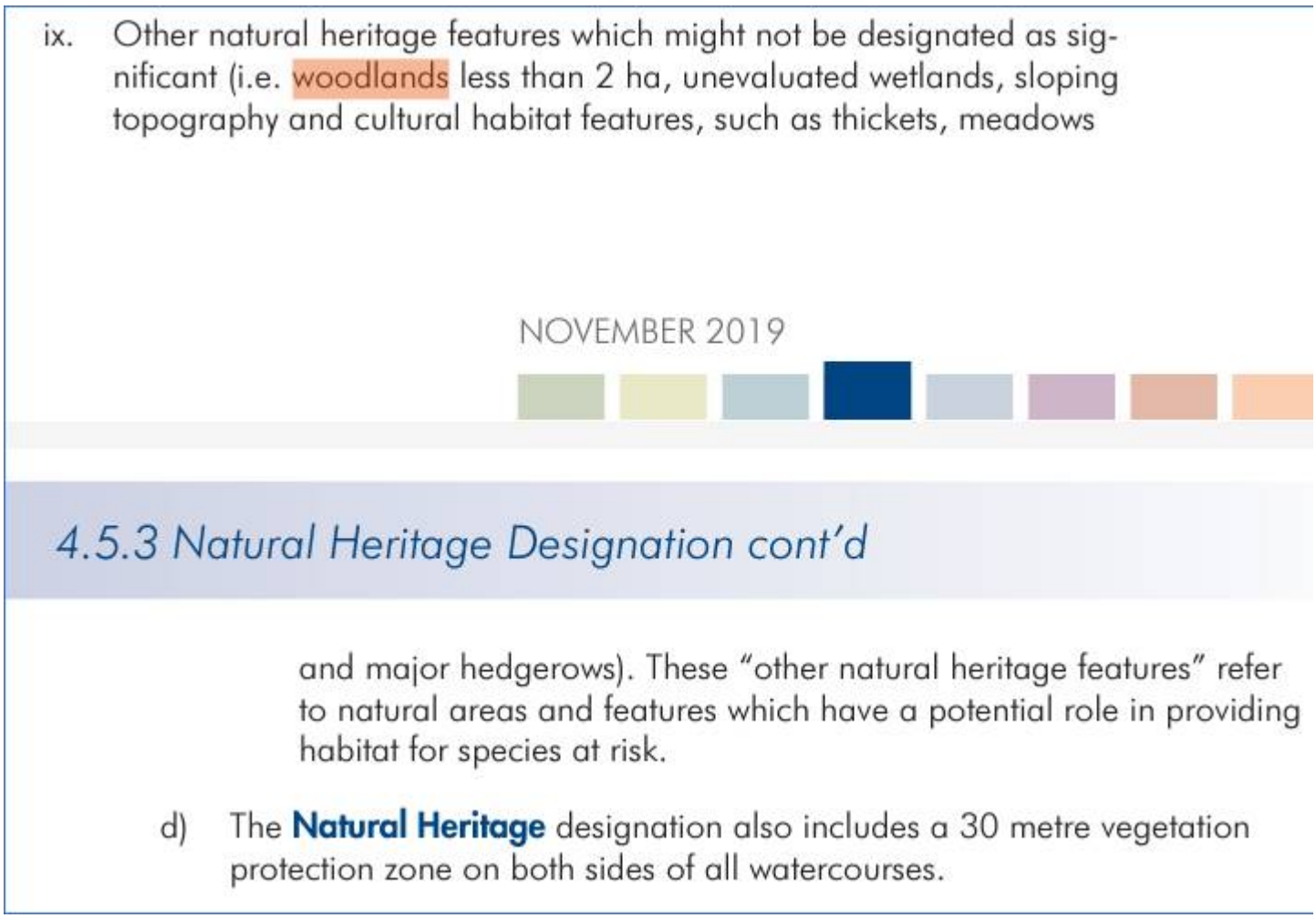
Thanks for the nudge and I appreciate your patience!

The Town Official Plan does not contain any natural heritage mapping or schedules identifying what the natural features are in specific. AS you are likely aware, MNR and the County of Simcoe have interactive maps which include more detailed mapping, see below links:

The provincial 'Make A Natural Heritage Map' is available at:
https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA

There's also Maps.Simcoe.ca:
https://opengis.simcoe.ca/

In regard to any policies for determining what would constitute a significant woodlands, etc., the Town Official Plan does not contain specific policies in this regards. Section 4.5.3 of the Town Official Plan outlines the policies for the nature heritage designation however in reviewing this section in its entirely, there is no specific policies for size requirements however I do note the following item. To me I would interpret that a significant woodland would be greater than 2.0 ha in size as per the wording below:



I am unsure as to whether there are standards established by MNR and MOE as it relates to the classification/determination of significant woodland.

Feel free to contact me, should you have any additional questions or comments.

Regards,

Andy Warzin, MCIP, RPP
Senior Planner
P: 705-526-4275 ext 2233
E: awarzin@midland.ca

Town of Midland
575 Dominion Avenue,
Midland, Ontario L4R 1R2
www.midland.ca

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From: Scott Tarof <starof@azimuthenvironmental.com>
Sent: Thursday, August 31, 2023 4:12 PM
To: Andy Warzin <awarzin@midland.ca>
Subject: 23-126 GBGH - Significant Woodlands Inquiry

Hi Andy.

Azimuth is working on the draft EIS for the GBGH expansion project.

Does the Town have Significant Woodland mapping available? I do not see it on the OP webpage.

Does the Town have specific criteria (i.e. size, etc.) that they use to determine whether or not a woodland is a Significant Woodland?

Thank you.

Warmest regards,
Scott

Dr. Scott Tarof (Ph.D.)
Terrestrial Ecologist
Certified Ontario MNRF Wetland Evaluator

Azimuth Environmental Consulting, Inc.
642 Welham Road
Barrie, Ontario, L4N 9A1
Office: (705) 721-8451 x230
Cell: (705) 715-7105
www.azimuthenvironmental.com

Woodland Cover by Municipality

County/Region	Municipality	Conservation Authority	Subwatershed	Percent Cover	Source	Notes
Huron	**Huron County**		N/A	15%	https://www.huroncounty.ca/wp-content/uploads/2022/04/Forest_For_Our_Future_2014-2033.pdf	Document also contains former township percent forest cover. Refer to the doc if needed.
	A-C-W		N/A	22%		
	Bluewater		N/A	18%		
	Central Huron		N/A	22%		
	Goderich		N/A	8%		
	Howick		N/A	24%		
	Huron East		N/A	13%		
	Morris-Turnberry		N/A	25%		
	North Huron		N/A	26%		
	South Huron		N/A	11%		
Simcoe	**Simcoe County**		N/A	22%	https://rescuelakesimcoe.org/wp-content/uploads/2019/07/Report-How-well-protected-are-	
			Simcoe Watershed	13%	https://www.lsrca.on.ca/our-watershed	
	Barrie		Barrie Creeks Subwatershed	11.60%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/barrie_subwatershed_plan_2012.pdf	Doc also contains woodland cover types within.
	Innisfil/ Barrie		Lovers Creek Subwatershed	27%		
	Innisfil/ Barrie		Hewitts Creek Subwatershed	15.30%		
Durham and Kawartha Lakes	Uxbridge, Scugog, Brock and City of Kawartha Lakes		Beaver River Subwatershed	17.40%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/beaver_river_subwatershed_plan_2012.pdf	Doc also contains woodland cover types within.
Durham and York Region	Georgina, East Gwillimbury, Whitchurch-Stouffville and Uxbridge		Black River Subwatershed	37.80%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/black-river-subwatershed-plan.pdf	Includes info on woodland % of lower and higher quality, and woodland cover types.
Simcoe, Durham and Kawartha Lakes	Ramara, Brock, Kawartha Lakes		Talbot River Subwatershed	34.90%		
			Whites Creek Subwatershed	22.40%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/CMTW_Subwatershed%20Plan_2016.pdf	Includes info on woodland, forest and wetland cover.
York Region (and small area of Durham)	Aurora, King, Newmarket, East Gwillimbury, Georgina, Whitchurch-Stouffville, Uxbridge	LSRCA	East Holland River Subwatershed	20.30%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/east-holland-subwatershed-plan.pdf	Includes info on woodland cover type

