Prepared By:

496857 Grey Road 2

Town of The Blue Mountains, County of Grey

Environmental Impact Study

Project No. 03-009-2023

September 2024

23 HERRELL AVENUE, BARRIE ON L4N 6T5
WWW.BIRKSNHC.CA

23 Herrell Ave
Barrie, Ontario
L4N 6T5

September 12, 2024

Homefield Management Ltd.
1202 -45 St. Clair Ave. West
Toronto, Ontario
M4V 1K9

Attention: Alex Hahn, Manager Development

RE: BIRKS NHC 03-009-2023
Environmental Impact Study
496857 Grey Road 2, Town of The Blue Mountains, Grey County

Dear Mr. Hahn,

Thank you for retaining Birks Natural Heritage Consultants Inc. ('Birks NHC') to prepare an Environmental Impact Study ('EIS)' for the property cited above. It is our understanding that you are proposing residential development of the north portion of the property and that an EIS is required to assess potential impacts to natural heritage features known to occur on the property.

Birks NHC completed comprehensive surveys in 2023 to review the existing conditions of the property, with a focus on natural heritage features and functions present within and adjacent to the proposed development area. Through completion of the field program, review of background information, and applicable policies and regulations, we have determined that the property and adjacent lands contain natural heritage features and functions relating to the presence of wetland and woodland habitat.

This report outlines the process by which features within and adjacent to the proposed development area are considered for their natural heritage function and value and provides an

assessment of potential ecological impacts to those features and functions associated with the proposed development. Where potential impacts are identified, mitigation measures are proposed to reduce the potential negative effects. Assuming the mitigation measures recommended in this report are implemented, there is no expectation that natural heritage features or their functions within the Study Area will be negatively impacted by the proposed development.

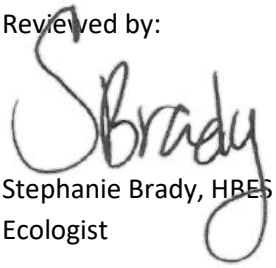
If you have any questions or concerns regarding this report, please do not hesitate to contact the undersigned.

Yours truly,

Birks Natural Heritage Consultants Inc.

Melissa Fuller, H.B. Sc
Ecologist

Reviewed by:



Stephanie Brady, HBES
Ecologist

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1 INTRODUCTION

Birks Natural Heritage Consultants, Inc. ('Birks NHC') was retained by Homefield Management Ltd. to undertake an Environmental Impact Study ('EIS') for the property identified as 496857 Grey Road 2, in the Town of The Blue Mountains. It is our understanding that Homefield Management intends to submit for an Official Plan Amendment, Zoning By-law Amendment, Draft Plan of Subdivision and Common Elements Plan of Condominium in support of an attainable housing development.

1.1 PURPOSE

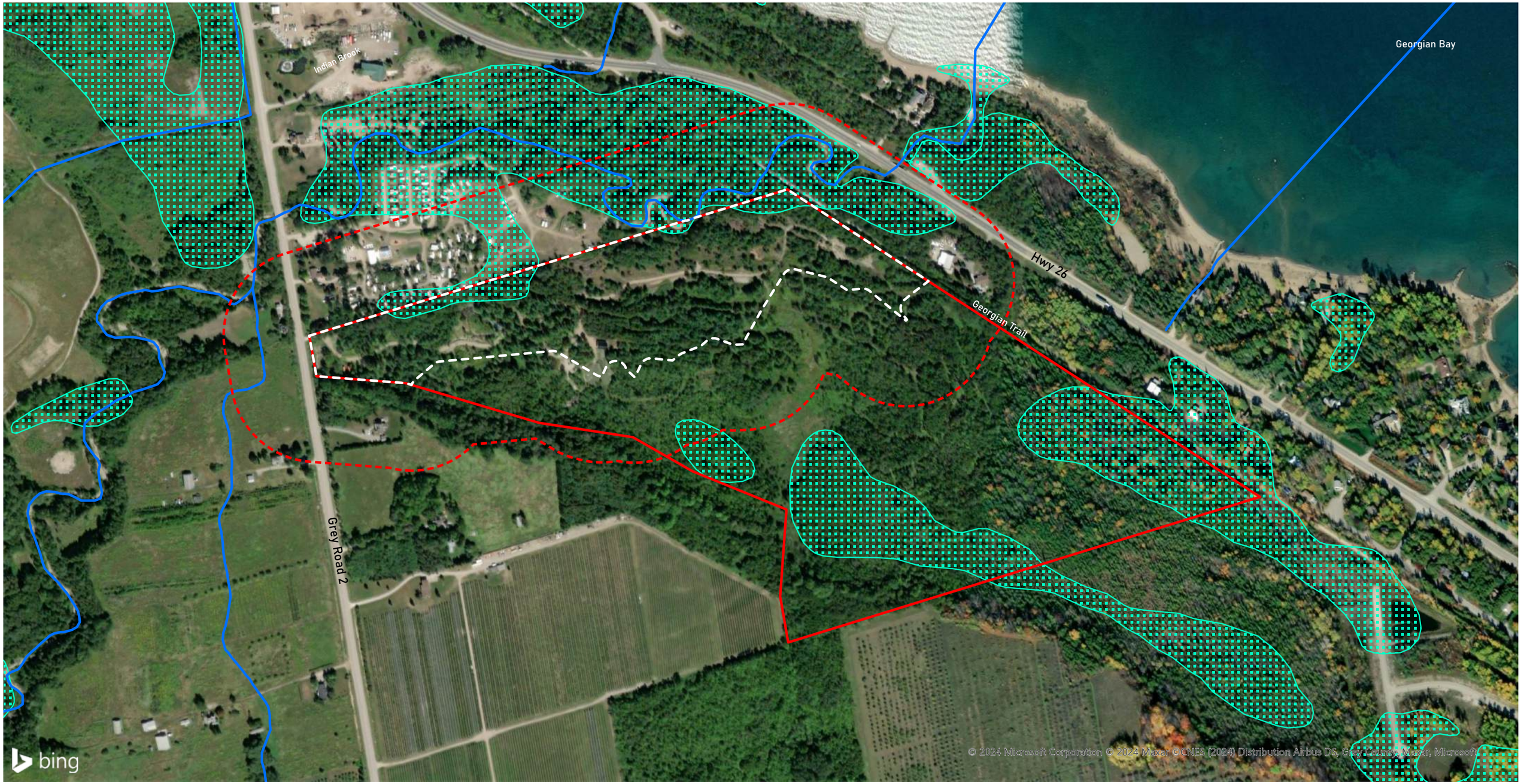
Due to the presence of natural features associated with the property and adjacent lands, including woodlands and wetlands, an EIS is required as part of the development application. The purpose of the EIS is to identify and characterize natural heritage features and functions associated with the property and evaluate potential impacts to those features and functions that may be associated with the proposed residential development. Where potential impacts are identified, recommendations or mitigation measures are proposed to ensure that the appropriate natural heritage policies and legislation can be followed.

This report has been prepared to address the natural heritage requirements of the Provincial Policy Statement (PPS, 2020), *Endangered Species Act* (ESA, 2007), *Fisheries Act,* 1985, *Conservation Authorities Act,* 1990, County of Grey Official Plan (2023), and Town of The Blue Mountains Official Plan (2016).

1.2 SITE DESCRIPTION

The property is within the Thornbury/Clarksburg settlement area of The Town of The Blue Mountains and is accessed by an existing driveway from Grey Road 2. The property is irregularly rectangular shaped and measures approximately 37.4 hectares ('ha') in size as per the site plan, bordered by the Georgian Trail and residential lands to the east and Grey Road 2 to the west.

Historically, the property was utilized for agricultural purposes with the northern half of the property cleared of the majority of the existing vegetation. At some point, the fields were permitted to re-naturalize and now the property contains a mixture of wetland (swamp, meadow marsh, open water ponds), upland woodlands, residential and recreational use, and open meadow. The northern portion of the property is partially developed with an established entranceway and utility building. A number of foot and motorized vehicle trails transect the property; however the southern portion of the property remains relatively undisturbed, existing as forest and swamp lands. Indian Brook borders the north-east property line. Land uses associated with adjacent lands include agriculture to the west and south, established woodlands to the north and south, and a recreational vehicle resort campground to the north.



496857 Grey Road 2

Town of The Blue Mountains

Figure 1:
Study Area

- Property Limit
- Watercourse (LIO)
- Wetland (LIO)
- Development Area
- 120m Study Area

MAP DRAWING INFORMATION:
IMAGERY DATA PROVIDED BY: BING MAPS

MAP CREATED BY: HM
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17N

N W E S

0 65 130 260 390 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-009-2023 Grey Rd 2

PROJECT: 03-009-2023 STATUS: DRAFT DATE: 04/06/2024

The Property is within the Lake Simcoe-Rideau Ecoregion (6E) of Ontario. It contains land that is regulated by the Grey Sauble Conservation Authority ('GSCA') due to the presence of intermittent drainage features and wetlands that eventually drain into Georgian Bay. As such, this report will consider the regulations associated with developments that are proposed in areas regulated by Ontario Regulation ('O. Reg.') 41/24 and the *Conservation Authorities Act,* 1990.

1.3 Study Area

For the purpose of this EIS, the Study Area is focused within an area approximately 120 metres ('m') surrounding the proposed development area, as illustrated in Figure 1. The Ministry of Natural Resources ('MNR') recommends a distance of 120 m for consideration of development and/or site alteration impacts to adjacent features, as outlined within the Natural Heritage Reference Manual (MNR, 2010).

2 ENVIRONMENTAL POLICY FRAMEWORK

The following summarizes the planning policies and regulations related to natural heritage that apply to the proposed development.

2.1 Provincial Policy Statement (2020)

Ontario's *Planning Act* requires that planning decisions shall be consistent with the Provincial Policy Statement (PPS, 2020). Section 2.1 of the PPS specifies policy related to the protection of natural heritage features and functions.

According to Section 2.1.4 of the PPS, development and site alteration shall not be permitted in the following features:

a) Significant wetlands in Ecoregions 5E, 6E, and 7E; and,
b) Significant coastal wetlands.

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 woodlands in Ecoregions 6E and 7E;
b) Significant valleylands in Ecoregions 6E and 7E;
c) Significant wildlife habitat ('SWH');
d) Significant areas of natural and scientific interest ('ANSI's) and,
e) Coastal wetlands in Ecoregions 5E, 6E, and 7E that are not subject to policy 2.1.4(b).

Sections 2.1.6 and 2.1.7 state that development and site alteration is not permitted in fish habitat or habitat of Endangered and Threatened species except in accordance with federal and provincial requirements.

Section 2.1.8 extends protection of those features defined above to adjacent lands, typically those within 120 m of the potential impact. Section 2.1.8 states that development and site alteration shall not be permitted on adjacent lands to natural heritage features 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 that there will be no negative impacts on the natural features or on their ecological function.

While many of these features are mapped and direction is available to allow for candidate features and functions to be identified, it remains 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. The Natural Heritage Reference Manual (MNR, 2010) and Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) were used within this report to identify candidate features and functions not currently identified by the province and/or municipality.

On October 20, 2024 the 2024 version of the PPS will take effect. Natural heritage policies within the 2024 PPS are provided in Section 4.1, and do not substantially change from those under current policy. As such, it is expected that despite the change in policy, the assessments and conclusions provided herein will remain valid.

2.2 Endangered Species Act (2007)

Ontario's *Endangered Species Act*, 2007 ('ESA') provides regulatory protection to Extirpated, Endangered and Threatened species. This regulatory protection is extended to both individuals and their habitat.

Section 9(1)(a) of the ESA states "*no person shall kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species"*.

Section 10(1)(a) of the ESA states "*no person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species".*

Ontario Regulation ('O. Reg.') 230/08 of the ESA identifies Species at Risk in Ontario. This includes species listed as Extirpated, Endangered, Threatened, and Special Concern. As noted above, only species listed as Endangered and Threatened receive species and habitat protection through the ESA. Species designated as Special Concern may receive habitat protection under the SWH provisions of the PPS.

2.3 Fisheries Act (1985)

The purpose of the federal *Fisheries Act*, 1985 is in part, to provide a framework for the conservation and protection of fish and fish habitat through the various regulations that protect against serious harm to fish by death or any permanent or temporary harmful alteration, disruption or destruction ('HADD') to their habitat. Fish habitat is defined within the *Fisheries Act,* 1985 as "spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes". The fish and fish habitat protection provisions of the *Fisheries Act, 1985* include:

- A prohibition against causing the death of fish, by means other than fishing (Section 34.4);
- A prohibition against causing the harmful alteration, disruption or destruction of fish habitat (Section 35);
- Establishment of standards and codes of practice in relation to works, undertakings and activities during any phase of their construction, operation, modification, decommissioning or abandonment for the avoidance of death to fish, HADD, and for the prevention of pollution (Section 34.2); and,
- Ministerial powers to ensure the free passage of fish or the protection of fish or fish habitat with respect to existing obstructions (Section 34.3).

The interpretation and application of the regulations of the *Fisheries Act*, 1985 is overseen by the Department of Fisheries and Oceans Canada ('DFO'). Under the direction of DFO, projects that have potential to affect fish and fish habitat are to be screened using their online guidance platform, 'Projects Near Water' to determine if the project will require review under the *Fisheries Act*. Projects that can not implement measures to mitigate impact to fish and fish habitat, and do not qualify under the current Standards and Codes of Practice, require review by DFO prior to any site disturbance or alteration, including vegetation removal and grading.

2.4 Conservation Authorities Act (1990)

Ontario's Conservation Authorities fall under the jurisdiction of the *Conservation Authorities Act*, 1990 which was reviewed and amended most recently in 2022. Recent changes to the Conservation Authorities Act have altered the purpose of their review and commenting with regards to natural heritage. Notwithstanding, the purpose of the Conservation Authorities Act is to "provide for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in watersheds in Ontario".

Areas of the property are regulated by Grey Sauble Conservation Authority ('GSCA) under O. Reg. 41/24 *Prohibited Activities, Exemptions and Permits* due to the presence of wetlands and watercourses (Appendix A).

2.5 Grey County Official Plan (2023)

The County of Grey Official Plan was adopted in 2018 and the current consolidated date is May 8, 2023. Schedule A, Map 2 (Land Use Types) of the County of Grey Official Plan illustrates the property and adjacent lands as being Primary Settlement Area with Hazard Lands, with the south-eastern portion as Recreational Resort Settlement Area and Special Agricultural Area (Appendix B). Appendix B, Map 2 (Constraint Mapping) of the Grey County Official Plan further maps the property as containing Significant Woodlands (Appendix B). No portion of the Study Area is mapped within the Grey County Natural Heritage System (County of Grey, 2023, Schedule C).

Primary Settlement Areas are larger settlements with municipal servicing. Municipalities with primary settlement areas will, in their official plans, identify and plan for intensification within these areas (County of Grey, 2023, Section 3.5). Minimum residential development densities will be applied in Primary Settlement Areas to ensure the efficient use of land and infrastructure to meet County and municipal growth needs (County of Grey, 2023, Section 3.5). The County of Grey Official Plan promotes the development of Primary Settlement Area land use types for a full range of residential, commercial, industrial, recreational, and institutional land uses (County of Grey, 2023, Section 3.5(3)). Land use policies and development standards in areas designated as Primary Settlement Area, however, will be in accordance with local official plans.

Hazard Lands include floodplains, steep or erosion prone slopes, organic or unstable soils, poorly drained areas, and lands along the Georgian Bay shoreline. Permitted uses in the Hazard Lands are forestry and uses connected with the conservation of water, soil, wildlife and other natural resources (County of Grey, 2023, Section 7.2 (2)). Other uses also permitted are agriculture, passive public parks, public utilities and resource based recreational uses. The aforementioned uses will only be permitted where site conditions are suitable and where the relevant hazard impacts have been reviewed. In the Hazard Lands, buildings and structures are generally not permitted (County of Grey, 2023, Section 7.2).

No development or site alteration may occur within Significant Woodlands or their adjacent lands, unless it has been demonstrated through an EIS that there will be no negative impacts on the feature or its functions (County of Grey, 2023, Section 7.4). Where a plantation has begun to transform into a more naturalized woodlands, an EIS may not be required for new development or site alteration, subject to the advice of a qualified professional, MNR, conservation authority staff, or municipal/County staff.

Tree cutting and forestry will be permitted in accordance with the County Forest Management By-law (or successor thereto) and guided by the policies of Section 5.5 (Forestry Uses) of the Grey County Official Plan.

2.6 Town of The Blue Mountains Official Plan (2016)

The Town of the Blue Mountains Official Plan Schedule A-2 illustrates the property as Rural and Hazard lands (Appendix C). The Rural designation applies to rural lands in the Town which are not considered to

be prime agricultural area, and the predominant land use within will be agriculture and forestry. For any non-farm land uses to be permitted within the Rural designation, the following must be satisfied:

- Where development is proposed on land that is currently or has been previously used for farm purposes it mut be demonstrated that no reasonable alternative exists.
- Evidence of the site suitability to provide adequate water quality and quantity (*i.e*. municipal services, approved sewage disposal system, etc.).
- That adequate drainage and outlets are available for stormwater runoff.
- That site access is open and maintained on a year-round basis and is appropriate for the use proposed.
- An amendment to the Town's Zoning By-law is required for development, redevelopment or intensification of existing lots less than 0.4 hectare ('ha') for small scale commercial and industrial uses, institutional development.
  (Town of the Blue Mountains, 2016, Section B4.4.4.1)

New lot creation shall be permitted by consent in accordance with the conditions of consent policies of the Town of the Blue Mountains Official Plan.

The purpose of the Hazard Lands designation is to identify lands having inherent environmental hazards such as flood susceptibility, erosion susceptibility, dynamic beach hazards, and hazardous sites that exhibit instability, or poor drainage, or any other physical condition which is severe enough to pose a risk for the occupant, property damage or social disruption if developed (Town of Blue the Mountains, 2016, Section B5.4). Permitted uses in Hazard Lands designation include forestry, uses connected with conservation of natural resources, agriculture, passive public parks, essential services, and resource based recreational uses. No buildings or structures are permitted in hazard lands except for the following:

- Renovated or minor expansions to existing buildings and structures which were legally established on the date of approval of this Plan;
- Non-habitable buildings connected with public parks (*i.e.* picnic shelters);
- Flood and erosion/sedimentation control structures;
- Fences, provided they will not constitute an obstruction or debris catching obstacle to the passage of flood waters or create or aggravate an erosion problem; and
- Recreational facilities, as approved by the Niagara Escarpment Commission, on lands identified as being prominent escarpment slope.
  (Town of the Blue Mountains, 2016, Section B5.4.2)

Access through a hazard area, which requires filling or other alterations to existing grades, shall be permitted in situations where it presents the only available means of securing a safe and appropriate building site on an existing lot of record (Town of the Blue Mountains, 2016, Section B5.4.2.h). The access will generally require approval from the appropriate Conservation Authority.

Appendix 1 (Constraint Mapping) of the Town of The Blue Mountains Official Plan illustrates Significant Woodlands in the Study Area, as identified in the County Official Plan, and Strem/River in association

with Indian Brook at the north-eastern portion of the property (Appendix C). Development and site alteration shall not be permitted within Significant Woodlands or 'Other Wetlands' or adjacent lands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions (Town of The Blue Mountains, 2016, Section B5.2.1). Further, no development is permitted within 30 m of any top of bank of any river, stream, lake or Georgian Bay unless authorized by a Conservation Authority (Town of The Blue Mountains, 2016, Section C2.1).

3 STUDY APPROACH

The property was the subject of a natural heritage constraints analysis completed in 2022 by Birks NHC. Based on the outcome of this analysis, additional efforts, as outlined herein, were focussed within the northern portion of the property. The following activities and assessments were confirmed to be appropriate through the establishment of a Terms of Reference with Grey County (Appendix D) and were thus undertaken to fulfill the objectives of this study:

3.1 Background Data Review and Sources

Background documents provide information on site characteristics, habitat, wildlife, rare species and communities, and other aspects of the Study Area. For the purpose of this EIS, the following sources were considered:

- Land Information Ontario (LIO; MNRF, accessed 2024)
- Natural Heritage Information Centre (NHIC; MNRF, 2024)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, accessed May 2024)
- Species at Risk in Ontario List (MECP, 2024)
- Town of The Blue Mountains Official Plan (2016)
- County of Grey Official Plan (2023)

3.2 Field Surveys

Natural heritage features and functions within the Study Area were characterized through completion of of field surveys. The following sections outline the methods used for each of the surveys, including specific provincial protocols utilized. Incidental wildlife, plant and habitat observations were considered during all surveys. Searches were also conducted to document the presence or absence of suitable habitat, based on habitat requirements of Threatened or Endangered species with habitat ranges overlapping the Study Area. Information regarding the timing of field surveys is presented in Table 1 below:

Table 1: Summary of Field Surveys Conducted

Dates	Start/End Time	Type of Survey	Birks NHC Ecologist
June 6, 2023 August 25, 2023 September 30, 2023	9:30 – 12:00 10:30 – 14:30 14:00 – 16:00	Vascular Plant Survey	M. Fuller, H. B.Sc. H. Marcks, B.Sc. M.F.C.
July 14, 2023	9:00 – 16:00	Wetland Limits Delineation	M. Fuller, H. B.Sc.
June 6, 2023 June 14, 2023	5:43 – 7:45 6:33 – 8:45	Dawn Breeding Bird Survey	M. Fuller, H. B.Sc.
April 20, 2023 May 13, 2023 June 21, 2023	20:34 – 21:00 21:04 – 21:35 21:33 – 21:59	Amphibian Call Survey	M. Fuller, H. B.Sc.
December 15, 2023	10:30 – 13:30	Snag Tree Density Survey	H. Marcks, B.Sc. M.F.C. S. Brady, H. B.E.S.