York Region			Georgina, Fox and Snake Islands Subwatershed	74%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/Georgina_Fox_Snake_Islands_Subwatershed_Plan_2017.pdf	Includes info on woodland cover type
Simcoe	Innisfil, Barrie, Bradford West Gwillimbury		Innisfil Creeks Subwatershed	25.70%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/innisfil_subwatershed_plan_2012.pdf	Includes info on woodland cover type
York Region	East Gwillimbury, Georgina		Maskinonge River Subwatershed	13%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/maskinonge_subwatershed_2010.pdf	Includes info on woodland cover type
Simcoe	Township of Oro-Medonte, City of Orillia		Oro Creeks North Subwatershed	36%		
	Township of Oro-Medonte		Oro Creeks Subwatershed	37%		Includes info on woodland cover type
	Township of Oro-Medonte		Hawkestone Creek Subwatershed	45%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/oro_hawkestone_subwatershed_plan.pdf	
Durham and York Region	Brock, Scugog, Uxbridge and Georgina		Pefferlaw River Subwatershed	32.70%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/pefferlaw_river_subwatershed_plan_2012.pdf	Includes info on woodland cover type
Simcoe	Township of Ramara		Ramara Creeks Subwatershed	25.70%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/ramara-subwatershed-plan.pdf	Includes info on woodland cover type
York Region and Simcoe	King, Caledon, New Tecumseth, Bradford West Gwillimbury, Newmarket		West Holland River Subwatershed	21%	https://www.lsrca.on.ca/Shared%20Documents/Subwatershed-Plans/west-holland-subwatershed-plan.pdf	Includes info on woodland cover type
York Region	**York Region**			23.60%		Includes targets for recommended range and canopy cover percents. Updated in 2021.
	Aurora			34%		
	East Gwillimbury			30.40%		
	Georgina			34.80%		
	King			26.50%		
	Markham			7.50%		
	Newmarket			9.80%		
	Richmond Hill			14.70%		
	Vaughan			12.40%		
	Whitchurch-Stouffville			30.90%		
	Chippewas of Georgina Island Firest Nation			78.70%	file:///C:/Users/cbutler/Downloads/2021%20State%20Of%20The%20Forest%20Report.pdf	
Durham Region	Ajax			15.90%	https://www.durham.ca/en/regional-government/resources/Documents/Council/Reports/2019-Committee-Reports/Planning-Economic-Development/2019-P-36---Attachment-1-Environment--Greenlands-System-Discussion-Paper.pdf	Shows FOREST cover, not woodland cover. Forest cover is defined as old growth and plantations.
	Brock			23.40%		
	Clarington			29.70%		
	Oshawa			12.80%		
	Pickering			21.80%		
	Scugog			24.70%		
	Uxbridge			36.40%		
	Whitby			15.20%		
	Brampton			11%		

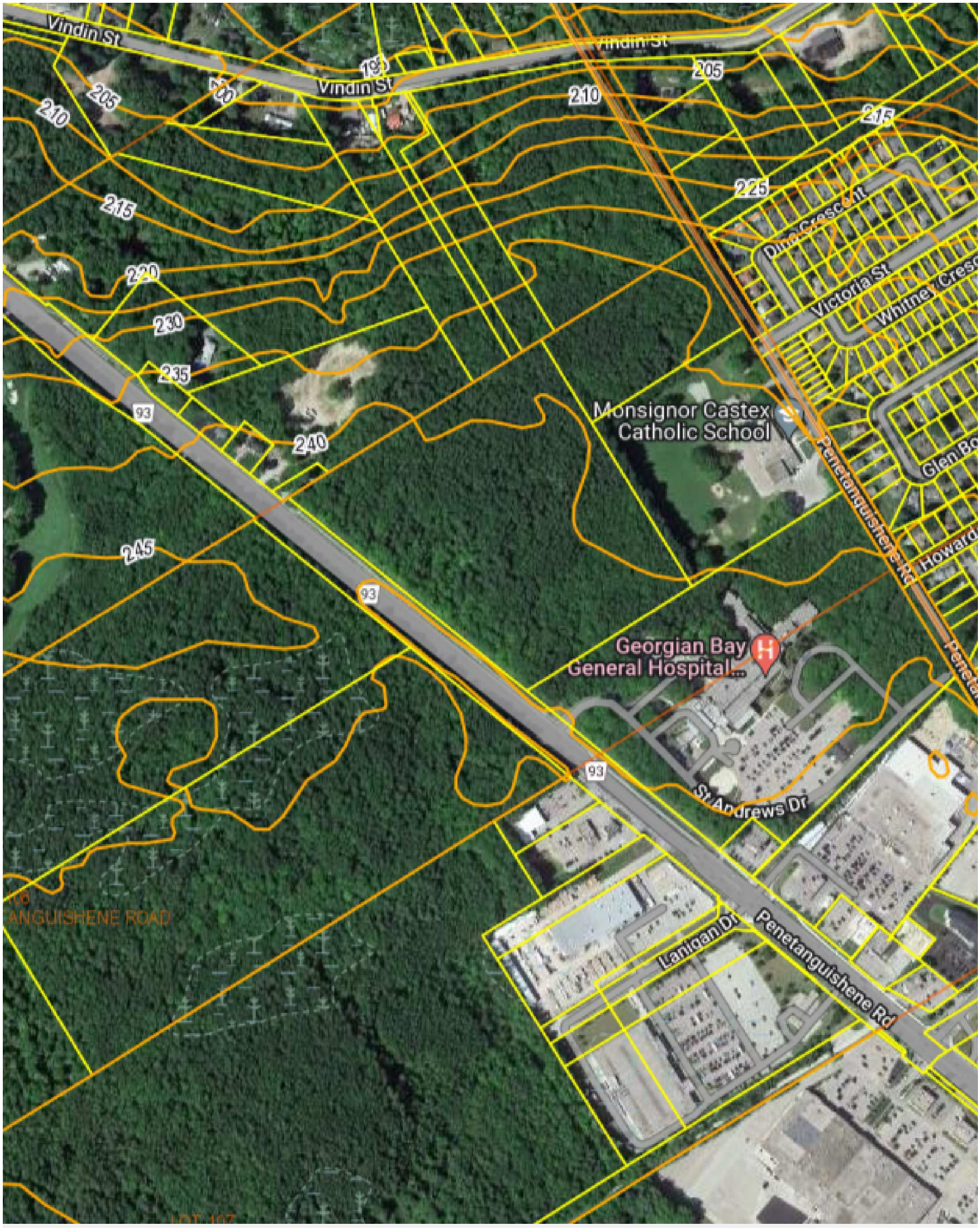
Peel Region	Caledon East			29%	https://www.mississauga.ca/file/COM/2012eacagendapart2_june5.pdf	Shows CANOPY COVER, not woodlands. Methods utilized i-Tree software from the USDA. Canopy cover is defined as the percent of a given area that is covered by tree canopies.
	Bolton			17%		
	Mississauga			15%		
Halton Region	**Halton Region**			24.40%	https://www.conservationhalton.ca/wp-content/uploads/2022/07/SFMP-Full-Plan-2020_Final_Oct.9.2020.pdf	Represents forest cover, not woodland
		CVC	Credit River Watershed	24%	https://cvc.ca/wp-content/uploads/2015/05/Credit-River-Watershed-Natural-Heritage-System-Phase-3-detailed-methodology.pdf	
	City of Burlington			23%	https://www.burlington.ca/en/council-and-city-administration/resources/Plans-Reports-and-Studies/Urban-Forestry-Master-Plan.pdf	Represents average canopy cover. Stat from report states that approx 2/3 of the city's canopy cover is natural woodlands or forested areas.
	Town of Halton Hills			32%	https://www.haltonhills.ca/en/your-government/Climate%20Change/Privately-Owned%20Tree%20Management%20Strategy.pdf	Represents tree canopy cover, defined as "the surface area of the land covered by combined leaves, branches and trunks of all standing trees when viewed from above"
	Town of Milton					
	Town of Oakville			27.80%	https://www.oakville.ca/assets/general%20-%20culture%20recreation/itree-growing-livability-report.pdf	Represents tree canopy cover
Toronto	Toronto			26.6%-28%	https://www.toronto.ca/data/parks/pdf/trees/sustaining-expanding-urban-forest-management-plan.pdf	Represents canopy cover
Hamilton	Hamilton			21%	https://ward8hamilton.ca/hamilton-urban-forest-strategy-	Represents canopy cover
Wellington	Wellington			17.40%	https://www.wellington.ca/en/resident-services/resources/Planning/Natural-Heritage/Final-Report-Wellington-County-NHS-Sept-2018.pdf	
	Wellington North			14%	https://www.wellington.ca/en/resident-services/resources/Planning/Natural-Heritage/Final-Report-Wellington-County-NHS-Sept-2018.pdf	Also includes interior forest %. Woodlands are defined as areas where trees provide 60 percent canopy coverage. Woodlands include forests, woodlands, plantations and swamps.
	Centre Wellington			15%		
	Guelph-Eramosa			20%		
	Mapleton			10%		
	Puslinch			33%		
	Erin			29%		
	Minto			21%		
Simcoe	Collingwood, Wasaga Beach		Blue Mountain Subwatershed	35%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Blue%20Mountains%20Subwatershed.pdf	
Simcoe and Dufferin	Shelburne, Alliston, Mulmur, Adjala-Tosorontio		Boyne River Subwatershed	22.80%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Boyne%20River%20subwatershed.pdf	