3.2.1 Vegetation Community Mapping and Surveys

The vegetation communities were assessed on the property using the Ecological Land Classification ('ELC') method described by Lee *et al*. (1998). The following steps took place to ensure that a thorough and full assessment of vegetation species and the associated ecological communities was completed:

- Site reconnaissance to ascertain major community types and general site characteristics;
- Preliminary determination of ELC boundaries through a review of aerial photography; and
- Refinement of those ELC boundaries through seasonal site visits that were scheduled to capture a broad range of vegetation species.

Birks NHC mapped wetland limits within the northern portion of the property following the Southern Ontario Wetland Evaluation System ('OWES'; MNRF, 2022) whereby the identification of wetland boundaries is based on the presence and relative abundance of wetland plant species.

Figure 2 illustrates the location and extent of the identified ELC communities on the property and the Birks NHC delineated limit of wetland vegetation communities. A list of vegetation species is included in Appendix E.

3.2.2 Drainage Assessment

Concentrated surface water areas and flows on the property were assessed to identify overland flow patterns. This assessment helped to determine drainage patterns on the property and evaluate for the possibility of the overland connection of those features to known fish habitat (Indian Brook). Numerous intermittent drainage features were recorded on site and have been mapped on Figure 2.

3.2.3 Breeding Bird Surveys

Dawn breeding bird surveys were conducted at seven survey stations on the property following methods outlined in the Ontario Breeding Bird Atlas Guide for Participants (Cadman *et al*., 2001).

Specifically, breeding bird surveys consisted of ten-minute point counts that were used to establish species presence and breeding activity within the various habitat types of the property. A formal list of species encountered during the breeding bird surveys, and incidentals recorded during completion of the field program, is included in Appendix F.

3.2.4 Amphibian Call Surveys

Surveys were conducted following the Marsh Monitoring Program protocol (Bird Studies Canada, 2009) to assess the function of the identified wetland features as amphibian breeding habitat. According to this protocol, surveys are to be conducted between the months of April and July, at least 15 days apart, at the onset of three overnight temperature thresholds; 5°C for the first survey, 10°C for the second survey, and 17°C for the third survey. Each temperature threshold is designed to detect a variety of frog species during their 'optimum' breeding window. Weather conditions were also taken into consideration for each survey; surveys were not performed during periods of intense rain and high winds.

Three stations were established on the property; the locations of the stations are illustrated in Figure 2. Each station was surveyed on April 20, May 13 and June 21 of 2023. The calling activity of individuals estimated to be within 100 m of the monitoring station was documented during each survey. For each species heard, call activity was ranked using one of the three call level code categories:

- Call code 1 - Individuals can be counted, calls not simultaneous;
- Call code 2 - Calls distinguishable, some simultaneous calling; or,
- Call code 3 - Full chorus, calls simultaneous and overlapping.

Results of the amphibian call surveys are presented in Section 4.2.4 of this report.

3.2.5 Bat Habitat Assessment – Snag Density Survey

A snag density survey was completed on December 15, 2023 to determine presence of candidate maternity roosting habitat for Endangered bat species. The survey followed the protocol outlined in the Survey Protocol for Species at Risk Bats within Treed Habitats (MNRF, 2022) and was conducted during leaf-off conditions so that the view of tree cavities and crevices were not obscured by foliage.

A total of 32 snag survey plots (with 12 m radius) were surveyed (Appendix G). All trees with a diameter at breast height ('DBH') of 25 centimeters ('cm') or greater were identified within the plots. Characteristics of each identified tree, such as tree species, decay class (scored between 1-6), DBH, presence of decay features (*i.e.*, loose bark, cavities, cracks) and plot location were recorded. Snag density was then calculated to determine the number of snags per hectare; density calculations are also presented in Appendix G.

No minimum threshold is required in terms of snag density for an area to be considered bat habitat. However, ELC communities found to have a snag density of 10 snags or greater per hectare may be considered high quality candidate maternity roosting habitat (MNRF, 2017).

3.2.6 General Wildlife Surveys

A wildlife assessment within the property was completed through incidental observations while on site. Any incidental observations of wildlife were noted, as well as other wildlife evidence such as dens, tracks, and scat. These observations also helped validate our conclusions pertaining to the ecological function of the ecosystems identified within the Study Area. Wildlife habitat functions were evaluated according to provincial criteria outlined in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015).

3.3 Species at Risk

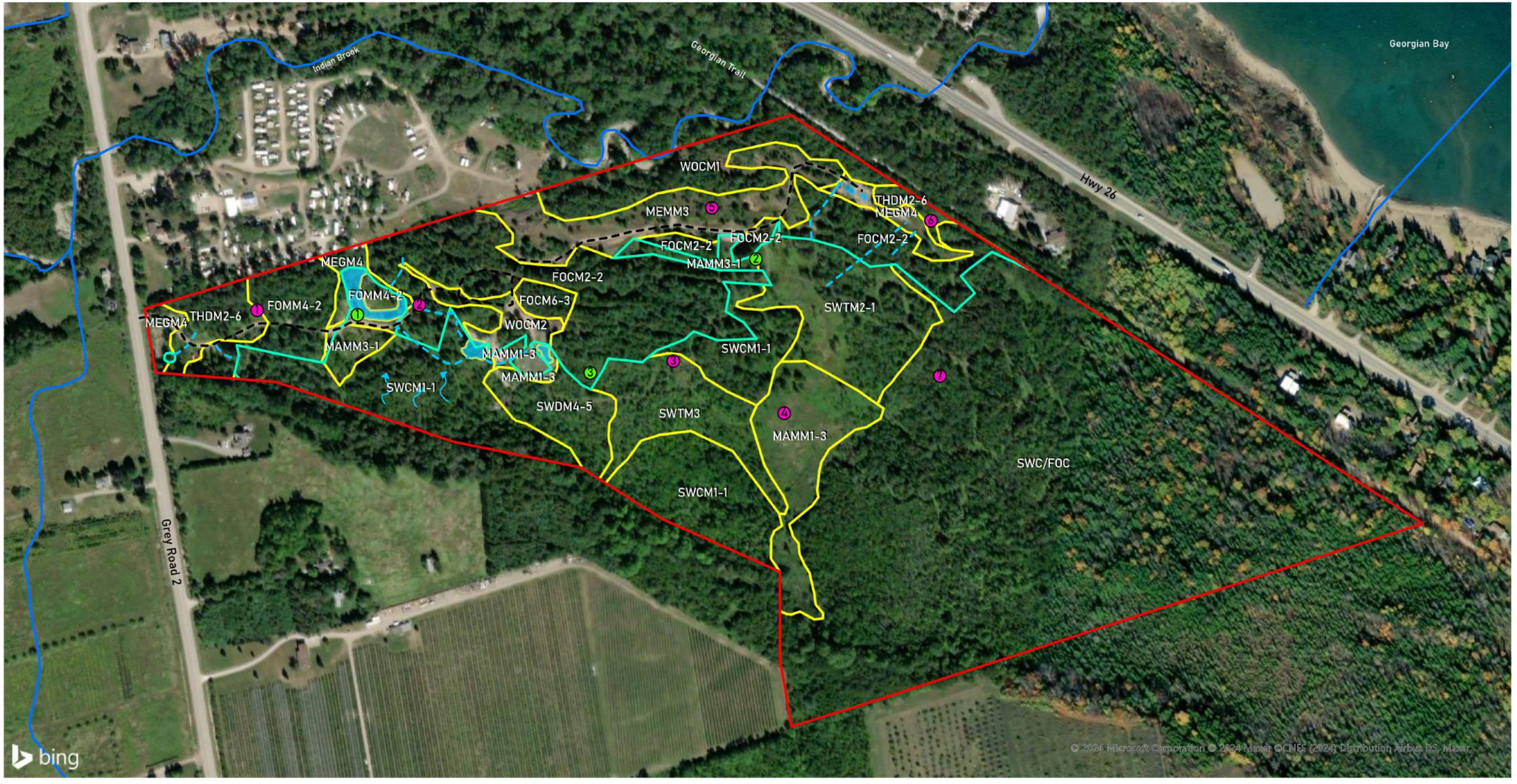
The Species at Risk assessment included an analysis of the habitat requirements of Species at Risk reported to occur in the general area to identify those having potential to occur within the property and adjacent lands. Birks NHC staff reviewed data obtained through desktop review and the site survey visits related to potential habitat for provincially designated species, notably Species at Risk listed under O. Reg. 230/08 of the ESA as Threatened or Endangered. Habitat requirements and appropriate designations for all species that could potentially occur within the Study Area were considered during this assessment. Where potential SAR habitat was identified on the property, site assessment information was analysed to determine the function of the potential habitat and whether the proposed works comply with the regulations under the ESA.

4 EXISTING CONDITIONS

The property was once utilized for agricultural purposes, with the majority of the northern portion devoid of vegetation. At some point, farming activities ceased, and the property was permitted to re-naturalize. In present day, there exists a mixture of wetland (swamp, meadow marsh, open water ponds), upland woodlands and open disturbed lands/cultural meadow. The northern portion of the property is partially developed and disturbed with man-made ponds, man made drainages and an established entranceway and utility building. A number of foot and motorized vehicle trails run through the property. The southern portion of the property remains relatively undisturbed in comparison to the north.

4.1 Vegetation Communities and Plants

The vegetation communities were assessed using the ELC method for southern Ontario; wetland limits within the northern portion of the property were mapped by Birks NHC utilizing the methods outlined in the OWES protocol whereby the identification of wetland boundaries is based on the presence and



496857 Grey Road 2

Town of The Blue Mountains

Figure 2:
Existing Conditions & Survey Locations

- Property Limit
- Watercourse (LIO)
- Drainage (Birks NHC)
- Pond
- Access Driveway
- Birks NHC Wetland Limit (July 2023)
- ELC Vegetation Community
- Seep

Survey Locations

- Dawn Breeding Bird
- Amphibian Calling

THDM2-6 Buckthorn Deciduous Shrub Thicket
WOCM1 Dry-Fresh Coniferous Woodland
WOCM2 Fresh-Moist Coniferous Woodland
FOCM2-2 Dry-Fresh White Cedar Coniferous Forest
FOCM6-3 Dry-Fresh Scots Pine Naturalized Coniferous Plantation
FOMM4-2 Dry-Fresh White Cedar-Poplar Mixed Forest
MEMM3 Dry-Fresh Mixed Meadow
MEGM4 Fresh-Moist Graminoid Meadow
MAMM3-1/SWT Mixed Mineral Meadow Marsh/Thicket Swamp
MAMM1-3 Reed-canary Grass Graminoid Mineral Meadow Marsh
SWTM3 Willow Mineral Deciduous Thicket Swamp
SWTM2-1 Red-osier Dogwood Mineral Deciduous Thicket Swamp
SWDM4-5 Poplar Mineral Deciduous Swamp
SWCM1-1 White Cedar Coniferous Swamp
SWC/FOC Coniferous Swamp/Coniferous Forest

MAP DRAWING INFORMATION:
IMAGERY DATA PROVIDED BY: BING MAPS

MAP CREATED BY: SB
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17N

Meters
0 50 100 200 300

FILE LOCATION:
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relative abundance of wetland plant species. Figure 2 illustrates the identified ELC communities and the Birks NHC delineated wetland limit, as recorded by a handheld GPS unit (with 3 m accuracy).

Vegetation community mapping completed by Birks NHC identified the following communities within the proposed development area:

- MEGM4: Fresh – Moist Graminoid Meadow
- MEMM3: Dry – Fresh Mixed Meadow
- THDM2-6: Buckthorn Deciduous Shrub Thicket
- WOCM1 Dry – Fresh Coniferous Woodland
- WOCM2: Fresh – Moist Coniferous Woodland
- FOMM4-2: Dry – Fresh White Cedar – Poplar Mixed Forest
- FOCM2-2: Dry – Fresh White Cedar Coniferous Forest
- FOCM6-3: Dry – Fresh Scots Pine Naturalized Coniferous Plantation
- MAMM3-1: Mixed Mineral Marsh
- SWTM2-1: Red-osier Dogwood Mineral Deciduous Thicket Swamp
- SWCM1-1: White Cedar Coniferous Swamp

The following additional communities were identified on the property, outside of the proposed development area, and reflect the wetter conditions of the remainder of the property:

- MAMM3-1: Mixed Mineral Marsh
- MAMM1-3: Reed Canary Grass Graminoid Mineral Meadow Marsh
- SWTM2-1: Red-osier Dogwood Mineral Deciduous Thicket Swamp
- SWTM3: Willow Mineral Deciduous Thicket Swamp
- SWCM1-1: White Cedar Coniferous Swamp
- SWDM4-5: Poplar Mineral Deciduous Swamp

The vegetative communities and species identified on the property are considered common in the province, with the exception of Black Ash which is designated as an Endangered species in Ontario. Black Ash was noted to be present within the Poplar deciduous swamp (SWDM4-5).

A number of non-native “exotic” species were identified on site and in particular within the ‘cultural’ communities (*i.e.* naturalized coniferous plantation and meadow areas in the proposed development area). Species listed as ‘noxious’ weeds in Ontario (MAFRA, 2022) such as European Buckthorn, Garlic Mustard, European Swallowwort, and Ragweed were also primarily present in the northern portion of the property.

The vegetative plant list compiled by Birks NHC was cross referenced with the checklist for vascular plants for Bruce and Grey Counties (OSFN, 2023) for the presence of regionally rare species. Eight species classified as rare in South Grey County were identified in the Study Area:

- Field Pussytoes (*Antennaria neglecta*) – development area

- Grey Dogwood (*Cornus racemosa*) – development area
- Marsh Horsetail (*Equisetum palustre*) – adjacent lands to development area
- Meadow Horsetail (*Equisetum pratense*) – adjacent lands to development area
- Black Willow (*Salix nigra*) – adjacent lands to development area
- Hairy Goldenrod (*Solidago hispida*) – adjacent lands to development area
- Early Goldenrod (*Solidago juncea*) – development area
- Maple-leaved Viburnum (*Viburnum acerifolium*) – development area

4.1.1 Significant Woodland Identification

Significant Woodland mapping available from the County and Town illustrated that Significant Woodland is present within the Study Area (Figure 3a). Birks NHC has considered this mapping in conjunction with the vegetation communities identified and characterized during the 2023 field season, and survey data from the Tree Inventory and Interim Preservation Plan (Birks NHC, 2024) and have revised the limits of the Significant Woodland feature within the proposed development area, as illustrated on Figure 3b. Specifically, we have removed the utility building and maintained lands, THDM2-1 (Buckthorn Thicket) and the FOCM6-3 (Scot's Pine Plantation) vegetation communities from the Significant Woodland feature, based on the guidance within the Natural Heritage Reference Manual (MNRF, 2010) that large openings (>20 m) should be excluded from the Significant Woodland feature and that communities dominated by invasive species, or plantations, would not be considered as contributing to the feature.

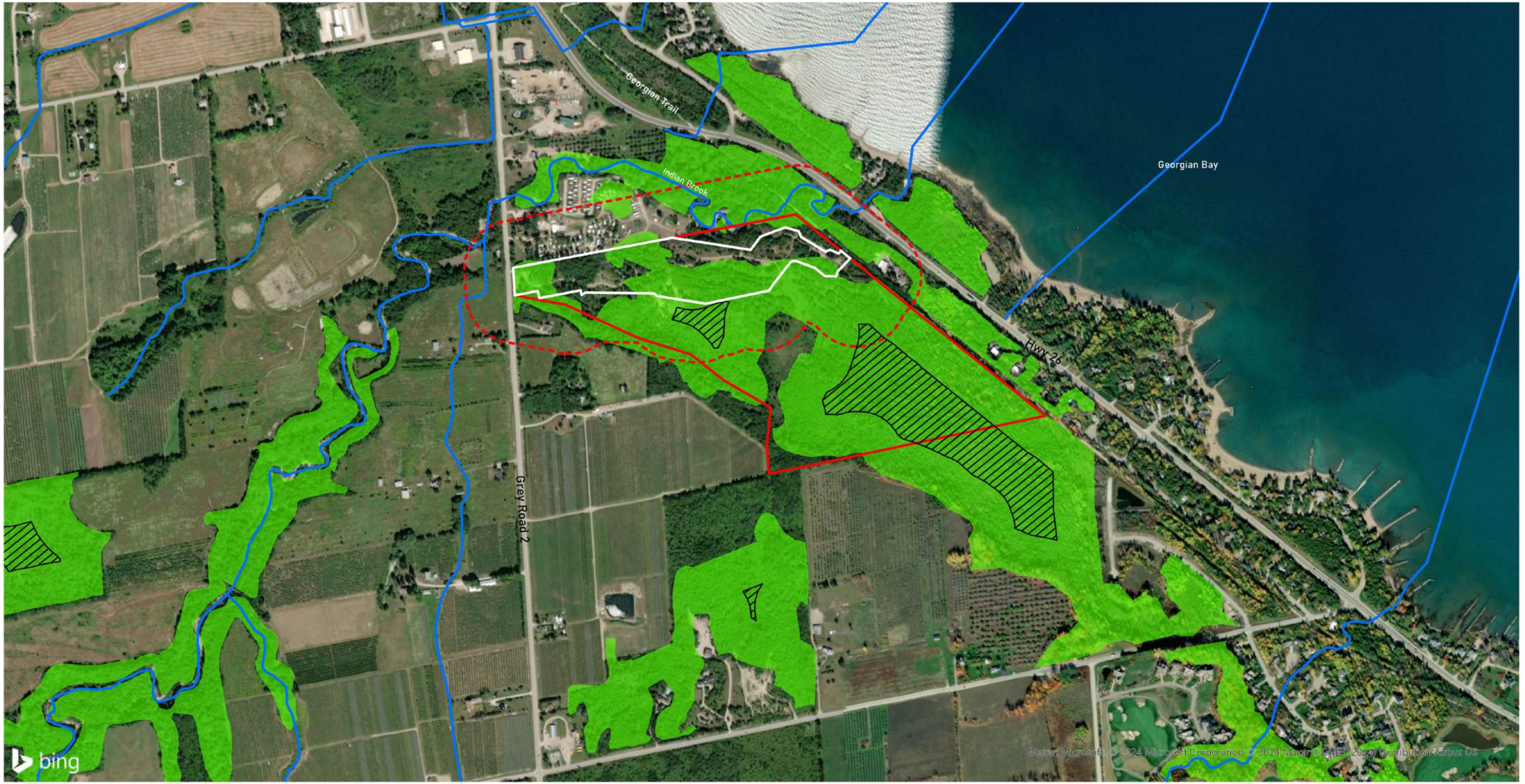
4.2 Wildlife Habitat

4.2.1 Birds

A total of 41 bird species were recorded during the field surveys (Appendix F). Species recorded are considered provincially and locally common, such as American Crow, American Goldfinch, Song Sparrow, Blue Jay, American Robin, and Black-capped Chickadee. No Special Concern or Species at Risk were noted during breeding bird surveys or as incidental occurrences during other site surveys.

Probable breeding evidence, defined as multiple singing individuals and/or pair observed in suitable nesting habitat during breeding season, was recorded for species representative of the various wetland, woodland and shrub/thicket habitats in the Study Area, including Red-eyed Vireo, Alder Flycatcher, Red-winged Blackbird, House Wren, American Redstart, and Black-and-White Warbler.

Given the expanse of woodland habitat, and presence of interior woodland habitats south of the Study Area, it is expected that woodland area-sensitive breeding bird species may also be associated with the Study Area. Species associated with Woodland Area-Sensitive Breeding Bird Habitat SWH were recorded by Birks NHC (MNR, 2015) as possibly breeding within the study area (species observed and/or singing in suitable nesting habitat during breeding season but without sufficient frequency or nesting evidence to presume breeding). Recorded species include Winter Wren, Red-breasted Nuthatch, and Blue-headed Vireo. No interior woodland habitat (assuming a 100 m or 200 m buffer from Birks NHC



496857 Grey Road 2

Town of The Blue Mountains

Figure 3a.
County Woodland Mapping

- 120m Study Area
- Property Limit
- Watercourse (LIO)
- Development Area/Grading Limit
- Grey County - Significant Woodlands
- Grey County 100m Interior Woodland

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IMAGERY DATA PROVIDED BY: BING MAPS

MAP CREATED BY: HM
MAP CHECKED BY: MF
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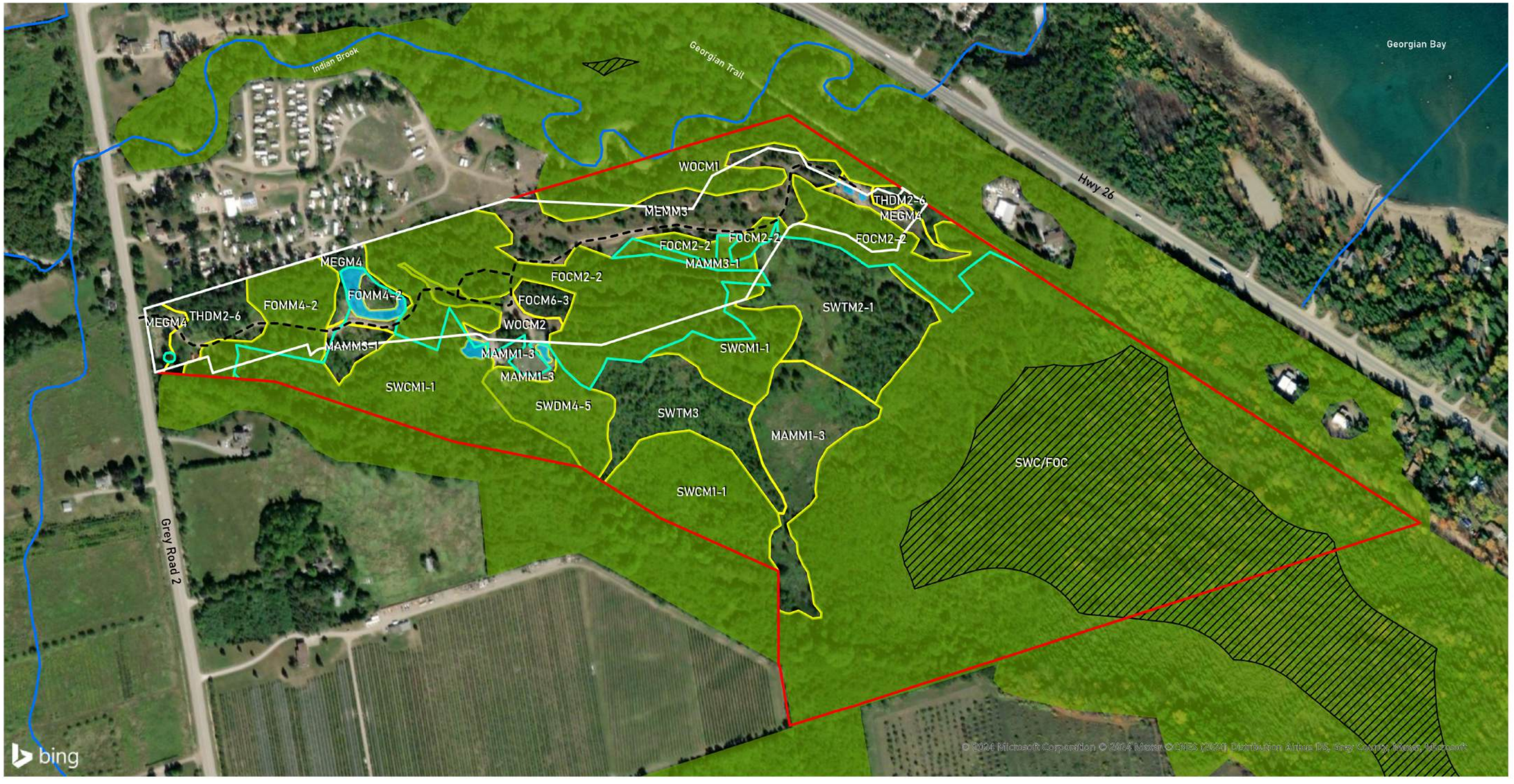

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Figure 3b:
Woodland Mapping with ELC

- Property Limit
- Watercourse (LIO)
- Access Driveway
- Pond
- Birks NHC Wetland Limit (July 2023)
- Candidate Significant Woodland Mapping (88ha; Birks NHC)
- 100m Woodland Interior
- Development Area/Grading Limit
- ELC Vegetation Community

THDM2-6 Buckthorn Deciduous Shrub Thicket
WOCM1 Dry-Fresh Coniferous Woodland
WOCM2 Fresh-Moist Coniferous Woodland
FOCM2-2 Dry-Fresh White Cedar Coniferous Forest
FOCM6-3 Dry-Fresh Scots Pine Naturalized Coniferous Plantation
FOMM4-2 Dry-Fresh White Cedar-Poplar Mixed Forest
MEMM3 Dry-Fresh Mixed Meadow
MEGM4 Fresh-Moist Graminoid Meadow
MAMM3-1/SWT Mixed Mineral Meadow Marsh/Thicket Swamp
MAMM1-3 Reed-canary Grass Graminoid Mineral Meadow Marsh
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BIRKS NATURAL HERITAGE CONSULTANTS

MAP DRAWING INFORMATION:
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MAP CREATED BY: SB
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MAP PROJECTION: NAD 1983 UTM ZONE 17N

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forest edge) is present in the Study Area (Figure 3b). That said, the property's woodland habitat contributes to a larger woodland feature that does contain interior habitat. It is expected that the Area-Sensitive species recorded are associated with those interior habitats in the southern portion of the property and beyond.

A list of bird species encountered on the property through breeding bird surveys and incidental observations can be found in Appendix F.

4.2.2 Mammals

Typical mammals observed in Ontario are expected to utilize the open and wooded habitats in the Study Area such as Gray Squirrel, Red Squirrel, Raccoon, Eastern Chipmunk, Porcupine, and small rodents. Birks NHC noted observations and/or evidence of Eastern Cottontail, Red Squirrel, Raccoon and White-tailed Deer on site. Based on available background mapping from Land Information Ontario ('LIO'), no deer wintering habitat SWH has been mapped by the MNR within the Study Area.

Bat Maternity Roosting Assessment

During the snag survey assessment, a total of 1.6 ha (32 snag survey plots) were surveyed (Appendix G) across the northern portion of the property. A total of 249 trees were identified within the surveyed area as being of sufficient size to provide quality roosting habitat (>25 cm DBH). Of those, only 25 trees contained snag features (*i.e.*, holes, crevices, loose bark, cracks, etc.), and an even smaller number were considered candidate bat roost trees. Candidate roosting trees have snag features that are a minimum of 10 m high and are in the early stages of decay, with some dieback observed in the canopy (categorized as a decay class of 1, 2 or 3). Results of the snag density survey indicate a low density of candidate bat maternity roost trees in the area surveyed and thus we conclude that candidate high quality bat maternity roosting habitat (at minimum 10 snags per ha) is not present within the development area. Snag density data is provided in Appendix G.

4.2.3 Fish and Fish Habitat

The Study Area is located within the Indian Brook watershed. Indian Brook flows down the Niagara Escarpment within the Town of the Blue Mountains, passing east of the Town of Thornbury. Immediately north-east of the property, watercourse crosses under Highway 26 and enters Georgian Bay at Peasemarsh Nature Reserve (Blue Mountain Watershed Trust, 2018). The watercourse flows just outside the property, along the north-eastern boundary (Figure 2). Indian Brook is a coldwater fishery and a spawning ground for Rainbow Trout, Chinook Salmon, and Brown Trout (Blue Mountain Watershed Trust, 2018). No aquatic Species at Risk are mapped in the area (DFO, 2023). The GSCA watershed report card (2018) assigns a D grade (poor) to forest cover, an F wetland grade (very poor), and a B surface water grade (good) to the Indian Brook catchment area.

Several naturalized, man-made ponds were identified within the central portion of the property, a result of historic alteration by previous landowners. The ponds appeared to be interconnected under high

flow conditions, with the main outlet of the most northerly pond discharging north-easterly via sheet flow within the forested habitat along the northern property limit. No connection to confirmed fish habitat (Indian Brook) was observed, and thus the ponds are considered to be offline ponds and therefore are not considered to be fish habitat.

Numerous intermittent features were observed along the eastern property boundary as well (Figure 2) which drained to isolated dug holes within an existing trail area, parallel to the eastern property limit. No aquatic vegetation had established within or around the perimeter of these features. No surface water connection to downstream fish habitat was identified in this location and thus the drainages do not contribute to fish habitat, as defined by the *Fisheries Act*, 1985. Generally, it is understood that drainage moves via sheet flow and shallow subsurface flow in a north-easterly direction across the property (Tatham, 2024).

4.2.4 Amphibians and Reptiles

Aquatic habitat features that could support amphibian breeding were found throughout the property. These habitat features are comprised of ponds, swamp lands, and meadow marsh areas.

Three amphibian call listening stations were surveyed on April 20, May 13 and June 21 of 2023. Table 2 below presents the results of the amphibian call surveys; survey station locations are illustrated on Figure 2. In addition to those species identified in Table 2, Leopard Frog and Green Frog were incidentally observed during completion of the field program.

Table 2: Summary of Amphibian Call Survey Data

	Survey Station 1	Survey Station 2	Survey Station 3
April 20, 2023 10^0C, 100% cloud cover	Spring Peeper (L2-7)	Spring Peeper (L2-5)	Spring Peeper (L3) American Toad (L2-10)
May 13, 2023 11^0C, 0% cloud cover	Spring Peeper (L3) Green Frog (L1-1) Leopard Frog (L1-1)	-----	Spring Peeper (L3) Green Frog (L1-1)
June 21, 2023 20^0C, 0% cloud cover	Green Frog (L1-4) Gray Treefrog (L2-9)	-----	Green Frog (L1-6) Gray Treefrog (L1-3)

L1 - #: Individuals can be counted, calls not simultaneous; L2 - #: Calls distinguishable, some simultaneous calling; L3: Full chorus; calls simultaneous and overlapping, individuals can't be counted.

The amphibian activity recorded at Station 2 was quite low with Spring Peepers heard calling during the April survey only. Background noise from the road and wildlife (birds) was significant at Station 2, affecting sampling during the May survey; nonetheless, no amphibians were heard calling during the subsequent surveys in the north-eastern area of the property.

Calling activity was recorded at both Station 1 and Station 3, associated with the created ponds located in the central portion of the property. A full chorus of Spring Peepers was heard at both locations, as

well as a lower number of calls from American Toad, Green Frog, Gray Treefrog, and Leopard Frog (Table 2). Overall call levels at Station 1 and Station 3 approached criteria for SWH significance but did not achieve confirmation of SWH, as outlined within Appendix H (MNRF, 2015).

No targeted reptile surveys were conducted within the Study Area, although Eastern Gartersnake was incidentally observed while on site. Given the habitats present, species range maps, and observations in the general area (Ontario Nature, 2024), the following additional reptiles are expected to be present in the Study Area: Midland Painted Turtle, Snapping Turtle and Eastern Milksnake (Ontario Nature, 2024, square 17NK43).

5 NATURAL HERITAGE FEATURES AND FUNCTIONS

In the following sections we summarize the range of key features and functions attributable to the Study Area based on existing designations/delineations by agencies and as revealed through the application of provincial guidelines for identification of significant natural heritage features and functions.

5.1 Provincially Significant Wetland

No Provincially Significant Wetlands are mapped in the Study Area.

5.2 Other Wetlands

Wetlands (un-evaluated) are present on the property. Wetland communities have been identified through vegetation community mapping, the limit of which was confirmed by Birks NHC. The location of the wetland habitats are presented on Figure 2.

5.3 Significant Woodland

The Grey County Official Plan and the Town of The Blue Mountains constraint mapping illustrates Significant Woodlands on the property and adjacent lands (Appendix B and Appendix C). In addition, the woodland feature would be considered significant according to recommended provincial evaluation criteria in the Natural Heritage Reference Manual (MNR, 2010, Section 7.3.1, Table 7-1) due to the feature's size (approximately 88 ha), provision of interior habitat, proximity to other significant features (woodlands, fish habitat), and water protection. Birks NHC has refined the boundary of the Significant Woodland within the property limits based on our current understanding of the property and the vegetation communities of which it is comprised, as illustrated in Figure 3b.

5.4 Significant Valleylands

The Natural Heritage Reference Manual (MNR, 2010) defines valleylands as *a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year* (MNR, 2010, pg.74). The County of Grey Official Plan constraint mapping illustrates areas of

Significant Valleylands within the County however no Significant Valleylands are mapped within the Study Area.

5.5 Significant Wildlife Habitat

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) document was reviewed by Birks NHC as part of this study to determine whether any portions of the Study Area would meet the criteria for candidate or confirmed SWH. SWH functions were assessed utilizing expert knowledge of the site; habitat and species data sources were reviewed in addition to field data gathered by Birks NHC ecologists. The SWH assessment is included as Appendix H of this report. The following presents those SWH functions potentially occurring within the Study Area:

5.5.1 Seasonal Concentration Areas of Animals

As outlined within the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E reference document (MNRF, 2015), Seasonal Concentration Areas are areas where wildlife species occur annually. These seasonal aggregations result in large numbers of individuals highly concentrated within relatively small areas. The loss of, or damage to, these areas can result in a significant impact to populations. The Study Area may provide the following Seasonal Concentration Areas SWH functions:

Reptile Hibernaculum

Snakes overwinter in Ontario by accessing underground hibernation sites below the frost line. They will utilize rock crevices, rodent burrows, tree root systems and structures such as old building foundations to obtain sufficient depth to prevent freezing. Because of the variability in features that snakes will use for hibernation, snake hibernaculum may be found in almost any habitat (except for very wet ones). Since features associated with this function appear to be common in the landscape, reptile hibernaculum SWH may be present within the Study Area. While there are no rock crevices in the Study Area, reptiles may gain access to below the frost line for hibernation through rodent burrows and tree root systems.

5.5.2 Specialized Habitat for Wildlife

Specialized Habitat for Wildlife is a community or diversity-based category. The more wildlife species a habitat contains, the more significant the habitat becomes to the planning area. Some species require large areas of habitat for their long-term survival and many require substantial areas of suitable habitat for successful breeding. The largest and least fragmented habitats will support the most significant populations of wildlife (MNRF, 2015). The Study Area may provide the following Specialized Habitat for Wildlife functions:

Seeps and Springs

Seeps and springs are found in areas where groundwater comes to the surface and are particularly found within headwater areas of coldwater streams, rivers and wetlands. Seeps and springs provide habitat for numerous wildlife and plant species and provide important feeding and drinking

opportunities. The presence of groundwater seeps in forested habitats enhances winter habitat for wildlife species such as Wild Turkey and White-tailed Deer due to the lack of snow in the area of the seepage, availability of drinking water and exposed food in the form of foliage and invertebrates (MNR, 2000). The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) indicates that any forested area within the headwater of a stream or river system is to be considered Candidate SWH for Seeps and Springs, and the presence of a site with two or more seeps/springs should be considered SWH. Groundwater seepage was noted by Birks NHC along the western property line, in proximity to a forested slope (Figure 2).

5.5.3 Special Concern and Rare Wildlife Species

Habitat for all Special Concern and provincially rare (S1-S3, SH) plant and animal species is considered SWH. When an occurrence is identified within a survey grid square for a Special Concern or provincially rare species, an assessment of the Study Area to provide candidate habitat for the species is warranted. The following Special Concern wildlife species was identified as potentially occurring within the Study Area:

Snapping Turtle (Special Concern)

The Snapping Turtle occurs in almost any freshwater habitat including small wetlands, ponds, and ditches. This species is known within the area and has recent occurrences recorded in the survey grid squares which encompass the Study Area (NHIC square 17NK4532; Ontario Reptile and Amphibian Atlas square 17NK43). Snapping Turtles have the potential to utilize the aquatic habitats in the Study Area, specifically the constructed ponds for overwintering and the unconsolidated earthen areas for nesting.

Monarch (Special Concern)

Throughout their life cycle, Monarchs utilize a variety of different habitat types, dependant upon life cycle stage. Adults will lay eggs on milkweed plants, so that when hatched, caterpillars can immediately begin feeding; their exclusive food source as a caterpillar is milkweed. Once metamorphosized, Monarchs can be found in more diverse habitats where they feed on a variety of wildflowers. As winter approaches, Monarchs migrate south; during migration, groups of Monarchs wills stage along the shores of Lake Ontario, returning again in the spring. Adult Monarchs were observed within the open meadow and recreational use (utility building) areas of the property.

5.6 Areas of Natural and Scientific Interest (ANSI)

No ANSIs are mapped within the Study Area.

5.7 Fish and Fish Habitat

Indian Brook borders the northern limit of the property (Figure 2) and is considered to be a coldwater fishery, providing permanent, direct fish habitat. No surface water connection between Indian Brook and the wetlands and ponds of the property was documented, and thus aquatic environs within the property, and specifically the proposed area of alteration, are not considered to provide fish habitat.

5.8 Habitat of Threatened and Endangered Species

The habitat requirements of those species listed as Threatened and Endangered under the ESA were considered in relation to the habitat features noted within the Study Area. Based on habitat use, site knowledge and data available, it was determined that potential habitat for the following Endangered species may be present in the Study Area:

Endangered Bat Species

Eight species of bats live in Ontario, four of which are provincially listed as Endangered (Tri-colored Bat, Northern Myotis, Litte Brown Myotis, Eastern Small-footed Myotis), with three additional species likely to be listed as Endangered in Ontario by January 2025 (Eastern Red Bat, Hoary Bat, and Silver-haired Bat). The main threats to populations of these bat species are wind energy turbines (for migratory bat species), White Nose Syndrome (a fungal disease), and loss of forested roosting habitats.

Important habitat functions for the species include hibernacula, maternity roost, day roosts, and foraging habitat. Of these habitat types, no features with potential to function as typical hibernacula exist within the Study Area. The property lacks caves, mines and rock crevices that are typically used by at-risk species.

Day roosts are locations that are used by males and non-reproductive females as they move across the landscape and can take the form of any tree with appropriate snag features such as loose bark, cracks or crevices, or leaf clusters within those trees. Thus, candidate day roosting habitat is present within the Study Area.

Maternity roosting habitat is found in forests providing a relatively high density of large wildlife cavity trees (*i.e.,* snags). Results of the snag density survey indicate a low density of candidate bat roost trees and therefore candidate bat maternity roosting habitat (a minimum 10 snags per ha) is not present within the Study Area.

The property offers various habitat opportunities that would provide an abundance of flying insects for foraging bats (*i.e.,* wetlands, forest openings, forest edges, open corridors). Foraging habitat is widely available within the matrix of wetland and wooded areas common throughout the area.

Black Ash (Endangered)

Black Ash is a medium-sized, shade-intolerant hardwood tree species that occurs on moist to wet sites such as swamps, bogs and riparian areas, with approximately 25% of the global range of the species occurring in Ontario. A recent population boom of the Emerald Ash Borer has caused significant ash decline, as the Black Ash is highly susceptible to the invasive borer (COSSARO, 2020). As such, the species was given protection under the ESA in January 2024. Black Ash was identified by Birks NHC ecologists in the swamp lands located outside of the proposed development area.

5.9 Natural Heritage Features and Functions Summary

The results obtained through the background information review and the site assessments indicate both confirmed and candidate natural heritage features and functions associated within the Study Area. This EIS will consider potential impacts to those features and functions, as summarized in Table 3 below.

Table 3: Natural Heritage Features and Functions Summary

Natural Heritage Feature / Function	Within Proposed Development Area	Within Study Area	Actions Required
Provincially Significant Wetlands	None	None	No further consideration required.
Other Wetlands	Yes	Yes	Further evaluation is required for potential impacts as provided in Section 6.
Significant Woodlands	Yes	Yes	Further evaluation is required for potential impacts as provided in Section 6.
Significant Valleylands	None	None	No further consideration required.
Significant Wildlife Habitat	Potential: • Reptile hibernaculum • Special Concern Wildlife (Snapping Turtle, Monarch)	Confirmed: • Seeps and Springs Potential: • Reptile hibernaculum • Special Concern Wildlife (Snapping Turtle, Monarch)	Further evaluation is required for potential impacts as provided in Section 6.
Provincial Areas of Natural and Scientific Interest	None	None	No further consideration required.

Table 3: Natural Heritage Features and Functions Summary

Natural Heritage Feature / Function	Within Proposed Development Area	Within Study Area	Actions Required
Fish Habitat	None	Indian Brook	Further evaluation is required for potential indirect impacts as provided in Section 6.
Habitat of Threatened or Endangered Species	Potential • Endangered bat species (foraging and day roosting habitat)	Potential • Endangered bat species (foraging and day roosting habitat) Confirmed • Black Ash	Further evaluation is required for potential impacts as provided in Section 6.

6 IMPACT ASSESSMENT

The intent of this study is to identify natural heritage features and functions associated with the Study Area and determine if potential impacts to those features and functions could arise from the proposed development. Impacts are evaluated based upon current knowledge of the Study Area as acquired through background information review and data collected in 2023 by Birks NHC ecologists, in consideration of the proposed activity.

In the following sections we assess the potential for negative ecological impacts to the identified natural heritage features and functions within the proposed development area and adjacent lands. Natural heritage functions are generally grouped within habitat features. Given this association, impacts are considered as they relate to the features and their associated functions, as listed:

Woodlands

- Potential SWH – Reptile Hibernaculum
- Potential Species at Risk – Endangered bat species (day roosting habitat)
- Confirmed SWH – Seeps and Springs

Aquatic Habitats/Wetlands

- Potential SWH – Habitat for Special Concern Species (Snapping Turtle)
- Potential Species at Risk – Endangered bat species (foraging habitat)
- Indian Brook – Fish habitat
- Confirmed Species at Risk – Black Ash

Meadows

- Potential SWH – Habitat for Special Concern Species (Monarch)

6.1 Proposed Development Plan

The proponent is proposing development of rowhouse units in the northern portion of the property, with a total of 376 units and a total development area of approximately 8.4 ha (22%) of the 37.4 ha sized property. A multi-use trail connection to the Georgian Trail is proposed at the eastern end as well as a stormwater management facility ('SWMF') and dedicated park spaces. The site plan provides for a 30 m setback to the baseflow condition (1:2 year flood elevation) of Indian Brook and a minimum 15 m setback to retained wetland habitats. A recreational trail is proposed within the natural areas to the south of the development area and the riparian corridor of Indian Brook.

The stormwater management plan prepared by Tatham Engineering (2024) maintains that the existing drainage patterns of the property will be replicated post development. The developable area is contained within a sub catchment of the property and will be directed towards a wetland SWMF in the east (Figure 4). The system has been designed to control release of flood waters up to the 1:100 year flood and provide Level 1 enhanced water quality control, corresponding to 80% total suspended solids removal, in accordance with provincial water quality guidelines. The outlet of the SWMF will be constructed to discharge via a bottom draw pipe and a level spreader at the outlet. A trapezoidal emergency overflow spillway is also proposed for the outlet (Tatham, 2024).