Simcoe	Adjala-Tosorontio, Bradford West Gwillimbury, Essa, Innisfil, New Tecumseth	NVCA	Innisfil Creek Subwatershed	18.20%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Innisfil%20Creek%20Subwatershed.pdf	Represents forest cover, not woodland
Simcoe	Angus, Wasaga Beach, Stayner		Lower Nottawasaga River Subwatershed	28.40%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Lower%20Nottawasaga%20Subwatershed.pdf	
Simcoe	Creemore		Mad River Subwatershed	35.60%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Mad%20River%20Subwatershed.pdf	
Simcoe and Dufferin	Essa, Barrie, Thornton, Egbert		Middle Nottawasaga River Subwatershed	26.70%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Middle%20Nottawasaga%20River%20Subwatershed.pdf	
Simcoe and Dufferin	Angus, Mansfield,		Pine River Subwatershed	41.20%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Pine%20River%20Subwatershed.pdf	
Simcoe and Dufferin	Mono, Hockley, Sheldon		Upper Nottawasaga River Subwatershed	36.70%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Upper%20Nottawasaga%20River%20Subwatershed.pdf	
Simcoe	Barrie, Oro-Medonte, Springwater		Willow Creek Subwatershed	41.20%	https://www.nvca.on.ca/Shared%20Documents/2018%20Watershed%20Health%20Check/2018%20Watershed%20Health%20Check_Willow%20Creek%20Subwatershed.pdf	
Grey	Grey County			39%	file:///C:/Users/cbutler/Downloads/Green+in+Grey+-+July+20	Represents forest cover, not woodland. Source identifies "natural cover areas" for several areas such as Huron, Middlesex, Oxford, Collingwood, Credit Valley Conservation
	Meaford, Georgian Bluffs, Owen Sound	GSCA	Bothwells Creek Watershed	37.23%	https://www.greysauble.on.ca/3d-flip-book/bothwells-creek-watershed-health-review/	Shows percent forest cover, not woodland. Shows percent of interior forest as well in doc. Gives past percentages over the years. Also shows percent wetland cover.
	Town of the Blue Mountains		Indian Brook Watershed	21.19%	https://www.greysauble.on.ca/3d-flip-book/indian-brook-watershed-health-review/	
	Township of Georgian Bluffs, City of Owen Sound		Pottawatomi River Watershed	34.98%	https://www.greysauble.on.ca/wp-content/uploads/2022/08/POTT_WATERSHED_HEALTH_REVIEW_DEC-16-2021.pdf	
Grey, Bruce	Town of South Bruce Peninsula, Municipality of Arran-Elderslie, Township of Chatsworth, Township of Georgian Bluffs		Sauble River Watershed	39.60%	https://www.greysauble.on.ca/wp-content/uploads/2022/08/SAUBLE_WATERSHED_HEALTH_REVIEW_DEC-16-2021.pdf	

APPENDIX B

Provincial and Federal Background

23-126 Georgian Bay General Hospital EIS



Azimuth Environmental Consulting, Inc.

provided by:
FIRST BASE SOLUTIONS
GEOSPATIAL EXPERTS

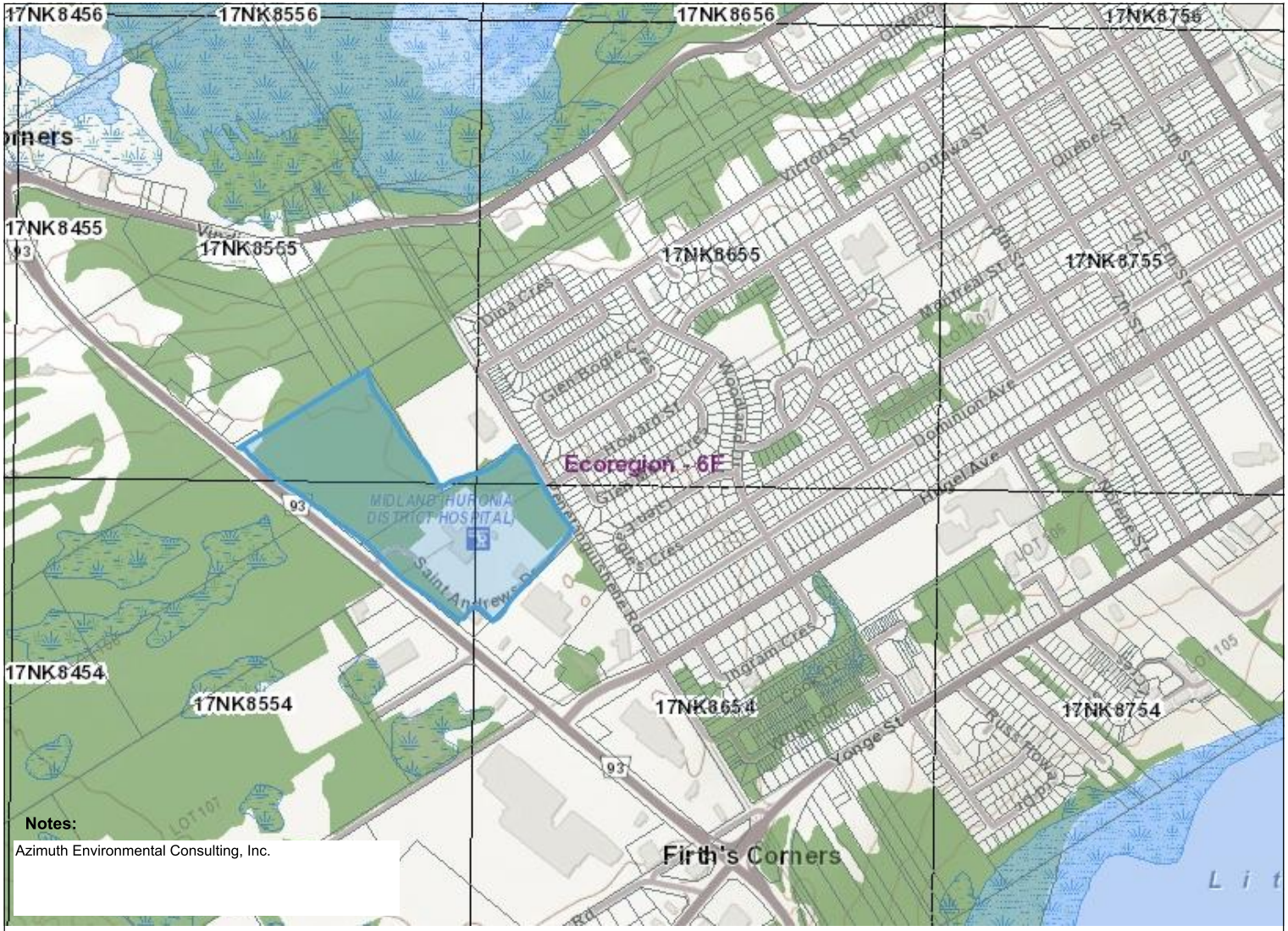
Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

23-126 Georgian Bay General Hospital EIS

Map created:3/9/2023



Notes:

Azimuth Environmental Consulting, Inc.