The site plan is illustrated on Figure 4.

6.2 Direct Impacts

Direct impacts are those that are immediately evident as a result of a development and typically occur during the active phases of construction. The results of direct impacts are often associated with complete or partial removal of a natural feature and alteration to a feature's function to the degree that it can no longer support wildlife species or their associated habitats. Anticipated impacts are summarized and further elaborated upon below:

- Significant Woodland and vegetation removals; and
- Aquatic Habitat and wetland removal.

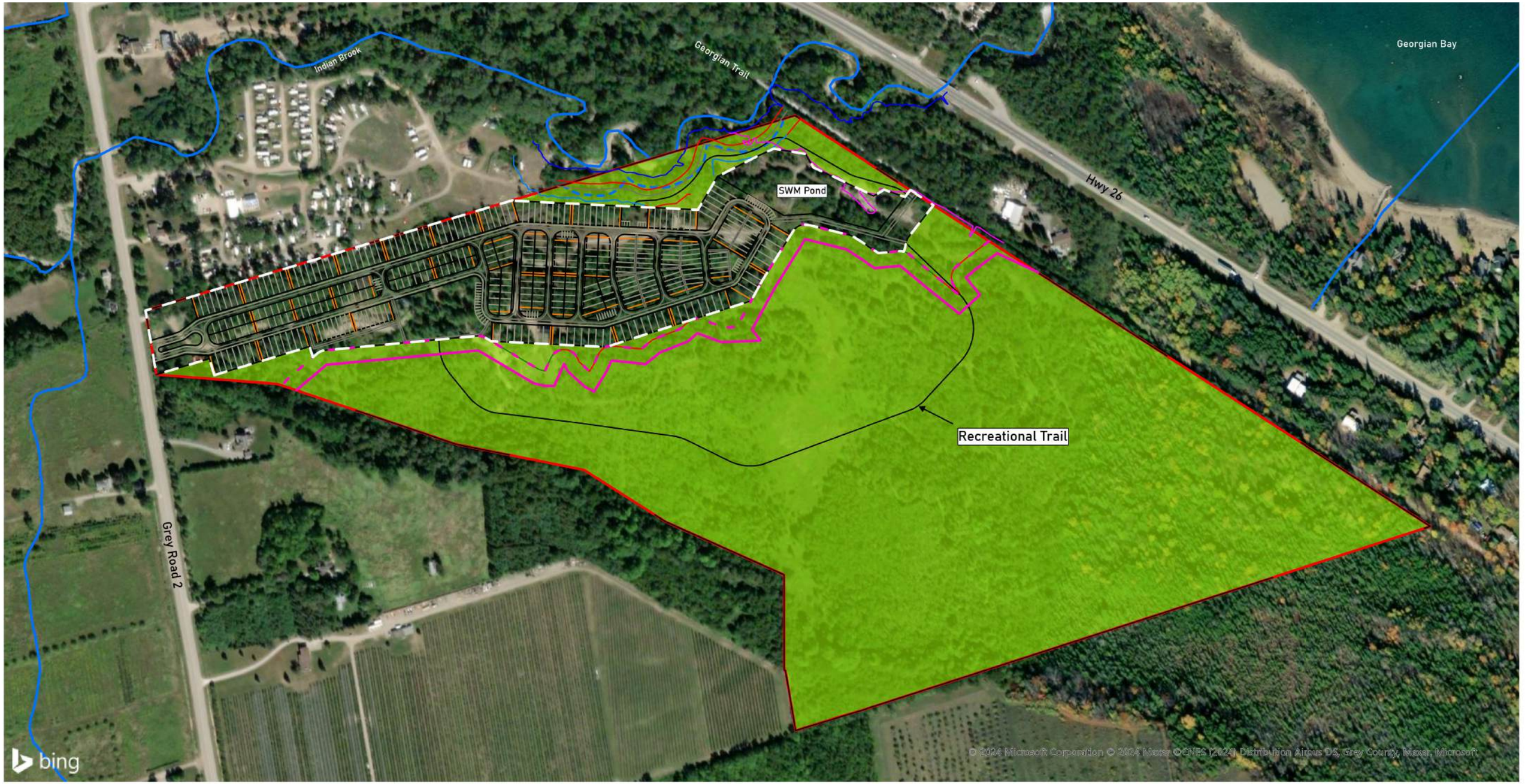

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Figure 4:
Proposed Site Plan

Property Limit
Watercourse (LIO)
30m Watercourse Setback
Proposed Wetland Limit
15m Wetland Setback
Retained Natural Heritage Areas
Grading Limit

MAP DRAWING INFORMATION:
IMAGERY DATA PROVIDED BY: BING MAPS

MAP CREATED BY: SB
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17N

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FILE LOCATION:
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6.2.1 Significant Woodland Vegetation Removals

The proposed development involves residential development of the northern portion of the property, within areas that would be part of the Significant Woodland feature. In accordance with provincial and local policies, development and site alteration shall not occur within Significant Woodlands unless it has been demonstrated that there will be no negative impacts on the natural feature or their ecological functions.

The woodland feature has been measured to be approximately 88 ha in size, of which approximately 4.83 ha (5.5% of the woodland feature) is within the proposed development area. Given the area of removal that would be required for the proposed development, relative to the size of the overall feature, there is no expectation that tree removals within the proposed development area would result in a negative impact to the Significant Woodland feature as it relates to overall size of the feature. The woodland feature would still be of sufficient size (83.2 ha) to meet the provincial size criteria for significance.

Forest fragmentation refers to the division of large continuous treed areas into smaller, isolated habitats. These smaller forests are generally more prone to a loss of biodiversity as species that rely on interior woodland habitats are no longer able to carry out their life processes. The proposed development does not introduce forest fragmentation to the Significant Woodland; the location of the woodland removals has been focussed along the existing edges of the feature, no intensive trails or roads are proposed through the retained woodland areas and only edge habitat is proposed for alteration. Further, the residential areas have been sited to be situated in close proximity to existing development north of the property. The removals will not affect the availability of interior habitat within the property limits (Figure 3b).

All of the ecological functions identified within this study and associated with the woodland (potential reptile hibernaculum, candidate bat day roosting habitat, provision of supporting habitat for interior bird species, seeps and springs) will be maintained within the retained woodland areas of the property, as well as on adjacent lands. Further, the alterations will not affect ecological functions specifically attributed to Significant Woodlands within the provincial criteria, as follows:

- Interior habitat will still be present in the southern portion of the property (Figure 3b).
- The woodland will remain connected to and interact with other significant features in the area, including wetlands and fish habitat.
- Woodland habitat closely associated with water resources and water protection will predominantly remain unaltered, specifically within the larger subcatchment area of the southern portion of the property, areas associated with seeps and springs and the riparian habitats of Indian Brook.

Further, treed communities within the proposed development area primarily consist of coniferous Eastern White Cedar, naturalized Scots Pine plantation, and European Buckthorn thicket (listed as a

'noxious' weed in Ontario; MAFRA, 2022) and thus, given the exotic/invasive component of those communities, are good vegetation community candidates for removal, in comparison to the deciduous swamps and riparian woodlands that are proposed for retention.

Regardless, 4.83 ha of Significant Woodland is being proposed to be permanently removed from the property. At this time, a restoration plan is being considered that will allow for the restoration of forested wetland habitats within the retained natural lands of the property. The plan is still within its preliminary stages, but it is anticipated that through consideration of a combination of stem-based and canopy area-based compensation both within the retained natural lands, as well as the proposed green spaces within the development, woodland/tree removals can be largely accounted and compensated for within the confines of the property. Further details regarding this plan are provided in Section 7.4.

Vegetation Removals

In addition to Significant Woodland removals, the following regionally rare species were documented within ELC communities proposed for alteration:

- Field Pussytoes (*Antennaria neglecta*) – development area
- Grey Dogwood (*Cornus racemosa*) – development area
- Maple-leaved Viburnum (*Viburnum acerifolium*) – development area

Though recorded as rare in South Grey County (OSFN, 2023), these species are not rare within the province of Ontario. Furthermore, they are readily available for purchase from native plant growers and providers. As such, it is anticipated and recommended that these species can be incorporated into future planting and landscape plans for the proposal, thus ensuring that the species are retained on the property, post development.

Endangered Bat Species

Individual trees with roosting features (*i.e.,* cavities, peeling bark, leaf clusters) within the woodlands also have the potential to function as day roost trees for males and non-reproductive females. Approximately 4.83 ha of woodland habitat is proposed for removal, of the 88 ha present within the larger woodland feature of which the Property contributes to. Within the context of this property, and in consideration of the woodland attributes of the Town of the Blue Mountains, day roosting habitat is not considered to be a limiting factor for the individuals. Numerous suitable roosting habitats (*i.e.*, woodlands, mature residential trees) exist and will remain available for the species after development. Thus, woodland removals within the development area would not be considered an alteration of habitat under Section 10 of the ESA, as it relates to day roosting habitat for Endangered Bats.

6.2.2 Meadow Removals

Monarch (Special Concern) was documented on the property within the MEMM3 community, as well as within maintained areas adjacent to the existing utility building. Alteration of these areas will remove both foraging and nesting habitat for caterpillars and adults. That said, there is opportunity for native wildflower plantings (including milkweed) to be incorporated into the naturalized areas of the

development, as well as within the retained natural lands. As such, there is no expectation that the species would be detrimentally impacted by the proposal; habitat availability for the species will not be significantly altered and will be retained on the landscape.

6.2.3 Aquatic Habitat and 'Other Wetland' Removal

As per the proposed development plan, 0.7 ha of wetlands are proposed to be removed including wetland habitats associated with the central constructed ponds. The wetlands to be directly impacted include a small linear Meadow Marsh community which appears to have formed at a slightly lower elevation adjacent to the main trail, a second Meadow Marsh community adjacent to the main entrance, and the edges of swamp communities (Figure 4). These wetland areas and ponds within the development area were determined to have no inherent natural heritage function (as protected through the municipal official plans and PPS) other than potential overwintering habitat for Snapping Turtle (Special Concern). As such, a proposed wetland vegetation community retention limit as been identified (Figure 4) which will allow for the preservation of the majority of the wetland habitat associated with the property, as well as a minimum 15 m setback to that limit. The restoration plan will also consider diversification of the retained wetland habitats on the property, thus ensuring that the current wetland habitat functions associated with the property will persist post development; open water pond are being considered for construction within the monocultural Reed Canary Grass community (MAMM13) which will provide overwintering habitat for Snapping Turtle. Further, the pond will have the added benefit of ensuring that amphibian breeding habitat is retained on the property. Further details regarding this plan are provided in Section 7.4.

Endangered Bats

Aquatic habits and wetland areas of the property provide foraging opportunities for local bat populations, including those currently and proposed to be protected under the ESA. Foraging habitat for the species will be retained within the wetland and restoration areas of the property. Second to this, a SWMP wetland facility is proposed in the eastern area of the development that may also provide foraging opportunities for bats and other insectivores. Note that, foraging habitat for bats is not considered to be limited on the landscape and thus alteration of this habitat would not critically impact the species. The proposed activity would not be considered an alteration of habitat under Section 10 of the ESA

Black Ash

Black Ash trees (Endangered) were identified as occurring in wetland swamp habitats of the property. Given the proposed wetland removals, there is potential that the future development will negatively impact the species and/or its habitat. That said, there are established regulations of the ESA (O. Reg 832/21 and O. Reg 6/24) that allow for development within proximity to Black Ash, provided that a qualified professional first conducts a health assessment for the species. As such, at the time that site alteration is contemplated, it is recommended that Black Ash health assessments occur within 30 m of the proposed area of alteration, to ensure that the development can proceed without contravention of the ESA.

6.3 INDIRECT IMPACTS

Indirect impacts are those that do not always manifest in the core development area but in the lands adjacent to the development and have the potential to negatively affect a wider area than the core development footprint. Indirect impacts of the proposed development include the following:

- Disturbance to wildlife and their habitats
- Alteration of Fish Habitat
- Erosion and sedimentation of retained aquatic features/wetlands
- Introduction of non-native species

6.3.1 Disturbance to Wildlife and Wildlife Habitat

Indirect disturbance to wildlife populations and habitats adjacent to the development areas have the potential to occur. These impacts are more prominent when new development is proposed in un-developed areas. Given the relatively small area of the development in relation to adjacent natural habitats, and the general anthropologic nature of the area (*i.e.*, Georgian trail, RV park, agricultural lands, Hwy 26, etc.), it is expected that wildlife would continue to access and utilize habitats retained on the property. Further, the site plan allows for a 30 m setback from the high-water mark to the Indian Brook, a 15 m setback to the retained wetland habitats, and approximately 78% of the property to remain in a natural state.

A restoration plan is being considered for the property that may incorporate trail to access natural areas of the property. This plan should incorporate recommendations and design elements for the trail to ensure that residents of the development are aware of the negative impact of creation of unsanctioned trails and uses within natural lands. Further, access to the retained natural lands should be restricted to set entry and exit points, to limit the potential for backyard encroachment along the development limit.

Provided the mitigation measures discussed in Section 7 are implemented, there is no expectation that the proposed development would result in significant indirect impacts to wildlife or their habitats adjacent to the development.

6.3.2 Alteration of Fish Habitat

Development may result in the increase of contaminants (*i.e.*, sediments, salt, gasoline, oil) in surface runoff, which may affect Indian Brook. In order to mitigate the impacts of development, stormwater management controls and water quality approaches are required. The stormwater management design for the property will incorporate the policies and criteria of a number of agencies including the GSCA and MECP, and will treat effluent to provincial standards. As such, there is no expectation that water quality of Indian Brook would receive pollutants above what is currently present.

Runoff from the developed area will be directed to a SWMF in the eastern portion of the property. The facility is being designed as a wetland facility and as such, will mitigate for potential alteration of the

thermal regime of the receiving body (Indian Brook); wetland facilities provide for reduction of thermal impacts to treated water. Additional design approaches are being considered as the project moves through detail design to minimize warming, including installation of Low Intensity Development Measures (where feasible), a bottom draw outlet for the SWMF, maximizing length to width ratio of the facility and woody plantings around the facility. In additional, a level spreader is proposed at the outlet of the facility, to minimize the potential for point source discharge, and erosion at the outlet (Tatham, 2024).

The remaining 75% of the property will continue to drain in a north-easterly manner across the property, as is the current existing condition (Tatham, 2024). As such, contributions to Indian Brook are anticipated to remain constant pre to post development.

Provided that the mitigations outlined within Tatham's Stormwater Management Report (2024) are implemented, no impact to fish or fish habitat is anticipated as a result of the proposal.

6.3.3 Erosion and Sedimentation into Aquatic Features / Wetlands

Erosion occurs on unstable slopes and often takes place during the vegetation removal and grading phases of construction. Sedimentation can occur when soils are exposed as a result of vegetation removal and an event (*i.e.*, significant rain events, wind, forced movement of material during construction) causes the soil particles to mobilize and be transported into an adjacent natural feature.

In order to mitigate potential adverse environmental impacts caused by the release of sediment-laden runoff into any potential receiving natural communities, measures for erosion and sediment control are required for construction sites. Potential impacts to adjacent natural habitats which could result from sedimentation can be mitigated through the application of erosion and sediment controls along the boundary of the feature setbacks and/or proposed area of disturbance.

6.3.4 Increased Potential for Invasion of Non-native Species

Site disturbance may increase the likelihood that non-native and/or invasive vegetation species will become established within the retained vegetation communities. Additionally, if construction equipment is not properly cleaned between use, invasive species transport may occur. Mitigation measures are provided in Section 7 below to control and limit the new establishment of invasive and non-native species.

7 RECOMMENDATIONS AND MITIGATION MEASURES

Mitigation refers to the avoidance or reduction of impacts associated with the proposed works through best practices. As previously discussed, potential impacts were identified which could result to the identified natural heritage features and functions associated with the Study Area. Where applied

correctly, mitigation is intended to reduce the potential for impacts to ensure that the natural heritage features and functions will continue uninhibited by the proposed development. Thus, mitigation would be required to ensure that there is no negative impact, and the development can proceed in conformity with the relevant planning documents and in compliance with environmental law.

To support the implementation of local policies, mitigation and compensation measures have been proposed to avoid disturbance to the identified Study Area features and functions and provide additional protection. The following mitigation measures are recommended to minimize the potential natural heritage impacts identified within this report.

7.1 Species at Risk

Given the dynamic character of the natural environment, as well as changes to policy (*i.e.,* new species listing), consideration is recommended in the interpretation of potential presence of Threatened or Endangered species as protected under the ESA.

This report was produced based on the most up-to-date policy information however, it is not intended to act as a long-term assessment of potential Species at Risk. The ESA is recognized as being a 'proponent-driven' piece of legislation and therefore it is the responsibility of the landowner/developer to ensure compliance with the regulations made under the ESA. Should a considerable length of time and/or sudden change in policy occur prior to construction, it is recommended that a review of the assessment provided within this report be undertaken by a qualified ecologist to ensure compliance with the ESA at that time.

All current Threatened or Endangered species listed under O. Reg. 230/08 made under the ESA (last amended January 2024) have been considered within this report.

7.1.1 Timing Windows

The Study Area may support suitable Species at Risk bat habitat, in terms of potential day roost and foraging habitat. Thus, tree removals in woodlands should occur outside of the active season for bats in order to avoid incidental harm to the species. Therefore, tree cutting should be timed to occur between October 1 and March 15 and no cutting activity in forested areas should occur outside that period. This will ensure that no bats actively roosting in trees will be accidentally killed or harmed as a result of clearing activities.

7.1.2 Black Ash

Protections for Black Ash under the ESA have been implemented as of January 25, 2024. O. Reg 832/21 under the ESA provides for the protection of a 30 m setback adjacent to Black Ash trees. ESA exemptions for protection of species and its habitat (30 m setback) are outlined within O. Reg 6/24 and apply to: a) unhealthy Black Ash trees; b) Black Ash trees with a height less than 1.37 m; or c) Black Ash trees with a stem DBH less than 8 centimetres. The proposed site plan calls for the permanent

alteration of some wetland communities and provides for a 15 m setback retained wetland habitats. At the time which site alteration is contemplated (including tree removal and grading) a concentrated effort to identify and assess the health of Black Ash Trees (in accordance with O. Reg 6/24) is recommended, within the areas of wetland removal and within 30 m of the proposed limit of grading.

7.2 Sediment and Erosion Control

It is recommended that sediment and erosion controls along the limits of the development be installed prior to all construction activities. Sediment and erosion controls should remain in place until site works have been completed and the risk of sedimentation is no longer a concern. No development activities (*i.e.*, material and equipment storage, grading, equipment activity, *etc*.) are permitted within the adjacent natural habitats, excluding those works relating to the restoration and compensation plan (as outlined in Section 7.4. Equipment maintenance during and post construction should be undertaken in an appropriate area. Tool and vehicle maintenance and cleaning should be completed away from the retained natural areas in a manner that does not encourage the movement of cleaning or maintenance products including cleaners, oils or fuel into the neighbouring forested areas. Fuel and chemical storage should follow appropriate legislation to ensure that it is maintained and stored in a way that will not result in accidental release or spills to the adjacent forested areas, wetlands or watercourses.

7.3 Woodland/Wetland Protection

In advance of any vegetation clearing or earth works (*i.e*., clearing or grubbing) the development limits approved in the Zoning By-law should be established in proximity to natural heritage features and functions to be protected. A temporary fence (*i.e*., sediment fence) should be erected along the surveyed limits to prevent inadvertent encroachment into these areas to be protected. This fence should be kept intact throughout the entire construction and monitored to ensure that the barrier remains in good working condition. No development activities (*i.e.*, material and equipment storage, grading, equipment activity, *etc*.) are permitted outside of the identified development limit.

Consideration should be given to ensure restricted and controlled access to the retained natural areas in order to minimize the incidence of rear yard encroachment. The installation of a permanent fence along rear yards and dedicated trail entrances/exits should be considered to ensure that the retained natural lands and feature setbacks remain protected from future encroachment.

All planting and landscape plans for the property should consider utilizing native plant species for establishment of green spaces. Specifically, the following species should be incorporated into planting plans prepared for the property: Milkweed, Field Pussytoes , Grey Dogwood, Early Goldenrod, Maple-leaved Viburnum.