Legend

- Assessment Parcel
- NHIC 1 Km Grid
- Ecoregion
- ANSI
- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale
- Evaluated Wetland
- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale
- Unevaluated Wetland
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System

0.7 0 0.33 0.7 Kilometres

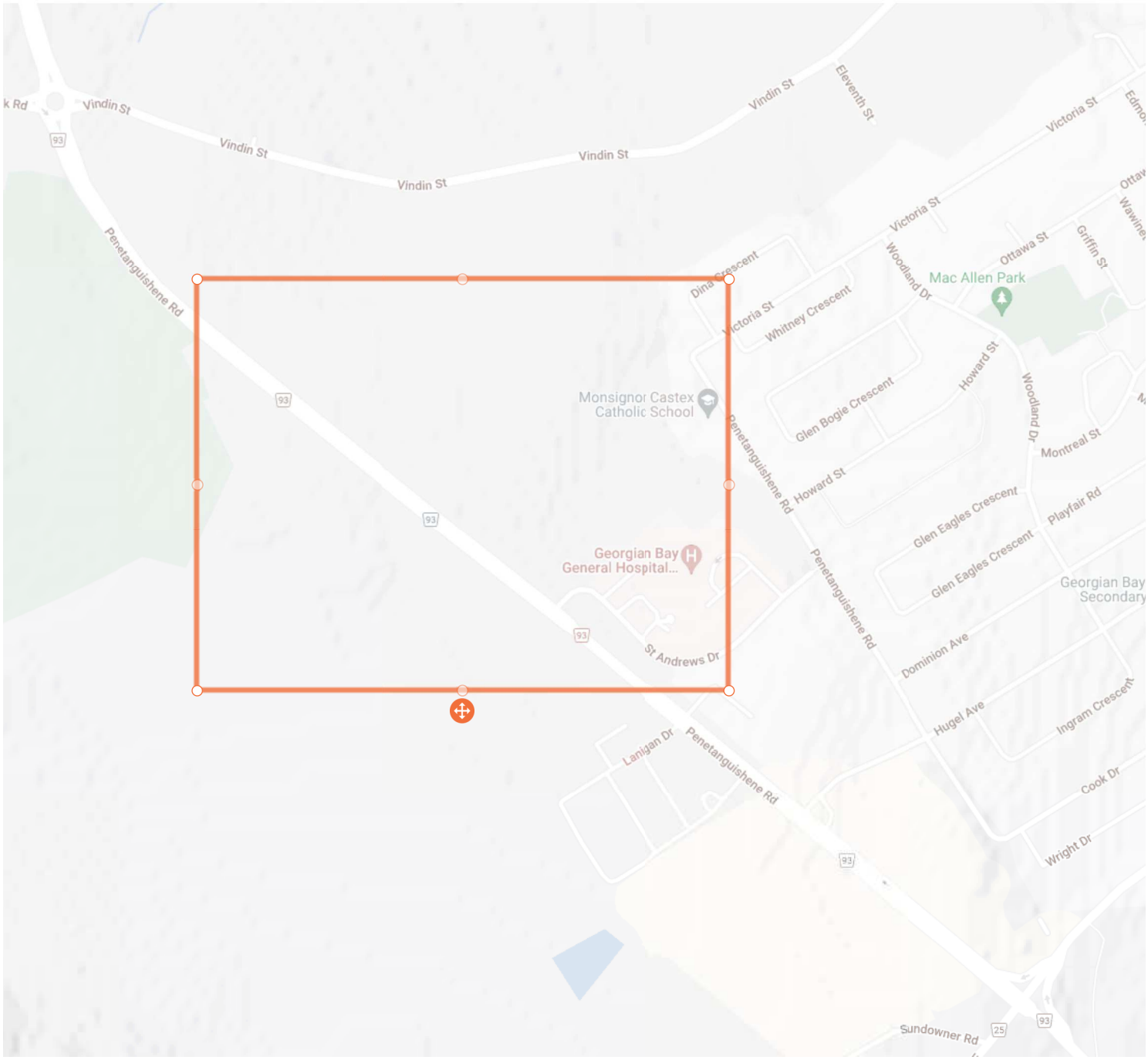
Absence of a feature in the map does not mean they do not exist in this area.

NHIC Data

To work further with this data select the content and copy it into your own word or excel documents.

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
988589	WILDLIFE CONCENTRATION AREA	Colonial Waterbird Nesting Area		SNR			17NK8555	
988589	SPECIES	Speckled Giant Lacewing	Polystoechotes punctata				17NK8555	
988589	SPECIES	Midland Painted Turtle	Chrysemys picta marginata			SC	17NK8555	
988589	SPECIES	Massasauga (Great Lakes / St. Lawrence population)	Sistrurus catenatus pop. 1		THR	THR	17NK8555	
988589	SPECIES	Snapping Turtle	Chelydra serpentina		SC	SC	17NK8555	
988588	WILDLIFE CONCENTRATION AREA	Colonial Waterbird Nesting Area		SNR			17NK8554	
988588	SPECIES	Massasauga (Great Lakes / St. Lawrence population)	Sistrurus catenatus pop. 1		THR	THR	17NK8554	
988599	WILDLIFE CONCENTRATION AREA	Colonial Waterbird Nesting Area		SNR			17NK8655	
988599	SPECIES	Speckled Giant Lacewing	Polystoechotes punctata				17NK8655	
988599	SPECIES	Massasauga (Great Lakes / St. Lawrence population)	Sistrurus catenatus pop. 1		THR	THR	17NK8655	
988599	SPECIES	Snapping Turtle	Chelydra serpentina		SC	SC	17NK8655	
988599	RESTRICTED SPECIES	Restricted Species	Restricted Species				17NK8655	
988599	RESTRICTED SPECIES	RESTRICTED SPECIES	RESTRICTED SPECIES		THR	END	17NK8655	
988598	WILDLIFE CONCENTRATION	Colonial Waterbird Nesting Area		SNR			17NK8654	

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
	AREA							
988598	SPECIES	Speckled Giant Lacewing	Polystoechotes punctata				17NK8654	
988598	SPECIES	Least Bittern	Ixobrychus exilis		THR	THR	17NK8654	
988598	SPECIES	Massasauga (Great Lakes / St. Lawrence population)	Sistrurus catenatus pop. 1		THR	THR	17NK8654	



Custom Boundary
0
observations
0
species
0
Identifiers
0
Observers
Map Grid List

- Map
- Satellite
- Labels
- Terrain

Places of Interest

Standard

Community Curated

Redo search in map Reset

Map Legend
No results found
Flowering Plants Subphylum Angiospermae
Midlan…
Midland Golf & Cou…
Jul 29, 2023 Jul 29, 2023
Needs ID 2 1mo

About

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Forum

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Jobs

Our Blog

Community Guidelines

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Privacy

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Twitter Instagram

- None
-

- ☐ January
- ☐ February
- ☐ March
- ☐ April
- ☐ May
- ☐ June
- ☐ July
- ☐ August
- ☐ September
- ☐ October
- ☐ November
- ☐ December

Species list in taxonomic order for square 17NK85

All species

Number of rows of data displayed below: 21.

Species #	Common Name	# of Records	Earliest Yr	Latest Yr
1	Blanding's Turtle	3	1984	2016
2	Eastern Musk Turtle	2	1973	1983
3	Midland Painted Turtle	13	1971	2019
4	Northern Map Turtle	5	1977	2018
6	Snapping Turtle	12	1978	2019
10	Dekay's Brownsnake	1	2011	2011
12	Eastern Gartersnake	5	1971	2018
13	Eastern Hog-nosed Snake	2	2013	2013
17	Massasauga	2	1967	1969
18	Milksnake	8	1937	2019
19	Northern Watersnake	1	2013	2013
24	Smooth Greensnake	1	1982	1982
27	Gray Treefrog	23	1989	2013
28	Green Frog	23	1992	2004
30	Northern Leopard Frog	23	1989	2004
31	Pickerel Frog	1	1999	1999
32	Spring Peeper	24	1988	2005
34	Wood Frog	8	1979	2003
35	American Toad	11	1971	2008
40	Red-spotted Newt	1	1986	1986
41	Eastern Red-backed Salamander	4	1971	2018

TEA home page | Main atlas page

Atlas Data Summary

Select a type of data summary: Provincial Summaries | Regional Summaries | **Species Lists** | Participant Statistics

Select a province and/or a region, or enter a 7-digit square number to view a species list with the highest breeding code reported to date. Click on a column name to sort.

Ontario | All regions | 17TNK85 | Go

Sort Order	Species	Max. Br. evid.	Squares
182	Canada Goose	FY	1
217	Trumpeter Swan	NU	1
333	Mallard	P	1
385	Green-winged Teal	P	1
533	Red-breasted Merganser	FY	1
772	Wild Turkey	D	1
1052	Rock Pigeon (Feral Pigeon)	H	1
1317	Mourning Dove	NB	1
2121	Chimney Swift	H	1
2599	Ruby-throated Hummingbird	T	1
2892	Virginia Rail	H	1
3300	Killdeer	DD	1
3443	American Woodcock	S	1
3882	Common Loon	H	1
4501	Turkey Vulture	H	1
4763	Sharp-shinned Hawk	T	1
4872	Red-shouldered Hawk	S	1
4881	Broad-winged Hawk	H	1
5287	Barred Owl	T	1
5794	Belted Kingfisher	FY	1
6262	Yellow-bellied Sapsucker	NY	1

6390	Downy Woodpecker	D	1
6402	Hairy Woodpecker	NY	1
6546	Pileated Woodpecker	P	1
6603	Northern Flicker	FY	1
6696	Merlin	P	1
9203	Eastern Wood-Pewee	T	1
9225	Least Flycatcher	S	1
9244	Eastern Phoebe	T	1
9418	Great Crested Flycatcher	T	1
9481	Eastern Kingbird	H	1
10232	Blue-headed Vireo	S	1
10244	Warbling Vireo	S	1
10249	Red-eyed Vireo	T	1
11203	Blue Jay	FY	1
11322	American Crow	T	1
11365	Common Raven	H	1
11531	Black-capped Chickadee	T	1
12354	Tree Swallow	H	1
12373	Bank Swallow	D	1
12391	Barn Swallow	T	1
13658	Golden-crowned Kinglet	S	1
13694	Red-breasted Nuthatch	T	1
13697	White-breasted Nuthatch	S	1
13724	Brown Creeper	S	1
13776	Blue-gray Gnatcatcher	H	1
13805	House Wren	NE	1
13838	Winter Wren	T	1
14065	European Starling	CF	1
14185	Gray Catbird	S	1
14199	Brown Thrasher	S	1

14345	Hermit Thrush	S	1
14350	Wood Thrush	T	1
14455	American Robin	NE	1
15174	Cedar Waxwing	H	1
15933	House Sparrow	S	1
16359	Purple Finch	S	1
16518	American Goldfinch	D	1
16678	Chipping Sparrow	FY	1
16682	Field Sparrow	A	1
16780	White-throated Sparrow	S	1
16809	Savannah Sparrow	S	1
16824	Song Sparrow	A	1
16838	Swamp Sparrow	T	1
16870	Eastern Towhee	T	1
16952	Bobolink	T	1
16954	Eastern Meadowlark	S	1
17064	Baltimore Oriole	DD	1
17074	Red-winged Blackbird	FY	1
17102	Common Grackle	CF	1
17148	Ovenbird	T	1
17152	Northern Waterthrush	S	1
17162	Black-and-white Warbler	S	1
17193	Mourning Warbler	S	1
17209	Common Yellowthroat	S	1
17230	American Redstart	T	1
17254	Blackburnian Warbler	S	1
17257	Yellow Warbler	T	1
17266	Chestnut-sided Warbler	T	1
17271	Black-throated Blue Warbler	T	1
17281	Pine Warbler	T	1

17320	Black-throated Green Warbler	T	1
17386	Canada Warbler	S	1
17432	Scarlet Tanager	T	1
17468	Northern Cardinal	T	1
17484	Rose-breasted Grosbeak	T	1
17517	Indigo Bunting	A	1

Total: 90 breeding species

Note: the statistics and species lists presented on this page are based on accepted records (including records pending review) with breeding evidence.

BIRDS CANADA
OISEAUX CANADA

Birds Canada
P.O. Box 160
115 Front Street
Port Rowan ON N0E 1M0
Phone: 519-586-3531
Toll-free: 1-888-448-2473
Email: hello@birdscanada.org

Birds Canada (Ontario Office)
P.O. Box 160
115 Front Street
Port Rowan ON N0E 1M0
Phone: 519-586-3531 ext. 123
Toll-free: 1-888-448-2473 ext. 123
Email: atlas@birdsontario.org

NatureCounts is a program of Birds Canada, and a partner of the Avian Knowledge Network

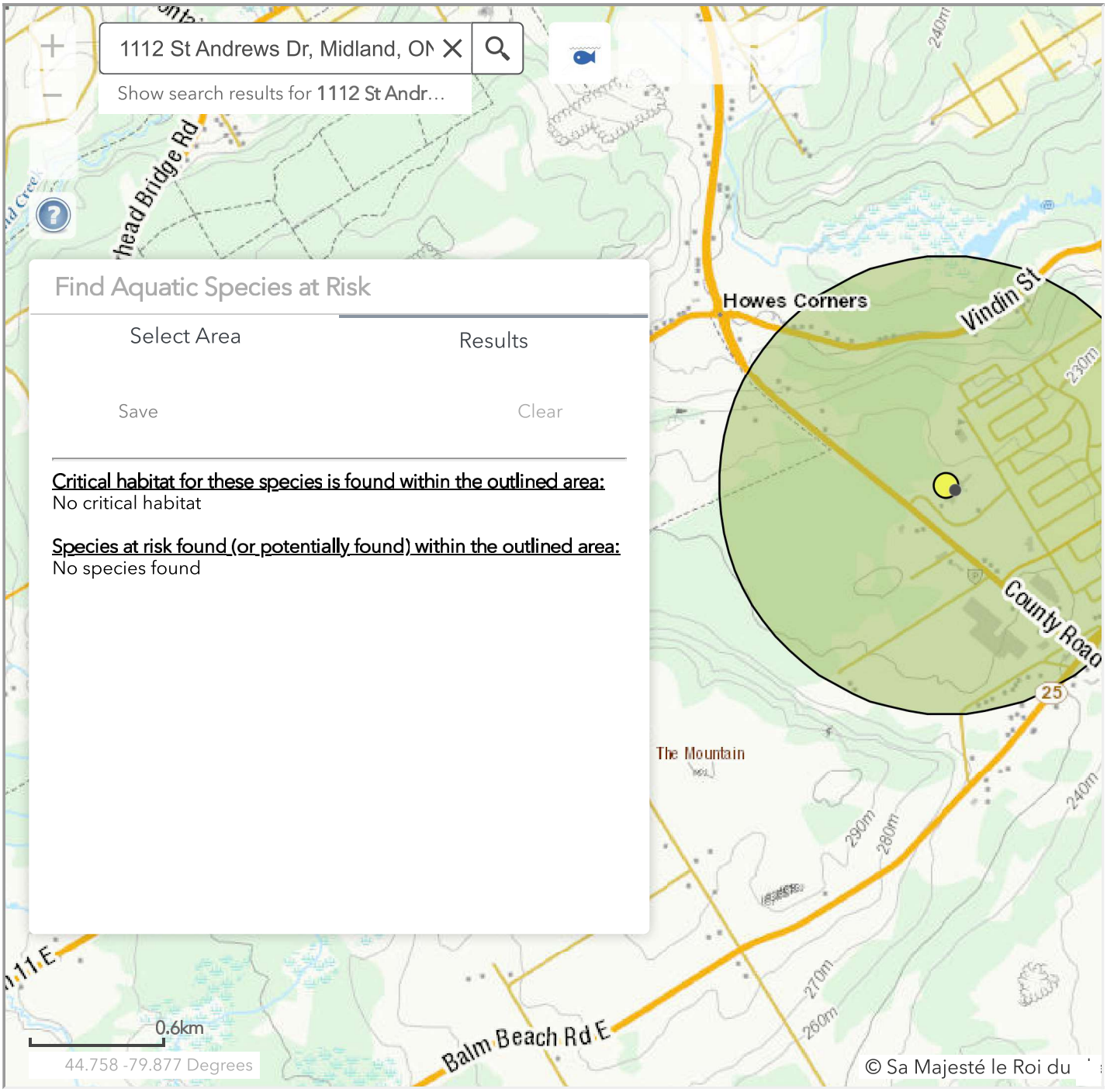
Government of Canada Gouvernement du Canada

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**



Date modified:

2023-05-05

APPENDIX C

Ecologist Qualifications

David d'Entremont

H. B.Sc., Biological Science
Terrestrial Ecologist

PROFILE

2017 - Present	Terrestrial Ecologist, Azimuth Environmental Consulting, Inc.
2016	Natural Areas Inventory Assistant, Credit Valley Conservation
2015	Contractor: Educational Web Content Development and Field Surveyor, Oakvillegreen Conservation Association
2014 - 2015	Terrestrial Ecologist, Royal Botanical Gardens
2013	Natural Areas Inventory Assistant, Credit Valley Conservation
2012-2013	Assistant Terrestrial Ecologist, Royal Botanical Gardens
2012	Natural Heritage Assistant: Significant Wildlife Habitat, Credit Valley Conservation
2011-2012	Terrestrial Ecology Intern, Royal Botanical Gardens
2010-2011	Environmental Sustainability Interpreter Intern, Royal Botanical Gardens
2010	Terrestrial Ecology Summer Student, Royal Botanical Gardens
2010	Exhibit Interpreter, Royal Botanical Gardens
2009	Contract Entomologist, 2009 CFIA/USDA *Cerceris* Project
2005 - 2010	H. B.Sc., University of Guelph, Biological Science

EXPERIENCE

2017 – Present Terrestrial Ecologist, Azimuth Environmental Consulting, Inc.