7.4 Woodland/Wetland Compensation

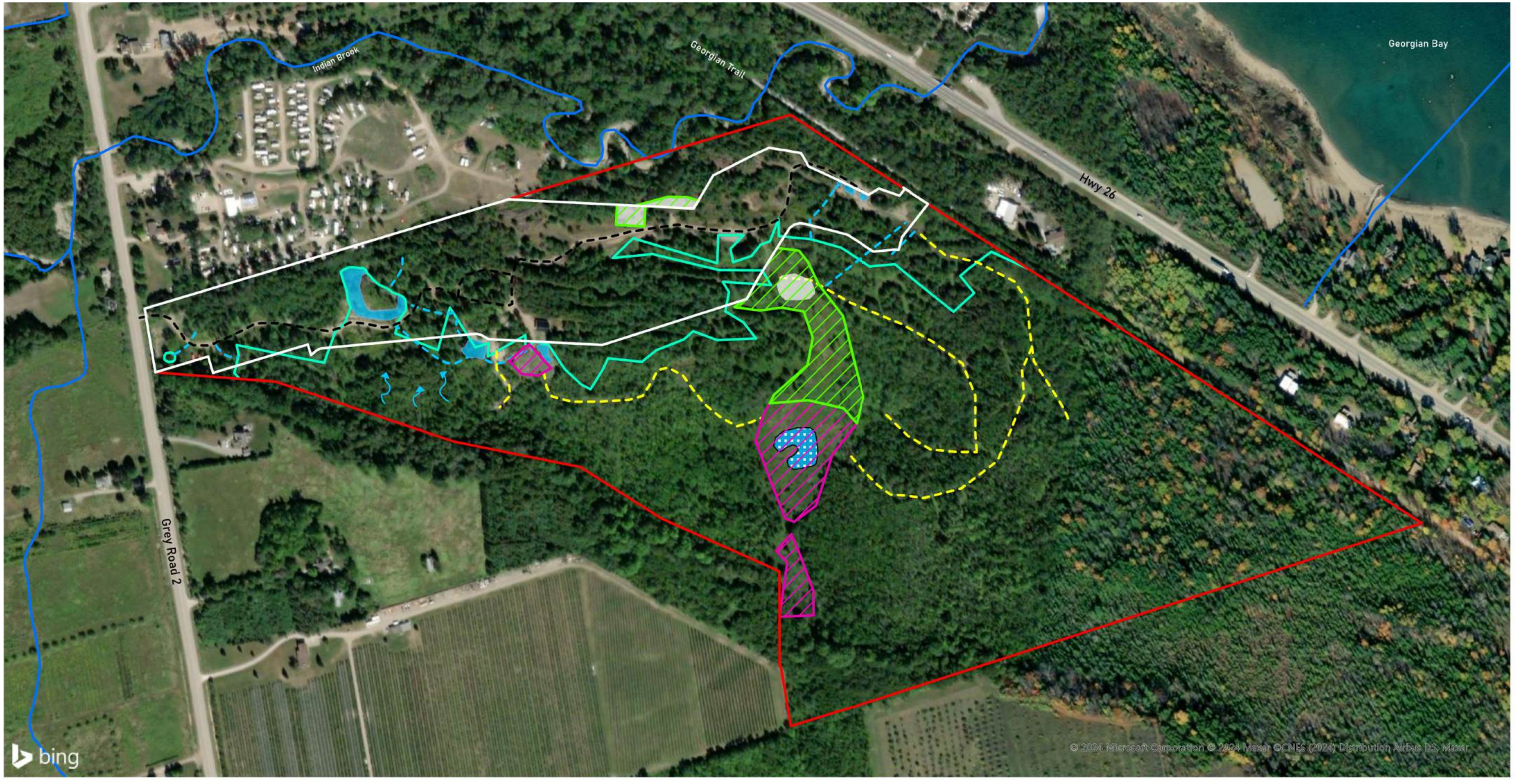
The County of Grey has indicated within the project's pre-consultation stages that they will require offsetting for the altered Significant Woodland and "Other Wetland' features, and the respective ecological functions associated with the alteration footprint. As such, it is recommended that the future

restoration plan be designed in consideration of preserving Significant Woodland and wetland habitat functions of the property, as outlined within this report. The preliminary plan (as discussed with Michael Cook, Grey County, during a site visit on July 9, 2024) considers the removal of 4.83 ha of Significant Woodland and 0.7 ha of wetland habitat with the ability to improve a minimum of 2.26 ha of existing Reed Canary Grass meadow marsh and approximately 1.4 km of existing trail. Additional tree planting areas will be achievable within the residential area, associated with green spaces, boulevards and yards of the property (Figure 4) which will also contribute to meeting the woodland area/stem replacement target. The restored area will continue to support Significant Woodland functions relating to the protection of aquatic habitats (wetland and drainages), proximity of the woodland to other habitats (both on site and on adjacent lands) and social values, including natural vistas and nature appreciation. Further, the restored area will continue to provide notable open water habitat functions relating to Snapping Turtle overwintering and amphibian breeding, as discussed above.

The plan will be intended to accomplish the following items:

- Identify a vegetation protection zone where no development or site alteration is permitted to occur;
- Propose installation of woody plantings to introduce successional woodland swamp habitat on the property;
- Remove populations of invasive species (phragmites and dog strangling vine) to prevent the spread of invasive species within the Town;
- Propose planting of woody specimens to maintain tree cover where significant canopy dieback has occurred as result of the activity of the Emerald Ash Borer; and
- Propose creation of open pond areas to increase habitat diversity within a monocultural reed canary grass meadow marsh.

A Tree Inventory and Interim Preservation Plan (Birks NHC, 2024) has been undertaken to quantify and characterize the nature of the tree resources present within the development area. This report has been submitted under separate cover, but will be utilized to direct the requirement for stem and canopy cover replacement within the restoration plan. Within the wooded areas, the vegetation communities identified for compensation include WOCM1, FOCM2-2, FOMM4-2 and SWCM1-1. These ELC communities comprise the Significant Woodland feature proposed to be permanently altered as a result of the proposed development. The areas to be removed, stem density per ELC community and maximum stem compensation is presented in Table 4 below.



496857 Grey Road 2

Town of The Blue Mountains

Figure 5:
Conceptual Restoration Plan

- Property Limit
- Watercourse (LIO)
- Drainage (Birks NHC)
- Pond
- Access Driveway
- Seep
- Birks NHC Wetland Limit (July 2023)
- Grading Limit

Conceptual Restoration Plan

- Open Water (0.13ha)
- Invasive Species Control Area
- Existing Trails to be Planted (1.4km)
- Tree Planting Area 1mx1m (1.08ha)
- Tree Planting Area 3mx3m (1.05ha)

BIRKS NATURAL HERITAGE CONSULTANTS

MAP DRAWING INFORMATION:
IMAGERY DATA PROVIDED BY: BING MAPS

MAP CREATED BY: SB
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17N

N W E S

0 50 100 200 300 Meters

FILE LOCATION:
Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-009-2023 Grey Rd 2

PROJECT: 03-009-2023 STATUS: DRAFT DATE: 19/08/2024

Table 4. Forest Compensation Calculations

ELC Community	Area to be Removed (ha)	Stem Density (stems/ha)[2]	Total Stem Compensation
WOCM1	0.25	1140	285
FOCM2-2	3.59	960	2584[1]
FOMM4-2	0.85	760	646
SWCM1-1	0.14	813	114
TOTAL	**4.83**		**3629**

[1]Assumes 0.75:1 Replacement Ratio
[2] Density calculations exclude European Buckthorn, Apple sp., Cherry Sp., White Ash, Green Ash, and Scot's Pine

Assuming planting densities of one tree per meter square and one tree per 3 metres square within the two planting areas and one tree per every 2 metres along the existing trails (Figure 5), there is potential for installation of approximately 11,966 individual tree specimens within the retained lands of the property. Further, the tree planting areas can be structured in such a way that overall biodiversity of those communities (though smaller in area than the Significant Woodland to be removed) provides increased ecological function, compared to the monocultural cedar coniferous forest that will be removed. This can be achieved through various methods such as installation of micro habitat features (logs, stumps, reptile hibernacula, brush piles, vernal pools, nesting platforms, bird boxes, pollinator boxes) and use of diverse planting stock, considering variation in planting density, species and stock size selection.

As such, at this time there is no reason to consider alternative or additional compensation options as it relates to compensation for Significant Woodland and Other Wetland compensation.

A conceptual restoration plan is provided in Figure 5. It is recommended that a formal restoration and compensation plan be considered as a draft plan condition of approval.

7.5 OPERATIONS

Development activities should be contained within the proposed development area. This area should be appropriately delineated prior to beginning of construction to ensure that no accidental deviation from the intended removals occurs.

Equipment maintenance during and post construction should be undertaken in an appropriate area. Tool and vehicle maintenance and cleaning should be completed away from the retained natural areas in a manner that does not encourage the movement of cleaning or maintenance products including cleaners, oils or fuel into the neighbouring forested areas. Fuel and chemical storage should follow appropriate legislation to ensure that it is maintained and stored in a way that will not result in accidental release or spills to the neighboring forested areas.

Potentially contaminated materials (*i.e.*, fill, soil, gravel, excavated materials) shall be controlled and moved by equipment during construction to prevent the spread of invasive plants. Vehicles and equipment shall be inspected and cleaned prior to allowing access to the property to prevent the spread of invasive plant species into the site.

7.6 Migratory Birds

Construction activities involving the removal of vegetation should be restricted from occurring during the bird breeding season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act,* 1994 and the *Fish and Wildlife Conservation Act*, 1997. Environment Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website (https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html). For this location, vegetation removal should be avoided between April 1st and August 30 of any given year.

7.7 Summary of Mitigation Plan

Mitigation of potential impacts to identified natural features and functions during construction are as follows:

Table 5. Mitigation Measures Summary

Identified Natural Heritage Feature and/or Function	Potential Impacts Identified	Recommended Mitigation	Potential Impacts with application of Recommended Mitigation	Proposed Offsetting Measures
Other Wetland	1. Erosion and Sedimentation into Natural Heritage Features 2. Permanent alteration of wetland 3. Alteration of Wildlife habitat	1. Sediment and Erosion Control 2. Establishment and Maintenance of naturalized Wetland Setback 3. Restoration and Compensation Plan	Removals are proposed. Restoration and compensation is proposed to offset and ensure continued function.	Wetland Habitat Compensation
Significant Wildlife Habitat	1. Alteration of Candidate Wildlife Habitat (Snapping Turtle, Monarch) 2. Anthropogenic Disturbance	1. Restoration and Compensation Plan 2. Naturalized Setbacks 3. Native wildflower (milkweed) plantings within the development area and natural lands	Removals are proposed. Restoration and compensation is proposed to offset and ensure continued function.	Restoration and Compensation Plan
Significant Woodlands	1. Removal of Woodland Habitat 2. Erosion and Sedimentation into Natural Heritage Features	1. Vegetation Protection and Restoration Plan 2. Sediment and Erosion Control Plan	Removals are proposed. Restoration and compensation is proposed to offset and ensure continued function.	Woodland Habitat Restoration
Fish Habitat	1. Change in hydrology of Indian Brook	1. Stormwater Management Plan to maintain water quality entering the feature	Minimal potential for impacts with applied mitigation.	None expected to be required
Habitat of Threatened or Endangered Species	2. Potential Incidental Harm (Endangered Bats) and alteration to habitat (Black Ash)	2. Timing Windows for Tree Clearing Activities 3. Search for Black Ash and health assessments prior to site alteration 4. Review of habitat conditions prior to proceeding with activities to ensure no changes to habitat conditions, the ESA or species listings.	Minimal potential for impacts with applied mitigation.	None expected to be required

8 CONCLUSIONS

Birks NHC has undertaken this EIS for the proposed residential development of rowhouse units in the northern portion of the property, with a total development area of approximately 8.4 ha (22%) of the 37.8 ha sized property. A multi-use trail connection to the Georgian Trail is proposed at the eastern end of the development, in proximity to a stormwater management facility as a SWMP and a park area. The site plan allows for a 30 m setback from the high-water mark to the Indian Brook and a 15 m setback to the wetland limits.

The purpose of this EIS was to identify and characterize the natural heritage features and functions present within and adjacent to the development area and to determine if potential impacts to those features and functions could arise from the proposed residential development.

Through the field surveys, review of background information, and applicable policies and regulations it was determined that the development area and adjacent lands contain natural heritage features and functions relating to the presence of woodland and wetland habitat. Upon review of the ecological function of the habitats, it has been determined that potential ecological impacts are minimal and mitigable, provided mitigation measures outlined herein are applied accordingly.

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Appendix A

Grey Sauble Conservation Authority Regulation Map

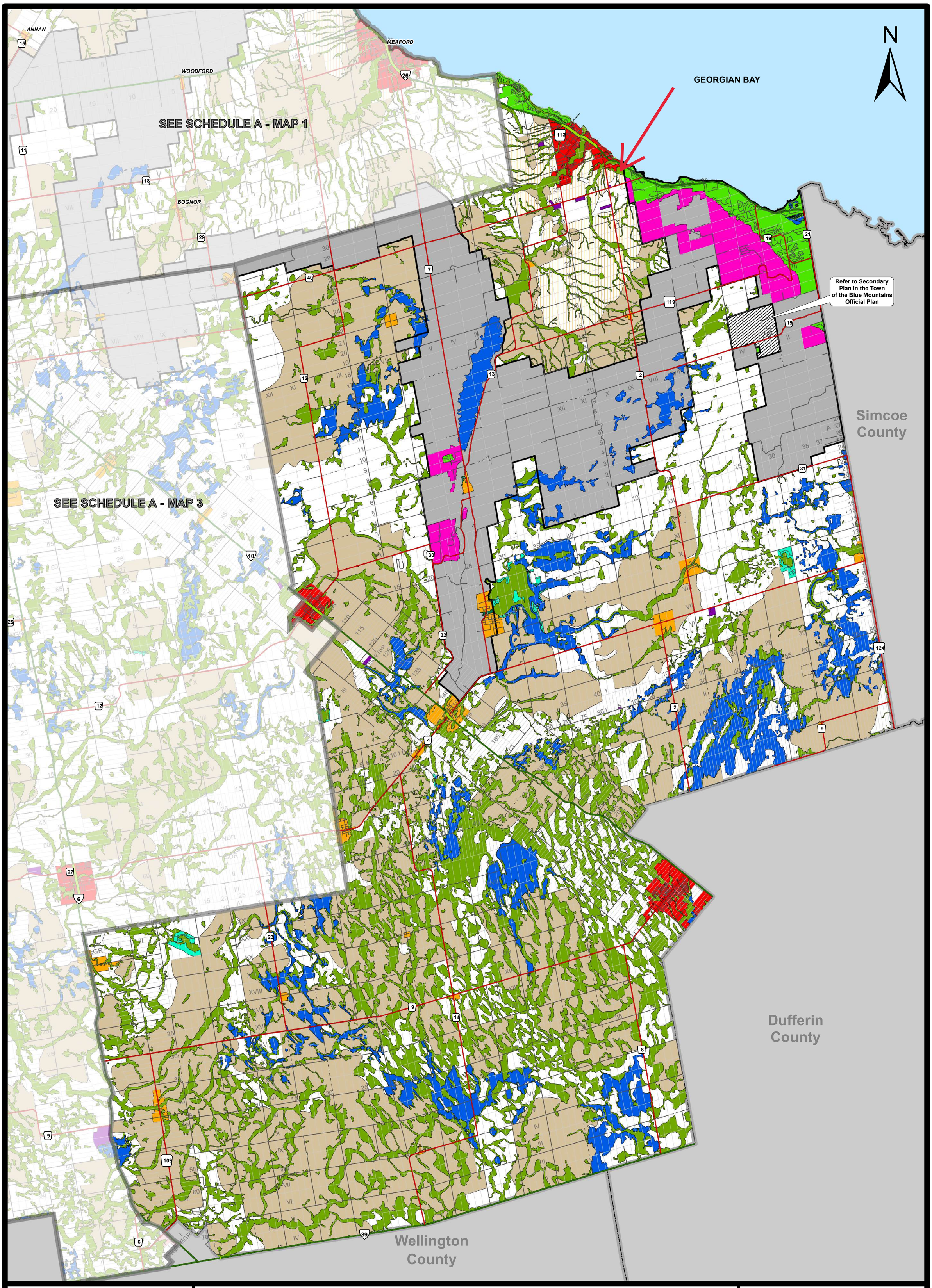
GSCA Ontario Regulation 41/24: Prohibited Uses, Exemptions and Permits

Grey Sauble CONSERVATION

The regulated areas (41/24) shown on these maps are for demonstration purposes only and may vary from the description provided within the text of the regulation document. In the event of a conflict between the lines on these maps and the text of the regulation, the text in the regulation will prevail. Information made available is not intended to constitute advice nor is it to be used as a substitute for specific advice from a licensed professional.You should not act, or refrain from acting, based upon information in this site without obtaining professional advice regarding your circumstances. The information made available on this site is not intended to be used and should not be used for navigational purposes. Reach out to our Environmental Planning Department for advice here: https://forms.office.com/r/5hKuJ41SX2

Appendix B

Grey County Official Plan
Schedule A – Land Use
Appendix B – Constraint Mapping



THE COUNTY OF GREY OFFICIAL PLAN

SCHEDULE A
Land Use Types

MAP 2

LEGEND

- Provincial Highway Connecting Link
- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Agricultural
- Special Agricultural
- Rural
- Primary Settlement Area *
- Secondary Settlement Area *
- Inland Lakes & Shoreline Settlement Area
- Recreational Resort Settlement Area
- Sunset Strip Settlement Area
- Industrial Business Park Settlement Area
- Space Extensive Industrial and Commercial
- Niagara Escarpment Plan Boundary **
- Niagara Escarpment Development Control Area
- Escarpment Natural Area
- Escarpment Recreation Area
- Hazard Lands
- Provincially Significant Wetlands and Significant Costal Lands

* *refer to Secondary Schedules for further detail.*

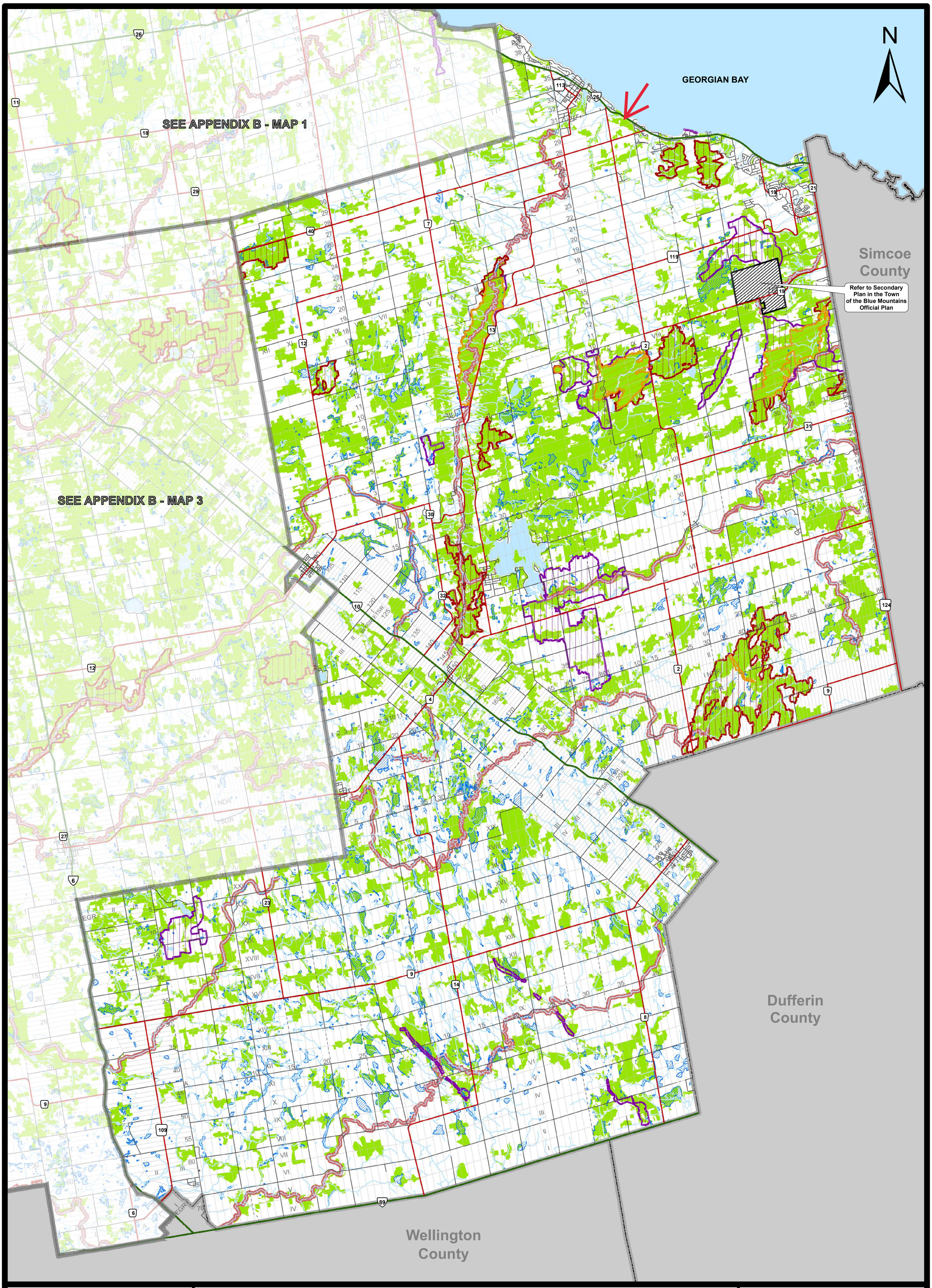
** *certain settlement areas within the Niagara Escarpment Plan Boundary may be subject to Development Control.*

SCALE 1:95,000

0 1,125 2,250 4,500 6,750 9,000 Meters

AUTHOR: Grey County Planning
FILE NAME: GR_OP_SchedA_Map2eastX36.mxd
CONSOLIDATION: May 1, 2023
INTERACTIVE MAP: geo.grey.ca
DOWNLOAD PDF: grey.ca/planning-development

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.



Grey County

THE COUNTY OF GREY
OFFICIAL PLAN

APPENDIX B
Constraint Mapping

MAP 2

LEGEND

- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Stream / River
- Lakes
- Other Wetlands
- Significant Earth & Life ANSI
- Significant Earth ANSI
- Significant Life ANSI
- Significant Valleylands
- Significant Woodlands

SCALE 1:95,000

0 1,125 2,250 4,500 6,750 9,000 Meters

AUTHOR: Grey County Planning
FILE NAME: GR_OP_ApdxB_Map2eastX36.mxd
CONSOLIDATION: May 1, 2023
INTERACTIVE MAP: geo.grey.ca
DOWNLOAD PDF: grey.ca/planning-development

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.