- Provide identification of vascular plants and plant communities (including specialized habitats and rare communities) and perform detailed vegetation inventories, perform Butternut Health Assessments as a certified Butternut Health Assessor, perform breeding bird, bird nest and bat habitat surveys, and provide identification of wildlife including mammals, avifauna, herpetofauna, and insects (especially Odonata and Lepidoptera);
- Conduct passive and active acoustic monitoring surveys for bats, including: deployment planning, setup and maintenance of ultrasonic acoustic recording equipment, data management, bat call identification and verification using Kaleidoscope software (Wildlife Acoustics, Inc.), and data analysis and interpretation;
- Support and lead projects such as Environmental Impact Studies, Natural Heritage Impact Assessments, Natural Heritage Evaluations and Class Environmental Assessments for the acquisition of Municipal, Provincial, and Federal environmental approvals.
- Support work associated with the Highway 407 East Phase 2 provincial highway project, including vegetation restoration of forest and wetland communities, Species at Risk mitigation and overall benefit for Bobolink/Eastern Meadowlark, Butternut, Barn Swallow, Little Brown Myotis, and wildlife passage analysis;
- Conduct peer reviews of Environmental Impact Studies/Natural Heritage Evaluations and Natural Environment Assessments;
- Develop proposals and budgets, review records, consult with agencies and clients, develop field programs, collect and process data, provide input to/develop compensation plans, and provide synthesis of technical reports; and,
- Assist with aquatic and wetland salvage operations, including fish and herpetofauna salvage and relocation efforts.

2016 Natural Areas Inventory (NAI) Assistant, Credit Valley Conservation (CVC)

- Assisted with Ecological Land Classification (ELC) of natural areas in the Credit River

Watershed, completing 150 polygons with detailed vegetation inventories and thorough supplementary information (incidental wildlife, soil profiles/moisture regimes, tree tallies, size class analysis, management/disturbance, *etc.*);
- Assisted with wetland evaluations using the Ontario Wetland Evaluation System (OWES);
- Assisted with road-side amphibian call monitoring;
- Led breeding bird surveys in a few select locations to support NAI program;
- Led official and volunteer survey efforts for Species at Risk Odonata and Lepidoptera;
- Performed data entry, data quality control and end-of-season organization of field photos; and,
- Reviewed, revised and commented on internal documents and reports.

PROFESSIONAL AFFILIATIONS, CERTIFICATIONS & TRAINING

• Friends of Minesing Wetlands, Board Member	2021
• Friends of Minesing Wetlands, Member	2020
• Emergency First Aid AED/CPR Level C, Action First Aid	2020
• Certified Butternut Health Assessor, MNRF	2019
• Acoustic Survey Techniques for Bats (in-depth training course, including ultrasonic species ID) - Bat Survey Solutions	2019
• Kaleidoscope Acoustic Analysis Software training, Wildlife Acoustics Inc.	2019
• MTO RAQs Approved - Natural Sciences (Key Personnel)	2019
• Workshop & Hike Leader (Odonata and Lepidoptera; Kortright Centre for Conservation, High Park Nature Centre, Field Naturalist Clubs)	2017-2018
• Field Botanists of Ontario, Member	2017
• Ontario BioBlitz, Guided Blitz Leader (Odonata) and taxonomic specialist (Odonata)	2016-2017
• North American Native Plant Society, Member and Article Contributor	2016, 2018
• Walpole Island Land Trust, Odonata & Lepidoptera Surveyor (Volunteer)	2015-2018
• Credit Valley Conservation, Species at Risk Odonata and Lepidoptera Surveyor (Volunteer)	2014-2017

PUBLICATIONS

- Marshall S.A., Borkent A., Agnarsson I., Otis G.W., Fraser L., and d'Entremont D. 2015. New observations on a neotropical termite-hunting theridiid spider: opportunistic nest raiding, prey storage, and ceratopogonid kleptoparasites. Journal of Arachnology 43(**3**): 419–421.

DR. SCOTT A. TAROF

Ph.D. Biology
M.Sc. Biology
H.B.Sc. Biology and Physical Geography
Senior Terrestrial Ecologist

PROFILE

2016 - Present	Senior Terrestrial Ecologist, Azimuth Environmental Consulting, Inc.
2017 - 2022	Invited Guest Lecturer, University of Guelph
2006 - 2018	Senior Postdoctoral Researcher / Lecturer, Contract Faculty, York University
2001 - 2005	NSERC Postdoctoral Researcher / Lecturer, University of Wisconsin-Milw.
2001	Ph.D. (Biology), Queen's University
1996	M.Sc. (Biology), York University
1994	H.B.Sc. (Biology and Physical Geography), York University

EXPERIENCE

2016 – Present Senior Terrestrial Ecologist, Azimuth Environmental Consulting, Inc.
Dr. Tarof brings over 30 years of professional ecological fieldwork, data analysis and project management expertise to Azimuth. Scott has been with Azimuth for seven years. His discipline experience includes a diverse portfolio of Phase 1 and Phase 2 Municipal Class Environmental Assessments (EAs), residential/commercial development, private landowner, Official Plan review, infrastructure and engineering design review projects. Project scope includes assessment of environmental impacts to Species at Risk (SAR) and other natural heritage features and functions. Scott has served on the Ontario Stone, Sand and Gravel Association's Ecology Committee for five years. He leads Azimuth's environmental DNA (eDNA) services, and has presented Azimuth's eDNA work at international conferences. Examples of his project portfolio include:

- EAs for the City of Barrie (*e.g.* Master Drainage Plan), Town of The Blue Mountains and Thornbury;
- Completion of Class EA for Provincial Parks and Conservation Reserves Record of Screening in the Town of the Blue Mountains;
- Environmental Constraints Analyses for municipal infrastructure projects (*e.g.* Town of The Blue Mountains, City of Hamilton, City of Toronto Black & Veatch – Water);
- Environmental Impact Studies for residential developments and private landowners;
- Natural Heritage Evaluations for the City of Toronto's Guild Park and Gardens and private landowners on the Oak Ridges Moraine;
- Tree Planting Plan design for municipal clients;
- Bird nesting surveys for linear infrastructure projects in York Region, Durham Region, Innisfil, Alcona, Severn and City of Barrie;
- Multivariate statistical analysis of long-term landfill invertebrate monitoring for municipalities;
- Management and implementation of habitat restoration/biomonitoring projects for land developers in Innisfil and Oro-Medonte; and
- Development and implementation of pioneering eDNA surveillance tools for detecting SAR in the consulting sector.

2006 – 2021 Researcher and Lecturer, York University
Conducted ecology research and taught undergraduate courses in the Departments of Biology, Geography and Faculty of Environmental Studies.

PROFESSIONAL AFFILIATIONS, CERTIFICATIONS AND TRAINING

- **Professional Designations, Committees and Courses**
  - Butternut Health Assessor Certification 2019
  - Ontario Amphibian and Reptile Identification Certification 2019
  - Ontario Stone, Sand and Gravel Association Ecology Committee 2018
  - MNRF Ontario Wetland Evaluator System Certification 2018

- **Conferences and Trade Shows**
  - Canadian Mining Expo Trade Show, Timmins, ON 2022
  - Society of Ecotoxicology and Chemistry (SETAC) North America 2019
  - 40th Meeting, Toronto, ON
  - 26th Latornell Symposium, Alliston, ON 2019
  - 25th Latornell Symposium, Alliston, ON 2018
  - Ontario Stone, Sand and Gravel Association Natural Heritage Workshop, Toronto, ON 2016

REFEREED PUBLICATIONS

Dr. Tarof has published 19 articles in peer-reviewed scientific journals, including these examples:

Tarof SA, S Crookes, K Moxley, J Hathaway, G Cameron and R Hanner (2021). Environmental DNA Bioassays Corroborate Field Data for Detection of an Overwintering Species at Risk. Genome.

Tarof SA, PM Kramer, J Tautin, and BJM Stutcbury (2012). Effects of known age on male paternity in a migratory songbird. Behavioral Ecology 23:313-321.

Stutchbury BJM, SA Tarof, T Done, E Gow, P Kramer, J Tautin, JW Fox and V Afanasyev (2009). Tracking long-distance songbird migration using geolocators. Science 323:896.

Tarof SA (2008). Least Flycatcher. Birds of North America Online Update.

Tarof SA, PO Dunn and LA Whittingham (2005). Dual functions of a melanin-based ornament in the common yellowthroat. Proceedings of the Royal Society of London Biological Series 272:1121-1128.

Tarof SA, LM Ratcliffe, M Kasumovic and PT Boag (2004). Are least flycatcher (*Empidonax minimus*) clusters hidden leks? Behavioral Ecology 16:207-217.

Tarof SA and LM Ratcliffe (2004). Habitat characteristics and predation do not explain clustered breeding in least flycatchers (*Empidonax minimus*). The Auk 121:877-893.

Tarof SA, LM Ratcliffe and PT Boag (2001). Polymorphic microsatellite loci for assigning parentage in least flycatchers (*Empidonax minimus*). Molecular Ecology Notes 1:146-148.

Tarof SA, BJ Stutchbury, WH Piper and RC Fleischer (1998). Does breeding density covary with extra-pair fertilizations in hooded warblers *Wilsonia citrina*? Journal of Avian Biology 29:145-154.

Jordan Wrobel

H.B.Sc.
Terrestrial Ecologist

PROFILE

2022 – Present	Terrestrial Ecologist, Azimuth Environmental Consulting, Inc.
2021	Invasive Species Technician, Nature Conservancy of Canada
2020-2021	Ecological Monitoring Technician, *rare* Charitable Research Reserve
2019-2020	Environmental Monitoring and Impact Assessment, Cambrian College
2019	Conservation Technician, Nature Conservancy of Canada
2015-2019	H.B.Sc. Biodiversity, University of Guelph

EXPERIENCE

2022 - Present Azimuth Environmental Consulting, Inc.

- Completion of site assessments for natural heritage inventories to document existing conditions and identify constraints, for Environmental Impact Studies, and Natural Heritage Evaluations.
- Develop proposals and budgets, complete records reviews, agency and client consultation, development of field programs, data collection, and synthesis of technical reports.
- Complete Species at Risk Assessments in compliance with Ontario's *Endangered Species Act*, 2007 (ESA) in consultation with the Ministry of Environment, Conservation and Parks (MECP), Ministry of Natural Resources and Forestry (MNRF), and other regulatory agencies.
- Identification of environmental approval requirements for projects involving Species at Risk habitat through liaison with various agencies, including Fisheries and Oceans Canada (DFO), Ministry of Natural Resources and Forestry (MNRF), Ontario Ministry of the Environment, Conservation and Parks (MECP), and Conservation Authorities throughout Ontario
- Perform wildlife surveys for mammals, herpetofauna, and other fauna to identify habitat for Species at Risk and Significant Wildlife Habitat associated with proposed development sites throughout Southern Ontario.
- Conduct Ecological Land Classification including vegetation community delineation for proposed developments throughout Southern Ontario. Complete Butternut Health Assessments to determine tree retention status under the ESA.
- Assist with aquatic and wetland salvage operations, including fish and herpetofauna salvage and relocation efforts.

2021 Invasive Species Control Technician, Nature Conservancy of Canada

- Worked on invasive species surveys, mapping, and removals to protect species at risk and significant wildlife habitats.
- Compiled and analyzed field data for inclusion in the Invasive Species Program and prepared recommendation on mitigation and safety measures.
- Led a field crew to conduct field surveys and removed invasive species through manual and chemical methods.

- Educated external groups about environmental issues and promoted environmental protection strategies at individual and organizational levels.

2020-2021 Ecological Monitoring Technician, *rare* Charitable Research Reserve

- Performed a multiplicity of ecological monitoring activities including forest health surveys, butterfly monitoring, amphibian surveys, soil sampling, and avian monitoring.
- Conducted benthic macroinverebrate sampling and family level identification.
- Completed literature reviews, data entry, and statistical analyses to produce reports on various long term monitoring projects.
- Performed habitat restoration through herbaceous species and tree plantings, invasive species removal, creating fish habitat, and erosion control.

2019 Conservation Technician, Nature Conservancy of Canada

- Conducted wildlife surveys including reptile visual encounter surveys, salamander cover board surveys, breeding bird surveys, and insect community monitoring.
- Assisted in botanical surveys using the Ecological Land Classification (ELC) protocol from MNRF.
- Ecological restoration on private and public lands with the goal of creating wildlife habitat.
- Coordinated and ran citizen science events such as butterfly and dragonfly counts, stream restoration, tree planting, and invasive species removal.

PROFESSIONAL AFFILIATIONS, CERTIFICATION & TRAINING

- Animal Tracking Workshop, University of Guelph Arboretum, 2023
- Winter Tree Identification Workshop, University of Guelph Arboretum, 2023
- Ministry of Transportation Fisheries Protocol Training Course Certification, 2022
- Forestry Exterminator's License, 2021
- Landscape Exterminator's License, 2021
- First Aid/CPR Certification, 2021
- Indigenous Awareness certification, 2021
- Ontario Benthos Biomonitoring Network (OBBN) Certification, 2020

APPENDIX D

Photographic Record

Photograph 1: In FODM5-3/FODM5-10 facing northwest (near acoustic monitor #1).

Photograph 2: Edge of FODM5-3/FODM5-10 facing north toward ELC community along County Road 93.

Photograph 3: Facing FODM2-1 at north corner of hospital, facing northeast (near acoustic monitor #4).

Photograph 4: High quality snag in south part of FODM5-3/FODM5-10 (hollow extends up tree).