Appendix C

Town of The Blue Mountains Official Plan
Schedule A-2 Land Use
Appendix 1 Constraint Mapping

The Blue Mountains
Official Plan Schedule 'A-2'
Thornbury and Clarksburg

Designations

- Former Landfill
- Bruce St./Marsh St. Corridor
- Niagara Escarpment Plan Boundary
- Agricultural
- Commercial Corridor
- Community Living Area
- Downtown Area
- Future Secondary Plan Area
- Harbour Area
- Hazard
- Institutional Area
- Major Open Space
- Residential Recreational Area
- Rural
- Urban Employment Area

0 250 500 750 1,000 Metres

N W E S

Note: This Schedule forms part of the Official Plan and must be read and interpreted in conjunction with the text. The information depicted on this Schedule has been compiled from various sources. While every effort has been made to accurately depict the information, data/mapping errors may exist.

Download PDF: www.thebluemountains.ca

June 2016

TOWN OF THE BLUE MOUNTAINS

Subject to Section B3.3.7.1

Subject to Section B3.4.7.1

Subject to Section B3.1.10.1

Subject to Section B3.6.6.1

Subject to Section B3.2.6.1

Lot 35 Lot 34 Lot 33 Lot 32 Lot 31 Lot 30 Lot 29

Lake Dr, Cameron St, Highway 26, 10th Line, Grey Road 113, High Bluff Lane, Peel St N, Peel St S, Bay St W, Baring St, Alice St W, Lansdowne St N, Lansdowne St S, Lakeshore Dr, Huron St W, Beaver St S, 33rd Sideroad, Albert St, Louisa St W, Arthur St W, King St W, Elma St N, Harbour St, Collage Ave, Napier St W, Alfred St W, Lorne St, Elma St S, Bruce St N, Bridge St E, Mill St, Duncan St W, Park Lane, Hester St, Orchard Dr, Victoria St S, Pyatt Ave, Bruce St S, Alice St E, McAuley St S, Huron St E, Elgin St N, Bay St E, King St E, Arthur St E, Fleming St, Alfred St E, Moore Cres, Elgin St S, Louisa St E, Grey St S, Grey St N, Wickens Lane, Napier St E, Bayview Ave, Russell St W, Russell St E, Bruce St S, Mary St, Edward St, Charles St, Hillcrest Dr, Arthur Taylor Lane, Highway 26, Hoffmann St, Lake Shore Rd, Fieldcrest Crt, Fulton St, Margaret St S, Lions Park Lane, George St, Euclid Ave, William St, Jubilee Dr, Forest St, Clark St, 30th Sideroad, Brook St, John St, Hill St, Marsh St, Matilda St, Grey Road 13, Grey Road 2

The Blue Mountains Constraint Mapping Appendix 1

Designations

- 100 Year Flood Elevation
- Stream / River
- Aggregate Resource Area
- ANSI
- Deer Wintering Area
- Escarpment Plan Boundary
- Karst
- Mineral Resource Extraction
- Permanent Water Area
- Provincially Significant Wetlands
- Other Wetlands
- Sewage Treatment Plant Buffer
- Significant Woodlands

0 0.5 1 2 3 4 5 Kilometers

N W E S

Note: This Schedule forms part of the Official Plan and must be read and interpreted in conjunction with the text. The information depicted on this Schedule has been compiled from various sources.While every effort has been made to accurately depict the information, data/mapping errors may exist.

Download PDF: www.thebluemountains.ca

June 2016

TOWN OF THE BLUE MOUNTAINS

Deer Wintering Area

Heathcote

Ravenna

Subject to Special Study Area Policies in Section B3.7.6.16

Refer to Secondary Plan mapping

Lot 41 Lot 40 Lot 39 Lot 38 Lot 37 Lot 36 Lot 35 Lot 34 Lot 33 Lot 32 Lot 31 Lot 29 Lot 28 Lot 27 Lot 26 Lot 25 Lot 24 Lot 23 Lot 22 Lot 21 Lot 20 Lot 19 Lot 18 Lot 17 Lot 16 Lot 15 Lot 14 Lot 13 Lot 12 Lot 11 Lot 10 Lot 9 Lot 8 Lot 7 Lot 6 Lot 5 Lot 4 Lot 2 Lot 1

XII XI X IX VIII VII VI V IV III II I

Appendix D

Grey County Terms of Reference

Melissa Fuller

From: Michael Cook <Michael.Cook@grey.ca>
Sent: October 13, 2023 2:44 PM
To: Melissa Fuller
Cc: Colin Travis; Alex Hahn; Andrew Adams; Adam Farr
Subject: RE: EIS Terms of Reference - Hinds Property, 496857 Grey Road 2, Town of the Blue Mountains

Hi Melissa,

Thanks for the updates. The ToR provided is acceptable.

Let me know if you have any questions or concerns throughout the study.

Regards,

Michael Cook
Planning Ecologist
Phone: +1 519-378-4828

From: Melissa Fuller <mfuller@birksnhc.ca>
Sent: Friday, October 13, 2023 2:29 PM
To: Michael Cook <Michael.Cook@grey.ca>
Cc: Colin Travis <colint@travisinc.ca>; Alex Hahn <a.hahn@homefieldcommunities.com>; Andrew Adams <andrew@homefieldcommunities.com>; Adam Farr <afarr@thebluemountains.ca>
Subject: EIS Terms of Reference - Hinds Property, 496857 Grey Road 2, Town of the Blue Mountains

[EXTERNAL EMAIL]

Afternoon Michael,

Based on recent discussions, I have modified the original Terms of Reference for the EIS for your consideration. Additional items/clarification to the original scope are presented in red text, for ease of review.

Birks Natural Heritage Consultants, Inc. (Birks NHC) has been retained to undertake an Environmental Impact Study (EIS) for the property at 496857 Grey Road 2, Town of the Blue Mountains (See attached figure). It is our understanding that Homefield Communities is exploring development opportunities of the property. The property is mapped within the Town of Blue Mountains Official Plan as Rural and Hazard Lands, designations which are also carried through the municipal Zoning By-Law. The County of Grey has also identified Significant Woodlands within the property limits. The property is within the jurisdiction of the Grey Sauble Conservation Authority (GSCA) and contains areas which are regulated by GSCA. An EIS would therefore be required as part of a site application to alter the property. At this time, Birks NHC requests that staff review the proposed EIS Terms of Reference and provide any feedback where deemed required:

SITE ASSESSMENT

- Review available background information for the property and surrounding lands (i.e., within 120 metres);
- Review policies related to the natural heritage components of the proposed development, including municipal and provincial policies;
- Conduct field surveys to document existing natural heritage features, functions, and species. Surveys include:
    - Classification of vegetation communities using protocols of the Ecological Land Classification (ELC) for Southern Ontario (completed summer 2023)
    - Wetland limit delineation for the property (completed July 2023)
    - Two vascular plant surveys to identify the potential for Species at Risk or rare plants, including a search for Butternut (completed 2023);
    - Two dawn breeding bird surveys to compile a list of birds (completed June 2023);
    - Three amphibian call surveys to assess for amphibian breeding habitat (completed spring 2023); and,
    - An assessment of property for potential bat roosting habitat.
- Map any natural heritage features within the property, including characterization of vegetation communities, wetland and Significant Woodland;
- Conduct a Species at Risk habitat assessment for the property to determine if appropriate habitat is present to allow Species at Risk to potentially be present.

ENVIRONMENTAL IMPACT STUDY REPORT

Prepare one EIS report which will include the following:

- The scope of proposed development;
- Description of the ELC communities on the property;
- Assessment of Significant Wildlife Habitat as per the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015);
- An outline of any significant natural heritage features or functions within the study area;
- Preliminary recommendations for ecological offsetting based upon applicable municipal polices;
- Mapping outlining:
    - The approximate boundary of the property and study area
    - Ecological Land Classification communities
    - The locations of any identified natural heritage features or functions in the study area
    - Natural features identified for removal and ecological offsetting;
    - The proposed site plan
- An outline of any potential direct/indirect impacts to those features or functions associated with the proposed development. Birks NHC will review the following studies in consideration of the impact assessment and analysis:
    - Grading, drainage and Stormwater Management Report
    - Floodplain hazard and mapping
    - Stable Top of Bank Delineation
    - Hydrogeological Study
    - Water Balance; and
- Conclusion, recommendations and mitigations that align with the overarching policy framework of the study area.

Thank You,

Melissa Fuller, H.B.Sc/Ecologist &
Consulting Arborist
Birks Natural Heritage Consultants, Inc.
p. (705)994-4824
w. www.birksnhc.ca
a. 23 Herrell Avenue, Barrie L4N 6T5

Appendix E

Plant List

Vascular Plant List

Scientific Name	Common Name	THDM2-6	WOCM1	WOCM2	FOCM2-2	FOCM6-3	FOMM4-2	MEMM3	MEGM4	MAMM3-1	SWTM3	SWTM2-1	SWDM4-5	SWCM1-1	SWC/FOC	Exotic Status	Coefficient of Wetness	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank	Regional Rank (Grey)
Abies balsamea	Balsam Fir													X			-3	S5		N5	C
Acer negundo	Manitoba Maple	X								X	X	X					0	S5		N5	(^)
Acer rubrum	Red Maple																0	S5		N5	C
Acer saccharum	Sugar Maple				X	X											3	S5		N5	C
Achillea millefolium	Common Yarrow		X					X								SE5?	3	SNA		NNR	
Actaea rubra	Red Baneberry				X												3	S5		N5	C
Alliaria petiolata	Garlic Mustard	X			X											SE5	0	SNA		NNA	**
Ambrosia artemisiifolia	Common Ragweed				X												3	S5		N5	X
Anemone virginiana	Tall Anemone										X	X	X				3	S5		N5	C
Antennaria neglecta	Field Pussytoes							X									5	S5		N5	R
Anthriscus sylvestris	Wild Chervil				X											SE4?	5	SNA		NNA	**
Aralia nudicaulis	Wild Sarsaparilla													X			3	S5		N5	C
Arctium minus	Common Burdock	X			X	X										SE5	3	SNA		NNA	*
Arisaema triphyllum	Jack-in-the-pulpit				X												-3	S5		N5	C
Asclepias syriaca	Common Milkweed	X						X	X			X					5	S5		N5	C
Asparagus officinalis	Garden Asparagus							X								SE5	3	SNA		NNA	*
Athyrium filix-femina	Common Lady Fern														X		0	S5		N5	C
Berberis vulgaris	Common Barberry				X											SE5	3	SNA		NNA	**
Betula papyrifera	Paper Birch		X										X		X		3	S5		N5	C
Bromus inermis	Smooth Brome	X						X	X							SE5	5	SNA		NNA	*
Caltha palustris	Yellow Marsh Marigold													X			-5	S5		N5	C
Carex gracillima	Graceful Sedge														X		3	S5		N5	C
Carex hirtifolia	Pubescent Sedge														X		5	S4S5		N4N5	C
Carex hystericina	Porcupine Sedge									X							-5	S5		N5	C
Carex vulpinoidea	Fox Sedge														X		-5	S5		N5	C
Cichorium intybus	Wild Chicory							X								SE5	5	SNA		NNA	*
Circaea alpina	Small Enchanter's Nightshade	X			X	X											-3	S5		N5	C
Circaea canadensis	Broad-leaved Enchanter's Nightshade	X															3	S5		N5	C
Cornus alternifolia	Alternate-leaved Dogwood	X			X					X							3	S5		N5	C
Cornus racemosa	Grey Dogwood				X							X					0	S5		N5	R
Cornus rugosa	Round-leaved Dogwood		X		X								X				5	S5		N5	C
Cornus sericea	Red-osier Dogwood							X		X	X	X	X		X		3	S5		N5	C
Cypripedium parviflorum	Yellow Lady's-slipper													X			0	S5		N5	C
Dactylis glomerata	Orchard Grass	X			X			X	X							SE5	3	SNA		NNA	*
Daucus carota	Wild Carrot		X		X	X		X	X	X	X	X				SE5	5	SNA		NNA	*
Dipsacus fullonum	Common Teasel											X				SE5	3	SNA		NNA	*
Dryopteris cristata	Crested Wood Fern														X		-5	S5		N5	C
Dryopteris intermedia	Evergreen Wood Fern													X			0	S5		N5	C
Echium vulgare	Common Viper's Bugloss							X								SE5	5	SNA		NNA	*
Epilobium ciliatum	Northern Willowherb									X							-3	S5		N5	C
Epipactis helleborine	Broad-leaved Helleborine				X											SE5	3	SNA		NNA	*
Equisetum palustre	Marsh Horsetail									X							-3	S5		N5	R
Equisetum pratense	Meadow Horsetail										X	X					-3	S5		N5	R
Equisetum sylvaticum	Woodland Horsetail														X		-3	S5		N5	C
Equisetum variegatum	Variegated Scouring-rush																-3	S5		N5	C
Erigeron annuus	Annual Fleabane	X						X									3	S5		N5	C
Erigeron philadelphicus	Philadelphia Fleabane	X									X	X					-3	S5		N5	C
Eupatorium perfoliatum	Common Boneset									X					X		-3	S5		N5	C
Eurybia macrophylla	Large-leaved Aster				X												5	S5		N5	C
Euthamia graminifolia	Grass-leaved Goldenrod							X		X		X					0	S5		N5	C
Eutrochium maculatum	Spotted Joe Pye Weed									X		X		X	X		-5	S5		N5	C
Fragaria virginiana	Wild Strawberry	X						X			X	X	X				3	S5		N5	C
Fraxinus americana	White Ash				X									X			3	S4		N5	C
Fraxinus excelsior	European Ash		X		X											SE2	3	SNA		NNA	
Fraxinus nigra	Black Ash											X			X		-3	S4	END	N4	C
Fraxinus pennsylvanica	Red Ash	X	X		X		X		X	X	X	X	X	X	X		-3	S4		N5	C
Galium aparine	Common Bedstraw	X			X												3	S5		N5	C
Galium odoratum	Sweet-scented Bedstraw												X	X		SE1	5	SNA		NNA	*
Galium palustre	Common Marsh Bedstraw									X							-5	S5		N5	C
Geranium robertianum	Herb-Robert	X			X												3	S5		N5	C
Geum sp.	Avens species							X									-----	-----		-----	
Glyceria striata	Fowl Mannagrass														X		-5	S5		N5	C
Gymnocarpium dryopteris	Common Oak Fern														X		3	S5		N5	C
Hypericum perforatum	Common St. John's-wort									X						SE5	5	SNA		N5	*
Impatiens capensis	Spotted Jewelweed				X									X	X		-3	S5		N5	C
Juglans nigra	Black Walnut	X				X	X	X									3	S4?		N4?	^
Juncus tenuis	Path Rush									X							0	S5		N5	C
Juniperus virginiana	Eastern Red Cedar							X									3	S5		N5	^
Leersia oryzoides	Rice Cutgrass								X								-5	S5		N5	C
Lepidium campestre	Field Peppergrass							X								SE5	5	SNA		NNA	*
Leucanthemum vulgare	Oxeye Daisy	X														SE5	5	SNA		NNA	*

Vascular Plant List

Scientific Name	Common Name	THDM2-6	WOCM1	WOCM2	FOCM2-2	FOCM6-3	FOMM4-2	MEMM3	MEGM4	MAMM3-1	SWTM3	SWTM2-1	SWDM4-5	SWCM1-1	SWC/FOC	Exotic Status	Coefficient of Wetness	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank	Regional Rank (Grey)
Lobelia cardinalis	Cardinal Flower				X			X									-5	S5		N5	C
Lonicera tatarica	Tatarian Honeysuckle				X			X	X						X	SE5	3	SNA		NNA	**
Lotus corniculatus	Garden Bird's-foot Trefoil	X						X			X	X				SE5	3	SNA		NNA	*
Lythrum salicaria	Purple Loosestrife									X	X	X				SE5	-5	SNA		NNA	**
Maianthemum canadense	Wild Lily-of-the-valley													X	X		3	S5		N5	C
Maianthemum racemosum	Large False Solomon's Seal				X												3	S5		N5	C
Maianthemum stellatum	Star-flowered False Solomon's Seal		X		X												0	S5		N5	C
Malus pumila	Common Apple	X				X	X	X						X		SE4	5	SNA		NNA	*
Matteuccia struthiopteris	Ostrich Fern													X	X		0	S5		N5	C
Medicago lupulina	Black Medick								X							SE5	3	SNA		NNA	*
Melilotus albus	White Sweet-clover		X					X				X				SE5	3	SNA		NNA	**
Myosotis arvensis	Field Forget-me-not	X														SE4	3	SNA		NNA	*
Oenothera biennis	Common Evening-primrose											X					3	S5		N5	X
Onoclea sensibilis	Sensitive Fern				X			X					X	X	X		-3	S5		N5	C
Osmunda regalis	Royal Fern														X		-5	S5		N5	C
Ostrya virginiana	Eastern Hop-hornbeam		X														3	S5		N5	C
Parthenocissus quinquefolia	Virginia Creeper				X												3	S4?		N4?	U
Parthenocissus vitacea	Thicket Creeper				X												3	S5		N5	C
Phalaris arundinacea	Reed Canarygrass	X							X								-3	S5		N5	C
Phragmites australis	Common Reed									X		X		X			-3	SU		N5	**
Picea glauca	White Spruce	X			X	X		X									3	S5		N5	C
Pinus resinosa	Red Pine							X									3	S5		N5	
Pinus strobus	Eastern White Pine		X		X	X	X	X	X					X			3	S5		N5	C
Pinus sylvestris	Scots Pine		X		X	X	X	X								SE5	3	SNA		NNA	**
Plantago lanceolata	English Plantain							X				X			X	SE5	3	SNA		NNA	*
Poa compressa	Canada Bluegrass							X								SE5	3	SNA		NNA	*
Populus balsamifera	Balsam Poplar		X		X		X							X			-3	S5		NNR	C
Populus tremuloides	Trembling Aspen	X			X		X						X		X		0	S5		N5	C
Prunella vulgaris	Common Self-heal	X			X					X			X				0	S5		N5	C
Prunus serotina	Black Cherry	X			X												3	S5		N5	C
Pteridium aquilinum	Bracken Fern				X												3	S5		N5	C
Ranunculus acris	Common Buttercup				X				X		X	X	X			SE5	0	SNA		NNA	*
Rhamnus cathartica	European Buckthorn	X	X		X		X	X	X		X	X	X	X	X	SE5	0	SNA		NNA	**
Rhus typhina	Staghorn Sumac				X				X								3	S5		N5	C
Ribes cynosbati	Eastern Prickly Gooseberry														X		3	S5		N5	C
Ribes triste	Swamp Red Currant													X			-5	S5		N5	C
Rosa multiflora	Multiflora Rose							X								SE5	3	SNA		NNA	**
Rosa sp.	Rose species							X								-----	-----	-----	-----	-----	
Rubus idaeus	Red Raspberry	X	X		X							X			X		3	S5		N5	C
Rubus occidentalis	Black Raspberry	X															5	S5		N5	C
Rudbeckia hirta	Black-eyed Susan								X								3	S5		N5	C/X
Salix discolor	Pussy Willow											X					-3	S5		N5	C
Salix eriocephala	Cottony Willow									X		X					-3	S5		N5	C
Salix euxina	Crack Willow									X						SE	0	SNA		NNA	*
Salix lucida	Shining Willow									X		X					-3	S5		N5	C
Salix nigra	Black Willow											X					-5	S4		N4	R
Salix petiolaris	Meadow Willow										X	X					-3	S5		N5	C
Schoenoplectus tabernaemontani	Soft-stemmed Bulrush										X	X					-5	S5		N5	C
Scirpus atrovirens	Dark-green Bulrush									X							-5	S5		N5	C
Scirpus cyperinus	Common Woolly Bulrush																-5	S5		N5	C
Silene vulgaris	Bladder Campion	X														SE5	5	SNA		NNA	*
Solidago altissima	Tall Goldenrod							X		X		X					3	S5		N5	C
Solidago canadensis	Canada Goldenrod				X												3	S5		N5	C
Solidago hispida	Hairy Goldenrod												X				5	S5		N5	R
Solidago juncea	Early Goldenrod							X									5	S5		N5	R
Solidago rugosa	Rough-stemmed Goldenrod													X			0	S5		N5	C
Symphyotrichum lanceolatum	Panicled Aster							X									-3	S5		N5	C
Symphyotrichum puniceum	Purple-stemmed Aster									X		X			X		-5	S5		NNR	C
Taraxacum officinale	Common Dandelion	X			X			X	X						X	SE5	3	SNA		N5	*
Thelypteris palustris	Marsh Fern													X	X		-3	S5		N5	C
Thuja occidentalis	Eastern White Cedar	X	X		X	X	X	X			X	X	X	X	X		-3	S5		N5	C
Tiarella stolonifera	Heart-leaved Foamflower													X			3	S5		N5	C
Tilia americana	Basswood						X										3	S5		N5	C
Toxicodendron radicans	Poison Ivy		X		X			X	X	X	X	X	X		X		0	S5		N5	C
Tragopogon dubius	Yellow Goatsbeard							X								SE5	5	SNA		NNA	*
Trifolium campestre	Hop Clover							X					X			SE5	5	SNA		NNA	*
Trifolium pratense	Red Clover															SE5	3	SNA		NNA	*
Tsuga canadensis	Eastern Hemlock		X				X								X		3	S5		N5	C
Tussilago farfara	Coltsfoot				X					X		X		X	X	SE5	3	SNA		N5	**

Vascular Plant List

Scientific Name	Common Name	THDM2-6	WOCM1	WOCM2	FOCM2-2	FOCM6-3	FOMM4-2	MEMM3	MEGM4	MAMM3-1	SWTM3	SWTM2-1	SWDM4-5	SWCM1-1	SWC/FOC	Exotic Status	Coefficient of Wetness	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank	Regional Rank (Grey)
Typha angustifolia	Narrow-leaved Cattail									X	X	X		X	X	SE5	-5	SNA		N5	**
Ulmus americana	White Elm	X			X		X			X			X	X	X		-3	S5		N5	C
Verbascum thapsus	Common Mullein				X			X								SE5	5	SNA		NNA	*
Verbena hastata	Blue Vervain											X					-3	S5		N5	C
Viburnum acerifolium	Maple-leaved Viburnum				X			X									5	S5		N5	R
Vicia cracca	Tufted Vetch										X	X				SE5	5	SNA		NNA	*
Vincetoxicum rossicum	European Swallowwort		X		X			X								SE5	5	SNA		NNA	**
Vitis riparia	Riverbank Grape	X	X		X			X	X								0	S5		N5	C

Subnational (Provincial) Exotic Status: SE1 to SE5 based on increasing abundance
Subnational (Provincial) Rank: S1 - Critically Imperiled, S2 - Imperiled, S3 - Vulnerable, S4 - Apparently Secure, S5 - Secure, S#? - Inexact Numeric Rank, SNA - Not Applicable, SNR - Unranked
National Rank: N1 - Critically Imperiled, N2 - Imperiled, N3 - Vulnerable, N4 - Apparently Secure, N5 - Secure, N#? - Inexact Numeric Rank, NNA - Not Applicable, NNR - Unranked
Endagered Species Act: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)
Regional Rank: R - Rare, C - Common, U - Uncommon, ^ - Introduced Native, * - Exotic, ** - Invasive Species, X - No local status (OSFN, 2023)

Appendix F

Breeding Bird Data

Dawn Breeding Bird Data

			Survey Station									Conservation Rank		
Family	**Scientific Name**	**English Common Name**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Incidental**	**Breeding Evidence**	**National N-rank**	**Provincial S-rank**	**Provincial Endangered Species Act**
Anatidae	*Anas platyrhynchos*	Mallard		FO[A]							Observed	N5B,N5N	S5	
Ardeidae	*Butorides virescens*	Green Heron								x	Observed	N4B	S4B	
Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing	S[B]	S[A]		S[B]		T[A,B]	S[B]		Probable	N5B,N5N	S5	
Cardinalidae	*Cardinalis cardinalis*	Northern Cardinal	S[B]	S[B]	T[A,B]	S[B]					Probable	N5	S5	
Cardinalidae	*Passerina cyanea*	Indigo Bunting	S[B]			S[B]	T[A,B]	S[B]	S[A]		Probable	N5B	S5B	
Cathartidae	*Cathartes aura*	Turkey Vulture					FO[A]				Observed	N5B,N3N	S5B,S3N	
Charadriidae	*Charadrius vociferus*	Killdeer					S[B]				Possible	N5B,N4N5N	S4B	
Columbidae	*Zenaida macroura*	Mourning Dove	S[B]	S[B]		FO[B]				x	Possible	N5B,N5N	S5	
Corvidae	*Corvus brachyrhynchos*	American Crow	T	T		FO[B]/T	FO[B]	FO[A]/S[B]	T	x	Probable	N5B,N5N	S5	
Corvidae	*Cyanocitta cristata*	Blue Jay	T[A,B]	S[A]		S[A]	T[A,B]	S[B]	T[A,B]	x	Probable	N5	S5	
Fringillidae	*Haemorhous purpureus*	Purple Finch			S[B]						Possible	N5B,N5N	S5	
Fringillidae	*Spinus tristis*	American Goldfinch		S[B]	S[B]	S[A]	FO[A]/S[B]	S[A]	S[A]	x	Probable	N5B,N5N	S5	
Icteridae	*Agelaius phoeniceus*	Red-winged Blackbird	T[A,B]	S[A]	S[A]		S[A]			x	Probable	N5B,N5N	S5	
Laridae	*Larus delawarensis*	Ring-billed Gull					FO[A]				Observed	N5B,N5N	S5	
Mimidae	*Dumetella carolinensis*	Gray Catbird		S[B]			S[B]	S[B]		x	Possible	N5B,N3N	S5B,S3N	
Paridae	*Poecile atricapillus*	Black-capped Chickadee	S[A]	T[A,B]	T[A,B]	T[A,B]	T[A,B]	S[B]	S[A]	x	Probable	N5	S5	
Parulidae	*Geothlypis trichas*	Common Yellowthroat	S[A]	S[B]	S[A]	S[B]	S[A]			x	Possible	N5B,N3N	S5B,S3N	
Parulidae	*Leiothlypis ruficapilla*	Nashville Warbler			T[A,B]						Probable	N5B	S5B	
Parulidae	*Mniotilta varia*	Black-and-white Warbler		S[A]	S[A]	T[A,B]		T[A,B]		x	Probable	N5B	S5B	
Parulidae	*Setophaga petechia*	Yellow Warbler			S[B]				S[B]		Possible	N5B	S5B	
Parulidae	*Setophaga pinus*	Pine Warbler		S[B]							Possible	N5B,N3N	S5B,S3N	
Parulidae	*Setophaga ruticilla*	American Redstart	S[B]				T[A,B]	T[A,B]		x	Probable	N5B	S5B	
Parulidae	*Vermivora cyanoptera*	Blue-winged Warbler		S[A]							Possible	N4B	S4B	
Passerellidae	*Melospiza georgiana*	Swamp Sparrow		S[A]		S[A]			S[A]		Possible	N5B,N4N	S5B,S4N	
Passerellidae	*Melospiza melodia*	Song Sparrow	S[A]	T[A,B]	S[A]	T[A,B]	T[A,B]		S[A]		Probable	N5B,N5N	S5	
Passerellidae	*Spizella passerina*	Chipping Sparrow	S[A]	S[A]					S[A]		Possible	N5B	S5B,S3N	
Passerellidae	*Zonotrichia albicollis*	White-throated Sparrow		S[B]	T[A,B]	T[A,B]	S[A]		S[B]	x	Probable	N5B,N5N	S5	
Phasianidae	*Bonasa umbellus*	Ruffed Grouse								x	Possible	N5	S5	
Picidae	*Colaptes auratus*	Northern Flicker				S[B]					Possible	N5B,N5N	S5	
Picidae	*Dryocopus pileatus*	Pileated Woodpecker								x	Possible	N5	S5	
Picidae	*Melanerpes carolinus*	Red-bellied Woodpecker				H[B]					Possible	N5	S5	
Polioptilidae	*Polioptila caerulea*	Blue-gray Gnatcatcher							S[A]		Possible	N4B	S4B	
Scolopacidae	*Scolopax minor*	American Woodcock								x	Possible	N5B	S4B	
Sittidae	*Sitta canadensis*	Red-breasted Nuthatch		S[A]							Possible	N5	S5	
Troglodytidae	*Troglodytes aedon*	House Wren	T[A,B]	S[A]	S[A]					x	Probable	N5B	S5B	
Troglodytidae	*Troglodytes hiemalis*	Winter Wren		S[A]					S[B]	x	Possible	N5B,N4N	S5B,S4N	
Turdidae	*Turdus migratorius*	American Robin	T[A,B]	H[A]/S[A,B]	T[A,B]	S[A]	T[A,B]	T[A,B]	T[A,B]		Probable	N5B,N5N	S5	
Tyrannidae	*Empidonax alnorum*	Alder Flycatcher				T[A,B]	S[B]	S[B]			Probable	N5B	S5B	
Tyrannidae	*Myiarchus crinitus*	Great Crested Flycatcher		S[A]	S[A]	S[A]					Possible	N5B	S5B	
Tyrannidae	*Sayornis phoebe*	Eastern Phoebe						S[A]		x	Observed	N5B	S5B	
Vireonidae	*Vireo olivaceus*	Red-eyed Vireo			S[B]	T[A,B]	T[A,B]	S[A]	T[A,B]	x	Probable	N5B,N5N	S5B	
Vireonidae	*Vireo solitarius*	Blue-headed Vireo						S[A]			Observed	N5B	S5B	

Surveys Conditions:

[A]June 6, 2023; Start Time 0543hr/ End Time 0745hr; Temperature 14°C; Wind B0; Cloud Cover 0%; Precipitation none; Observer: M. Fuller

[B]June 14, 2023; Start Time 0633hr/ End Time 0845hr; Temperature 13-15°C; Wind B0; Cloud Cover 0%; Precipitation none; Observer: M. Fuller

OBBA Breeding Evidence Codes:

H - Species observed in its breeding season in suitable nesting habitat
C - Call heard (male or female), in suitable nesting habitat in nesting season.
S - Singing male present, or breeding calls heard, in suitable nesting habitat in nesting season.
N - Nest Building or excavation of nest hole
P - Pair observed in suitable nesting habitat in nesting season
FO - Fly over
T - Presumed territory based on the presence of an adult bird (usually singing, but not necessarily so), in the same suitable nesting habitat patch on at least two visits, one week or more apart, during the species' breeding season

Conservation Rank

S-rank: S1 - Critically Imperiled; S2 - Imperiled, S3 - Vulnerable, S4 - Apparently Secure, S5 - Secure, SNR - Unranked, SNA - Not applicable, SU - Unrankable, S#? - Inexact Numeric Rank, S#B - Breeding, S#N - Non-breeding, S#M - Migrant
N-rank: N1 - Critically Imperiled; N2 - Imperiled, N3 - Vulnerable, N4 - Apparently Secure, N5 - Secure, NNR - Unranked, NNA - Not applicable, NU - Unrankable, N#? - Inexact Numeric Rank, N#B - Breeding, N#N - Non-breeding, N#M - Migrant
Endangered Species Act Species at Risk in Ontario List: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

Appendix G

Snag Density Survey Data

SNAG FEATURES

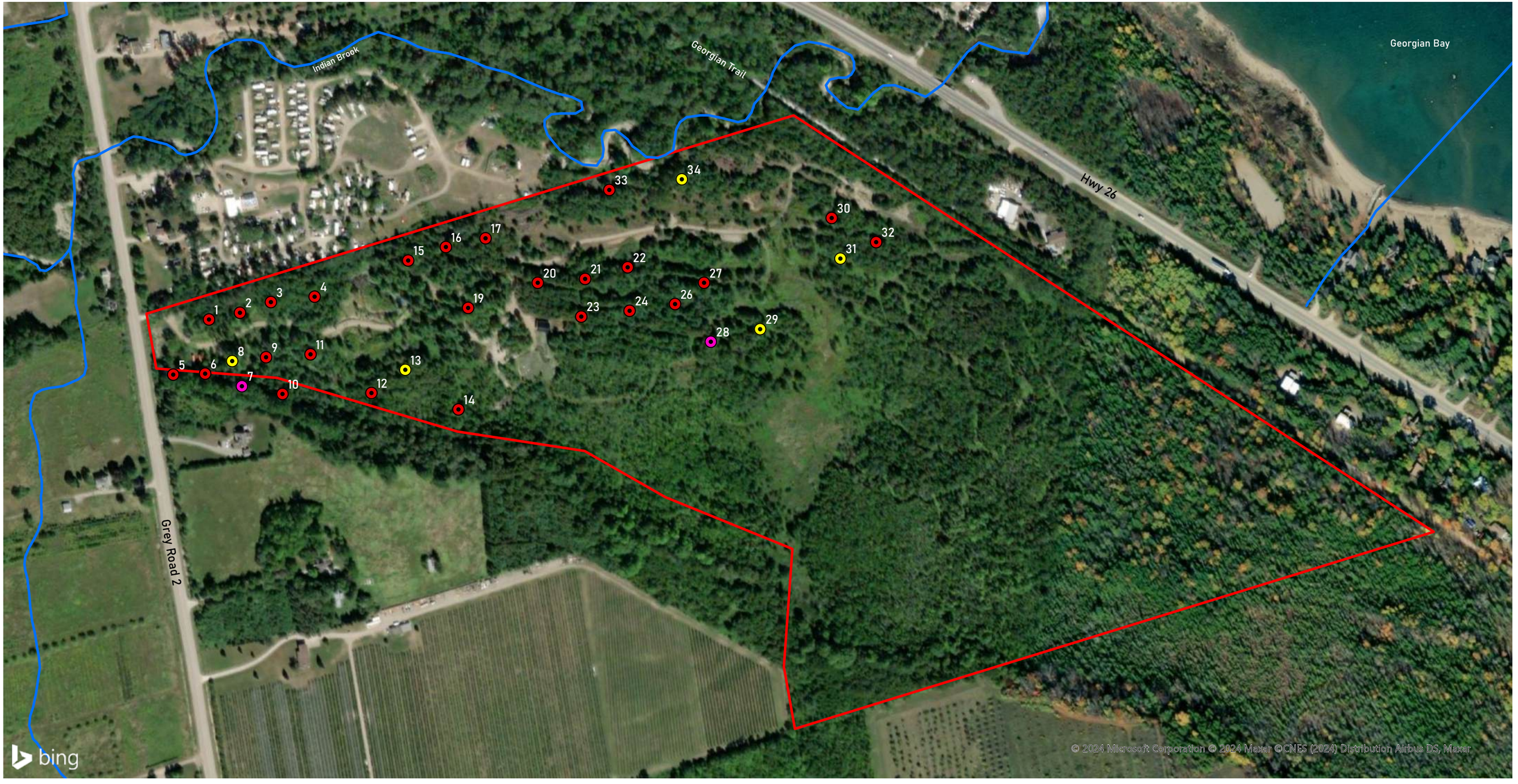
Sample Location	Species	DBH	Dead Limb			Hollow			Hole			Dead Branches			Loose Bark			Cracks			Total Snag Feature (excluding dead limbs/branches)			Snag Features			Composite (tree contains snag features)	Decay Class	Composite Tree (contains snag features & has a decay class 1-3)	Candidate Roost Tree (contains snag feature >10m & has a decay class 1-3)	Snag Tree? (field notes; Y - yes, N - no)	Canopy (O - open, C - closed)	Comments
			<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m						
B1	No Trees																				0	0	0	N	N	N	N		N	N	N	
																				TOTAL	0	0	0	0	0	0	0		0	0	0	
B2	White Pine	36										x									0	0	0	N	N	N	N	0	N	N	N	O
	White Pine	32	x									x									0	0	0	N	N	N	N	0	N	N	N	O
	White Pine	45	x	x																	0	0	0	N	N	N	N	0	N	N	N	C
	Black Walnut	28	x											x							0	0	0	N	N	N	N	0	N	N	N	O
	American Elm	32												x							0	0	0	N	N	N	N	0	N	N	N	O
	White Spruce	35	x	x																	0	0	0	N	N	N	N	0	N	N	N	O
																				TOTAL	0	0	0	0	0	0	0		0	0	0	
B5	Black Walnut	43											x	x							0	0	0	N	N	N	N	0	N	N	N	C
	Black Walnut	46		x										x							0	0	0	N	N	N	N	1	N	N	N	C
	Black Walnut	48	x										x	x							0	0	0	N	N	N	N	1	N	N	N	C
	Black Walnut	33		x					x												1	0	0	Y	N	N	Y	1	Y	N	N	C
	Black Walnut	36		x										x							0	0	0	N	N	N	N	0	N	N	N	C
	Black Walnut	34		x										x							0	0	0	N	N	N	N	1	N	N	N	C
																				TOTAL	0	0	0	1	0	0	1		1	0	0	
B3	White Spruce	31										x									0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	41			x														x	x	0	1	1	N	Y	Y	Y	4	N	N	N	C
	White Spruce	35		x	x																0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	32																			0	0	0	N	N	N	N	0	N	N	N	C
																				TOTAL	0	1	1	0	1	1	1		0	0	0	
B4	White Cedar	25										x									0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	28										x	x								0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	43										x									0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	32										x									0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	33		x								x									0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	26										x									0	0	0	N	N	N	N	0	N	N	N	C
	Large Tooth Aspen	28											x	x							0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	34										x									0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	30										x									0	0	0	N	N	N	N	0	N	N	N	C
	White Cedar	29										x									0	0	0	N	N	N	N	0	N	N	N	C
																				TOTAL	0	0	0	0	0	0	0		0	0	0	
B6	Green Ash	34			x									x	x	x	x				1	1	1	Y	Y	Y	Y	4	N	N	Y	O
	Sugar Maple	31																			0	0	0	N	N	N	N	0	N	N	N	O
	Black Walnut	38																			0	0	0	N	N	N	N	0	N	N	N	O
	Black Walnut	46			x									x							0	0	0	N	N	N	N	0	N	N	N	O
	Black Walnut	49			x									x							0	0	0	N	N	N	N	0	N	N	N	O
	White Cedar	28			x																0	0	0	N	N	N	N	0	N	N	N	C
	White Cedar	36			x																0	0	0	N	N	N	N	0	N	N	N	C
	White Cedar	29			x																0	0	0	N	N	N	N	0	N	N	N	C
	White Cedar	31																			0	0	0	N	N	N	N	0	N	N	N	C
	White Spruce	26																			0	0	0	N	N	N	N	0	N	N	N	C
	White Cedar	34																			0	0	0	N	N	N	N	0	N	N	N	C
																				TOTAL	1	1	1	1	1	1	1		0	0	1	
B8	White Pine	31																			0	0	0	N	N	N	N	0	N	N	N	C
	White Spruce	30																			0	0	0	N	N	N	N	0	N	N	N	C
	White Cedar	26																			0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	41																			0	0	0	N	N	N	N	0	N	N	N	C
	White Pine	51															x				0	0	1	N	N	Y	Y	3	Y	Y	N	O
	White Spruce	27																			0	0	0	N	N	N	N	0	N	N	N	C
	Black Walnut	29																			0	0	0	N	N	N	N	0	N	N	N	O
	White Pine	36			x																0	0	0	N	N	N	N	0	N	N	N	C
	White Cedar	24																			0	0	0	N	N	N	N	0	N	N	N	C
																				TOTAL	0	0	1	0	0	1	1		1	1	0	
B11	White Pine	36																			0	0	0	N	N	N	N	0	N	N	N	C
	White Cedar	25	x																		0	0	0	N	N	N	N	0	N	N	N	C
																				TOTAL	0	0	0	0	0	0	0		0	0	0	

			SNAG FEATURES																										
Sample Location	Species	DBH	Dead Limb			Hollow			Hole			Dead Branches			Loose Bark			Cracks			Total Snag Feature (excluding dead limbs/branches)			Snag Features			Composite (tree contains snag features)	Decay Class	Composite Tree (contains snag features & has a decay class 1-3)	Candidate Roost Tree (contains snag feature >10m & has a decay class 1-3)	Snag Tree? (field notes; Y - yes, N - no)	Canopy (O - open, C - closed)	Comments
			<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m						
B7	Sugar Maple	41															x				0	0	0	N	N	N	N	0	N	N	N	O	Off property
	Sugar Maple	48															x				0	0	1	N	N	Y	Y	1	Y	Y	N	O	LB in limb
	Sugar Maple	44			x									x							0	0	0	N	N	N	N	0	N	N	N	C	
	Sugar Maple	35												x							0	0	0	N	N	N	N	0	N	N	N	C	
	Sugar Maple	75												x							0	0	0	N	N	N	N	0	N	N	N	O	Multistem
	Green Ash	31			x												x				0	0	1	N	N	Y	Y	1	Y	Y	Y	O	
	Sugar Maple	54																			0	0	0	N	N	N	N	0	N	N	N	O	
	Sugar Maple	39		x	x																0	0	0	N	N	N	N	0	N	N	N	O	
	Sugar Maple	61			x																0	0	0	N	N	N	N	0	N	N	N	O	
	Sugar Maple	44							x												1	0	0	Y	N	N	Y	0	Y	N	N	O	
	Black Walnut	29			x									x							0	0	0	N	N	N	N	0	N	N	N	O	
	Sugar Maple	41			x																0	0	0	N	N	N	N	0	N	N	N	O	
	Sugar Maple	59			x																0	0	0	N	N	N	N	0	N	N	N	O	
	Sugar Maple	43			x																0	0	0	N	N	N	N	0	N	N	N	O	
	Sugar Maple	39																			0	0	0	N	N	N	N	0	N	N	N	O	
																				TOTAL	1	0	2	1	0	2	3		3	2	1		
B10	Black Walnut	29																			0	0	0	N	N	N	N	0	N	N	N	O	Off property
	White Pine	34	x																		0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	34	x	x																	0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26	x																		0	0	0	N	N	N	N	0	N	N	N	C	
	Black Walnut	56																			0	0	0	N	N	N	N	0	N	N	N	O	
	Black Walnut	62																			0	0	0	N	N	N	N	0	N	N	N	O	
	Black Walnut	37		x	x																0	0	0	N	N	N	N	0	N	N	N	O	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		
B9	White Pine	43												x							0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	34																			0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	29		x	x																0	0	0	N	N	N	N	1	N	N	N	O	
	White Pine	40	x	x																	0	0	0	N	N	N	N	1	N	N	N	C	
	White Pine	30																			0	0	0	N	N	N	N	1	N	N	N	C	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		
B12	Balsam Fir	30										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	30										x									0	0	0	N	N	N	N	0	N	N	N	C	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		
B13	White Cedar	30	x																		0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	25	x																		0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	43				x												x			2	0	0	Y	N	N	Y	1	Y	N	N	C	
	White Cedar	31										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	30										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	27										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	27										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	37										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	32										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	28										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	34									x						x			x	0	1	2	N	Y	Y	Y	4	N	N	Y	C	
																				TOTAL	2	1	2	1	1	1	2		1	0	1		