APPENDIX E

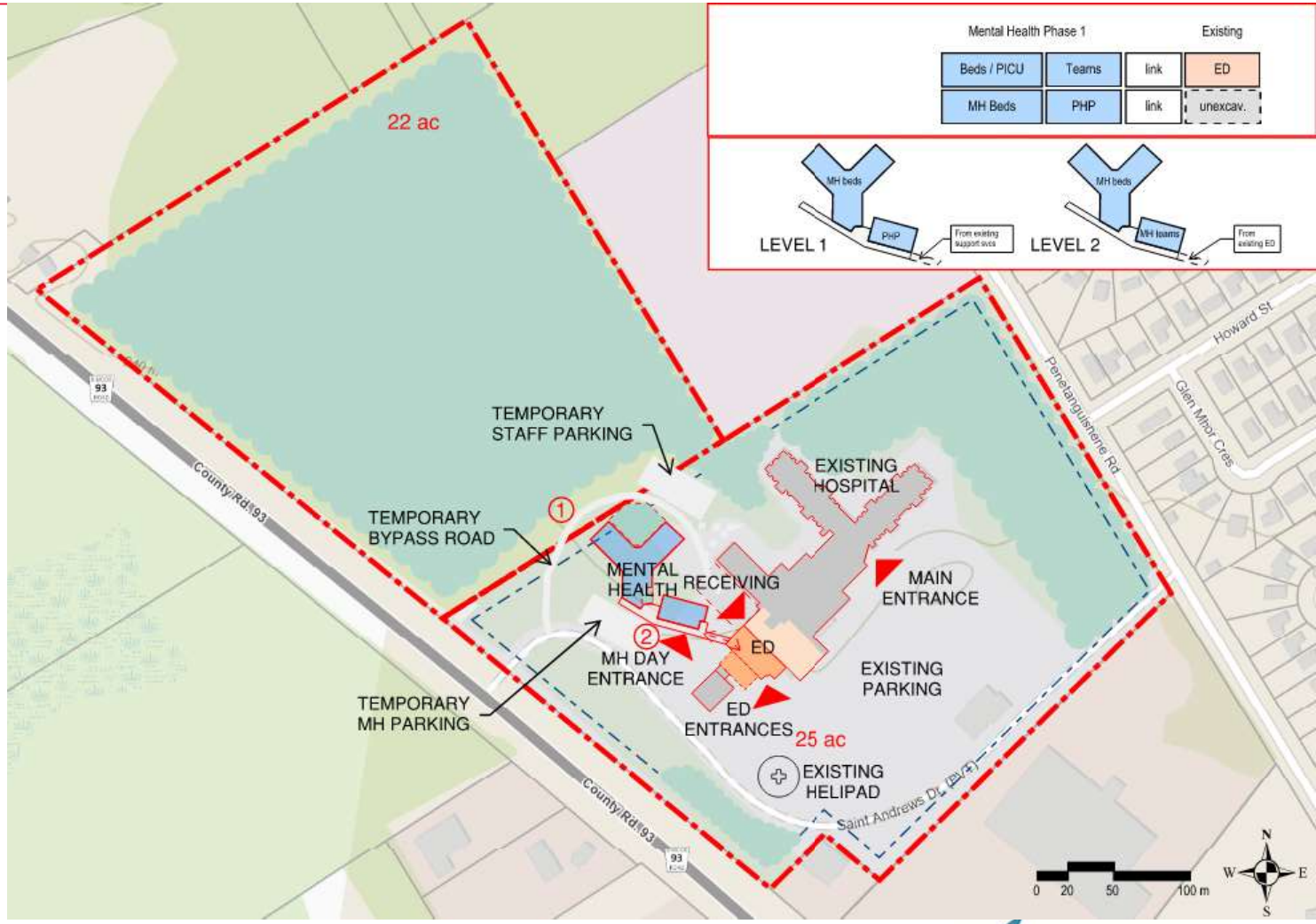
Proposed Development Concept

RECOMMENDED MASTER PLAN OPTION: SITE PLAN PHASE 1

1. Construct Mental Health building and access

2. Construct new Hospital, site circulation, and parking

3. Remove existing hospital and restore site, including parking

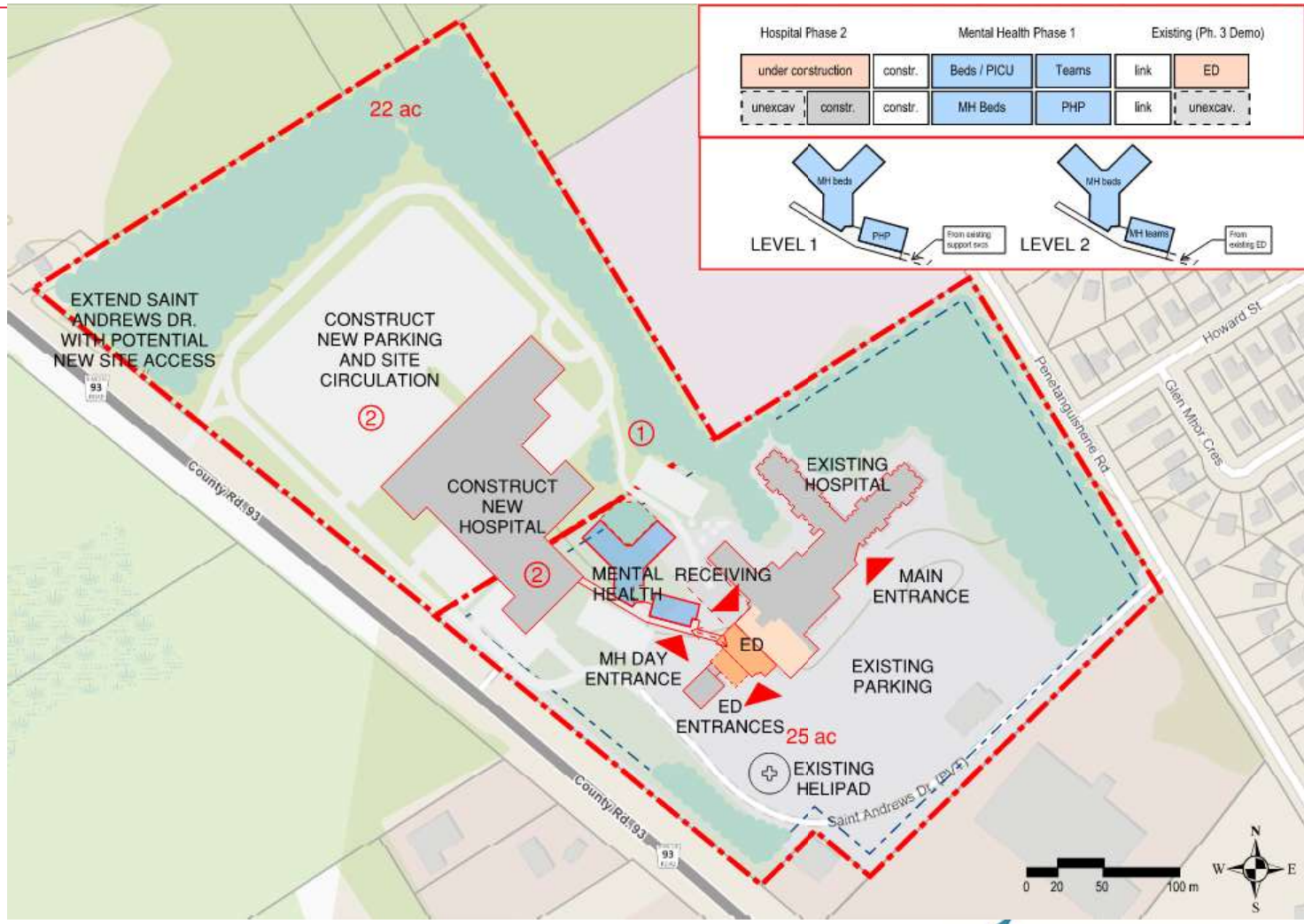


RECOMMENDED MASTER PLAN OPTION: SITE PLAN PHASE 2

1. Construct Mental Health building and access

2. Construct new Hospital, site circulation, and parking

3. Remove existing hospital and restore site, including parking



CANNONDESIGN

Chefurka Consulting International

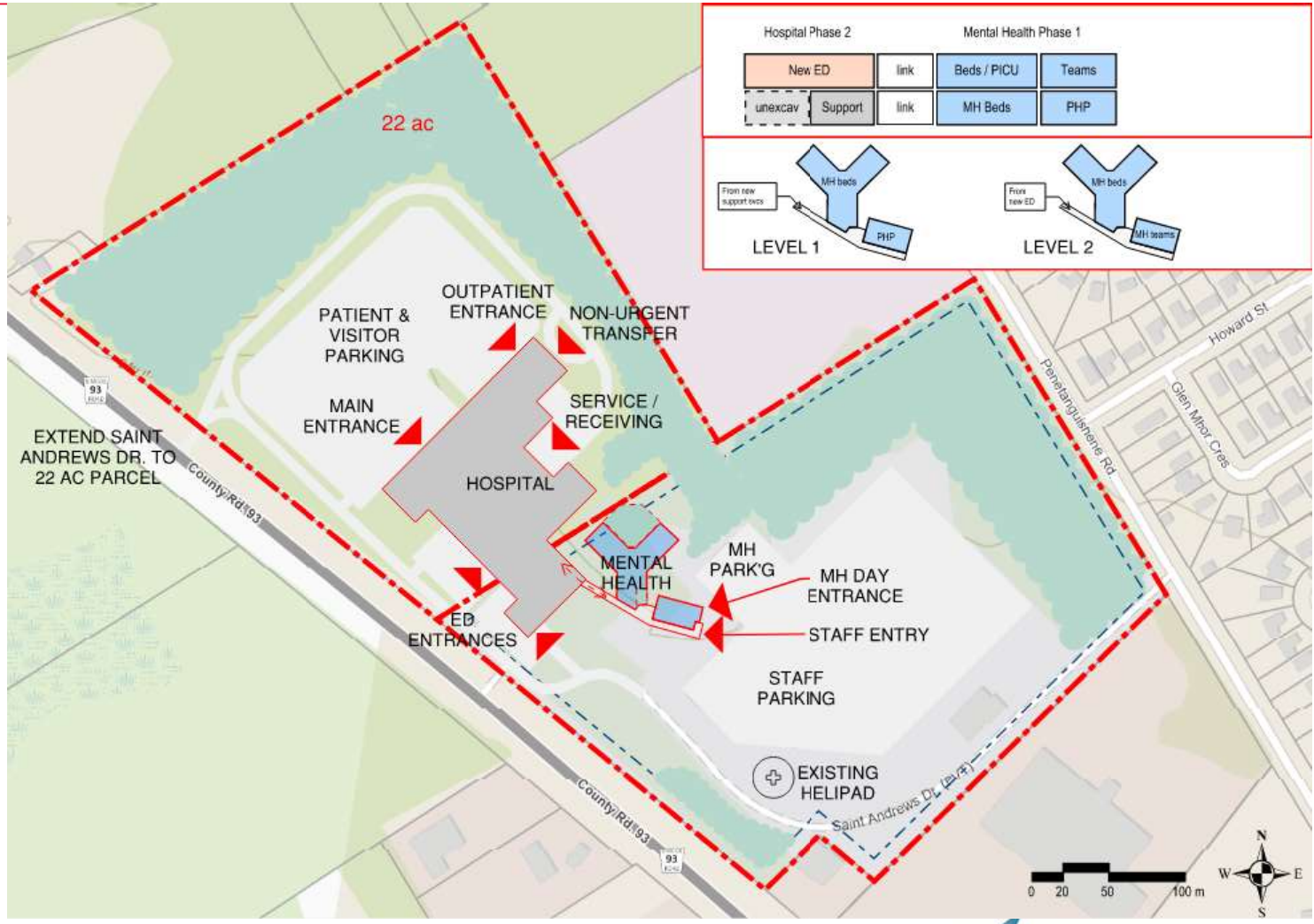
Hôpital général de la baie Georgienne
GEORGIAN BAY
General Hospital

RECOMMENDED MASTER PLAN OPTION: SITE PLAN COMPLETED PROJECT

1. Construct Mental Health building and access

2. Construct new Hospital, site circulation, and parking

3. Remove existing hospital and restore site, including parking



CANNONDESIGN

Chefurka Consulting International

Hôpital général de la baie Georgienne
GEORGIAN BAY
General Hospital