			SNAG FEATURES																											
Sample Location	Species	DBH	Dead Limb			Hollow			Hole			Dead Branches			Loose Bark			Cracks			Total Snag Feature (excluding dead limbs/branches)			Snag Features			Composite (tree contains snag features)	Decay Class	Composite Tree (contains snag features & has a decay class 1-3)	Candidate Roost Tree (contains snag feature >10m & has a decay class 1-3)	Snag Tree? (field notes; Y - yes, N - no)	Canopy (O - open, C - closed)	Comments
			<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m						
B14	White Cedar	36										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	33										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	34										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	31										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	29										x	x								0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	29							x			x									1	0	0	Y	N	N	Y	0	Y	N	N	O	
	Eastern Helmock	26										x									0	0	0	N	N	N	N	0	N	N	N	O	
	Eastern Helmock	28										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	45										x						x			1	0	0	Y	N	N	Y	0	Y	N	N	O	
	White Cedar	27										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
																				TOTAL	2	0	0	2	0	0	2		2	0	0		
B19	White Pine	44											x								0	0	0	N	N	N	N	0	N	N	N	O	Maintained area
	White Spruce	45											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	61											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Spruce	52											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Spruce	56											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	57											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	31											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	43											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	32											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	42											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	52											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Spruce	33											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	29											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	33											x								0	0	0	N	N	N	N	0	N	N	N	O	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		
B17	White Pine	28										x									0	0	0	N	N	N	N	0	N	N	N	O	
	Large Tooth Aspen	25												x							0	0	0	N	N	N	N	0	N	N	N	O	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		
B16	White Spruce	49											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Spruce	31										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	36											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Spruce	27										x	x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	54											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Spruce	38										x			x						1	0	0	Y	N	N	Y	0	Y	N	N	O	
	White Cedar	28										x									0	0	0	N	N	N	N	0	N	N	N	O	
																				TOTAL	1	0	0	1	0	0	1		1	0	0		
B15	White Cedar	29										x									0	0	0	N	N	N	N	0	N	N	N	C	Dense young White Cedar
	White Cedar	43										x									0	0	0	N	N	N	N	0	N	N	N	C	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		
B20	White Cedar	67																			0	0	0	N	N	N	N	0	N	N	N	C	Mainatined area
	White Cedar	44																			0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	32																			0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	40																			0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	27																			0	0	0	N	N	N	N	0	N	N	N	C	
	Red Pine	26											x								0	0	0	N	N	N	N	0	N	N	N	O	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		

			SNAG FEATURES																											
Sample Location	Species	DBH	Dead Limb			Hollow			Hole			Dead Branches			Loose Bark			Cracks			Total Snag Feature (excluding dead limbs/branches)			Snag Features			Composite (tree contains snag features)	Decay Class	Composite Tree (contains snag features & has a decay class 1-3)	Candidate Roost Tree (contains snag feature >10m & has a decay class 1-3)	Snag Tree? (field notes; Y - yes, N - no)	Canopy (O - open, C - closed)	Comments
			<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m						
B21	White Cedar	27										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	34										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	28										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	33										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	25										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	27										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	27										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	27										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	28										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	31										x									0	0	0	N	N	N	N	0	N	N	N	C	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		
B22	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	27										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x	x								0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	28										x			x						1	0	0	Y	N	N	Y	1	Y	N	N	C	
																				TOTAL	1	0	0	1	0	0	1		1	0	0		
B23	White Pine	36											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	32											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	28											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	30											x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	38											x								0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	28										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	40										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	32										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	30										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	40										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	30										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	36										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	34										x									0	0	0	N	N	N	N	0	N	N	N	C	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		
B24	White Pine	26										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	31										x	x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	33										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	29										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	32										x									0	0	0	N	N	N	N	0	N	N	N	O	
	Scotch Pine	40		x						x			x								0	1	0	N	Y	N	Y	2	Y	N	N	C	
	White Pine	27										x	x								0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	30										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	29										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	28										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	29										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x									0	0	0	N	N	N	N	0	N	N	N	C	
																					0	1	0	0	1	0	1		1	0	0		
B26	White Pine	32										x	x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	27										x	x								0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	35										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	30										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	28										x									0	0	0	N	N	N	N	0	N	N	N	C	
																					0	0	0	0	0	0	0		0	0	0		
B27	White Cedar	28										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	25																			0	0	0	N	N	N	N	4	N	N	N	C	Broken top, too short
	White Pine	31										x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	31										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	37										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	33										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	34										x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	33										x	x								0	0	0	N	N	N	N	0	N	N	N	O	
																				TOTAL	0	0	0	0	0	0	0		0	0	0		

Sample Location	Species	DBH	SNAG FEATURES																			Total Snag Feature (excluding dead limbs/branches)			Snag Features			Composite (tree contains snag features)	Decay Class	Composite Tree (contains snag features & has a decay class 1-3)	Candidate Roost Tree (contains snag feature >10m & has a decay class 1-3)	Snag Tree? (field notes; Y - yes, N - no)	Canopy (O - open, C - closed)	Comments
			Dead Limb			Hollow			Hole			Dead Branches			Loose Bark			Cracks																
			<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m						
B28	White Cedar	39										x										0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	27										x										0	0	0	N	N	N	N	0	N	N	N	C	
	Balsam Poplar	32										x										0	0	0	N	N	N	N	0	N	N	N	C	
	Balsam Poplar	28											x									0	0	0	N	N	N	N	0	N	N	N	C	
	Balsam Poplar	30			x									x			x					0	0	1	N	N	Y	Y	0	Y	Y	N	C	Flakey bark only
	Balsam Poplar	33												x								0	0	0	N	N	N	N	0	N	N	N	C	
	Balsam Poplar	34												x								0	0	0	N	N	N	N	0	N	N	N	C	
	Balsam Poplar	33												x								0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	30										x										0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	27										x										0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	25										x										0	0	0	N	N	N	N	0	N	N	N	C	
	Balsam Poplar	37			x									x			x			x		0	1	1	N	Y	Y	Y	3	Y	Y	Y	C	
																					TOTAL	0	1	2	0	1	2	2		2	2	1		
B29	White Pine	30																				0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	28		x																x		0	1	0	N	Y	N	Y	0	Y	N	Y	O	
	White Cedar	29																		x		0	1	0	N	Y	N	Y	0	Y	N	N	O	
	White Pine	31																				0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	30										x										0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	33																				0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	25	x									x										0	0	0	N	N	N	N	0	N	N	N	O	
	White Cedar	32										x						x				1	0	0	Y	N	N	Y	0	Y	N	N	C	
																					TOTAL	1	2	0	1	2	0	3		3	0	1		
B30	White Ash	25																				0	0	0	N	N	N	N	0	N	N	N	O	
	White Ash	25												x								0	0	0	N	N	N	N	0	N	N	N	O	
																					TOTAL	0	0	0	0	0	0	0		0	0	0		
B32	White Cedar	36										x										0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	34										x										0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	26										x										0	0	0	N	N	N	N	0	N	N	N	C	
	White Cedar	28										x	x									0	0	0	N	N	N	N	0	N	N	N	C	
																					TOTAL	0	0	0	0	0	0	0		0	0	0		
B31	White Cedar	25										x										0	0	0	N	N	N	N	0	N	N	N	O	Not suitable ELC community
	Sugar Maple	36															x					0	0	1	N	N	Y	Y	0	Y	Y	N	O	
	White Cedar	25										x										0	0	0	N	N	N	N	0	N	N	N	O	
																					TOTAL	0	0	1	0	0	1	1		1	1	0		
B33	White Pine	26										x	x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	26										x										0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	35										x										0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	29											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	35											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	36		x									x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	29											x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	27										x										0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	26											x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	25											x									0	0	0	N	N	N	N	0	N	N	N	C	
	White Pine	40																		x		1	0	0	Y	N	N	Y	0	Y	N	N	C	
																					TOTAL	1	0	0	1	0	0	1		1	0	0		
B34	White Pine	26										x										0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	34											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	26											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	28											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	25											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	26											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	32											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	25											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	25											x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Pine	25										x	x									0	0	0	N	N	N	N	0	N	N	N	O	
	White Birch	32										x				x						0	1	0	N	Y	N	Y	0	Y	N	N	O	
	White Birch	29											x			x						0	1	0	N	Y	N	Y	0	Y	N	N	O	
	White Birch	33											x		x	x						1	1	0	Y	Y	N	Y	0	Y	N	N	O	
	White Birch	23													x	x						1	1	0	Y	Y	N	Y	0	Y	N	Y	O	
	White Ash	31																				0	0	0	N	N	N	N	0	N	N	N	O	
																					TOTAL	2	4	0	2	4	0	4		4	0	1		



496857 Grey Road 2

Town of The Blue Mountains

Appendix
Bat Habitat Mapping

Property Limit
Watercourse (LIO)

Bat Snag Survey Location (# candidate roost tree)
- 0
- 1
- 2

MAP DRAWING INFORMATION:
IMAGERY DATA PROVIDED BY: BING MAPS

MAP CREATED BY: HM
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17N

N W E S

0 50 100 200 300 Meters

FILE LOCATION:
Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-009-2023 Grey Rd 2

PROJECT: 03-009-2023 STATUS: DRAFT DATE: 05/28/2024

Appendix H

Significant Wildlife Habitat Assessment Table

Tables 5.1-5.6. Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

5.1 - 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 • 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). • Significant Wildlife Habitat Mitigation Support Tool Index #7 provides development effects and mitigation measures.	Habitat in study area does not meet criteria related to ELC Ecosite Codes. Spring flooded fields were not documented and the listed wildlife species were not documented during field investigations (Mallard was observed as a flyover). Candidate Waterfowl Stopover and Staging Areas (terrestrial) SWH is therefore not present on the property.
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 • 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 Significant Wildlife Habitat Technical Guide 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). • Significant Wildlife Habitat Mitigation Support Tool Index #7 provides development effects and mitigation measures.	Wetland habitat is present on the property; however, where open water was observed is small and not of suitable size to support such aggregation. The listed wildlife species were not documented during field investigations. Candidate Waterfowl Stopover and Staging Areas (aquatic) SWH is therefore not present on the property.

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" • Significant Wildlife Habitat Mitigation Support Tool Index #8 provides development effects and mitigation measures.	No shorelines of lakes, rivers or wetlands within the property that contain habitat features consistent with listed habitat criteria. The listed wildlife species were not documented during field investigations. Candidate Shorebird Migratory Stopover Area SWH is therefore not present.
Raptor Wintering Area **Rationale:** Sites used by multiple species, a high number 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 wind swept 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" • Significant Wildlife Habitat Mitigation Support Tool Index #10 and #11 provides development effects and mitigation measures.	The Study Area does not contain a combination of field and woodlands that would provide habitats for wintering raptors. The listed wildlife species were not documented during field investigations. Candidate Raptor Wintering Area SWH is therefore not present in the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Bat Hibernacula **<u>Rationale:</u>** 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. <u>Information Sources</u> • 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. • Significant Wildlife Habitat Mitigation Support Tool Index #1 provides development effects and mitigation measures.	No caves, mine shafts, karst or underground foundations have been identified within the property.
Bat Maternity Colonies **<u>Rationale:</u>** 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. • 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 <u>Information Sources</u> • OMNRF for possible locations and contact for local experts • University Biology Departments with bat experts.	• Maternity Colonies with confirmed use by; • >10 Big Brown Bats© • >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". • Significant Wildlife Habitat Mitigation Support Tool Index #12 provides development effects and mitigation measures.	Results of the snag density survey indicate a low density of candidate bat roost trees in the area surveyed and that candidate high quality bat maternity roosting habitat (at minimum 10 snags per ha) is not present in the area surveyed.
Turtle Wintering Areas **<u>Rationale:</u>** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle **<u>Special Concern:</u>** 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 must 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. <u>Information Sources</u> • 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 • Significant Wildlife Habitat Mitigation Support Tool Index #28 provides development effects and mitigation measures for turtle wintering habitat.	Habitat on the property (*i.e.*, open water ponds) may provide turtle overwintering habitat. That said, a review of aerial photography indicates that the ponds were constructed by previous landowners and are therefore 'man-made'. Thus the features would not be considered significant. No further consideration is warranted.

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 Milksnake **Special Concern:** 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 (eg. 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 • Significant Wildlife Habitat Mitigation Support Tool Index #13 provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for skink is significant. • Significant Wildlife Habitat Mitigation Support Tool Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.	**Because of the variability in features that snakes will use for hibernation, snake hibernaculum may be found in almost any habitat (except for very wet ones). Since features associated with this function appear to be common in the landscape, reptile hibernaculum SWH may be present within the Study Area.** **Further discussion is provided in the EIS.**
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 populations 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 8 or 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” • Significant Wildlife Habitat Mitigation Support Tool Index #4 provides development effects and mitigation measures	Habitat in the study area does not meet key criteria to be considered significant – cliffs or banks were not observed and none of the listed species were identified on site. Therefore, Candidate Colonially-Nesting Bird Breeding Habitat (Bank and Cliff) is not present.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs) **<u>Rationale</u>:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> • 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.	Studies confirming: • Presence of 5 or more active nests of Great Blue Heron or other listed species. • 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 • Significant Wildlife Habitat Mitigation Support Tool Index #5 provides development effects and mitigation measures.	The property contains appropriate ELC communities (i.*e.,* swamp lands). NHIC does not list occurrence of Mixed Wader Nesting Colony in the area. None of the species listed were observed onsite and no evidence of nests within ELC communities was observed.
Colonially -Nesting Bird Breeding Habitat (Ground) **<u>Rationale;</u>** 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. <u>Information Sources</u> • 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" • Significant Wildlife Habitat Mitigation Support Tool Index #6 provides development effects and mitigation measures.	Habitat does not meet key criteria to be considered significant – no rocky islands or peninsulas were documented. NHIC does not list occurrence of Colonial Waterbird Nesting Area in the area. Listed species were not identified on site; Ring-billed Gull was observed as a flyover. Candidate Colonially-Nesting Bird Breeding Habitat (ground) is therefore not present.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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. • Significant Wildlife Habitat Mitigation Support Tool Index #16 provides development effects and mitigation measures.	Study area is not located within 5km of Lake Ontario and thus this habitat function is not applicable.
Landbird Migratory Stopover Areas **Rationale:** Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds.: Canadian Wildlife Service Ontario website. All migrant raptor species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	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 . Information Sources • 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" • Significant Wildlife Habitat Mitigation Support Tool Index #9 provides development effects	Study area is not located within 5km of Lake Ontario and thus this habitat function is not applicable.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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 within this Schedule. • Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures.	No portions of the study area are mapped as Deer Wintering Area by the MNRF (source: LIO).
Deer Winter Congregation 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.	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on 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. • 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	Studies confirm: • Deer management is an MNRF responsibility, deer 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 below. • Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures.	No portions of the study area are mapped as Deer Wintering Area by the MNRF (source: LIO).

5.2 - 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 • Significant Wildlife Habitat Mitigation Support Tool Index #21 provides development effects and mitigation measures.	Habitat in the study area does not meet key criteria to be considered significant.
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 • OMNRF 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.) • Significant Wildlife Habitat Mitigation Support Tool Index #20 provides development effects and mitigation measures.	Habitat in the study area does not meet key criteria to be considered significant.
Alvar **Rationale;** Alvars are extremely rare habitats in Ecosregion 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 • Significant Wildlife Habitat Mitigation Support Tool Index #17 provides development effects and mitigation measures.	Habitat in the study area does not meet key criteria to be considered significant.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Old Growth Forest **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.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Woodland areas 30 ha or greater in size or with at least 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	Field Studies will determine: • If dominant trees species of the are >140 years old, then the area containing these trees is SWH • 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 • Significant Wildlife Habitat Mitigation Support Tool Index #23 provides development effects and mitigation measures.	The woodland habitats not considered to be old growth forest as the dominant trees are less than 140 years old and the woodlands lack the characteristics required to be considered old growth.
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.). • Significant Wildlife Habitat Mitigation Support Tool Index #18 provides development effects and mitigation measures.	Habitat in the study area does not meet key criteria to be considered significant.
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.). • Significant Wildlife Habitat Mitigation Support Tool Index #19 provides development effects and mitigation measures.	Habitat in the study area does not meet key criteria to be considered significant.
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 Significant Wildlife Habitat Technical Guide. 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 Significant Wildlife Habitat Technical Guide. • Area of the ELC Vegetation Type polygon is the SWH. • Significant Wildlife Habitat Mitigation Support Tool Index #37 provides development effects and mitigation measures.	No rare vegetation communities have been documented within the study area.

5.3 - 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. • Significant Wildlife Habitat Technical Guide Index #25 provides development effects and mitigation measures.	Upland habitats are present adjacent to wetlands, including disturbed woodlands, open naturalized plantation, and open trails/meadow. Upland areas are therefore not good quality waterfowl nesting habitat. Results of the snag density survey indicate a low density of cavity trees, with average size less than 40 cm DBH. None of the listed species were observed on site; Mallard was observed as a flyover.
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”	Ponds and wetlands present on the property; Indian Brook passes through at the most north-eastern corner of the property – woodlands are present in vicinity of those features. The listed species were not documented within the area. No nests were observed by Birks NHC. Ontario Breeding Bird Atlas indicates Osprey only reported in 25% of the surveyed squares in Grey Region; Bald Eagle reported in 22% of the surveyed squares in the region. No nesting sites in the area mapped by MNRF (LIO – Wildlife Values Site mapping).

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
				• Significant Wildlife Habitat Technical Guide Index #26 provides development effects and mitigation measures	
Woodland Raptor Nesting Habitat **<u>Rationale:</u>** 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. <u>Information Sources</u> • 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 28ha 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. • Significant Wildlife Habitat Technical Guide Index #27 provides development effects and mitigation measures.	The Study Area does not contain habitat features that meet the criteria for this habitat function; there is no interior habitat with a 200 m buffer within the Study Area. No stick nests were documented during field investigations. None of the listed species were observed on site.
Turtle Nesting Areas **<u>Rationale;</u>** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle <u>Special Concern Species</u> 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. <u>Information Sources</u> • 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. Significant Wildlife Habitat Technical Guide Index #28 provides development effects and mitigation measures for turtle nesting habitat.	The property contains suitable habitat for turtles (*i.e.*, wetlands, ponds); open trails may functions as nesting habitat. However, nesting areas are associated with trails and pathways, and thus would not be considered significant. No further consideration is warranted.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Seeps and Springs **Rationale;** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	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 Ecosite within the headwater areas of a stream could have seeps/springs.	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 Information Sources • Topographical Map. • Thermography. • Hydrological surveys conducted by Conservation Authorities and Ministry of the Environment, Conservation and Parks. • Field Naturalists clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of an 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 and groundwater condition need to be considered in delineation the habitat. • Significant Wildlife Habitat Technical Guide Index #30 provides development effects and mitigation measures	**Groundwater seepage (iron staining) was observed during field investigations.** **Further discussion is provided in the EIS.**
Amphibian Breeding Habitat (Woodland). **Rationale:** 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) >500m2 (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. • Significant Wildlife Habitat Technical Guide Index #14 provides development effects and mitigation measures.	Amphibian call surveys recorded Gray Treefrog (call level 2) and Spring Peeper (call level 3) in the Study Area. Criteria for significance was not met. Call level 3 was not achieved for 2 or more species, and the minimum number of individuals was not met.
Amphibian Breeding Habitat (Wetlands) **Rationale;** 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>500m2 (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. • OMNRF Districts and wetland evaluations	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.	Amphibian call surveys recorded American Toad (call level 2), Gray Treefrog (call level 2), Northern Leopard Frog (call level 1), and Green Frog (call level 1) in the Study Area. Call levels at Survey Stations 1 and 3 did not record call levels at sufficient intensity to be considered Significant.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
			• Reports and other information available from Conservation Authorities.	• If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined below. • Significant Wildlife Habitat Technical Guide Index #15 provides development effects and mitigation measures.	
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 songbirds.	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:** 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 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” • Significant Wildlife Habitat Technical Guide Index #34 provides development effects and mitigation measures.	Woodland habitats present on the property contribute to the overall size of the woodland feature (feature approximately 88 ha); however, woodlands in the Study Area are fragmented, generally do not contain large mature trees, and there is no interior forest habitat 200 m from forest edge. Therefore, the Study Area does not meet candidate habitat criteria for Woodland Area-Sensitive Bird Breeding Habitat. Three of the listed species were during site surveys (Winter Wren, Red-breasted Nuthatch, Blue-headed Vireo). No breeding evidence of those species was recorded.

5.4 - 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" • Significant Wildlife Habitat Technical Guide Index #35 provides development effects and mitigation measures	Wetland habitats are present on the property; ponds, meadow marsh, swamp. None of the listed species were identified on the property. NHIC does not list occurrence of this SWH habitat type in the area.
Open Country Bird Breeding **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 Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl Grasshopper Sparrow	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 or Grasshopper Sparrow 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" • Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures	Suitable ELC communities are not present within the study area. Listed species were not documented during field investigations. Candidate Open Country Bird Breeding SWH is not present on the property.
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:** 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 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" • Significant Wildlife Habitat Technical Guide Index #33 provides development effects and mitigation measures.	Suitable ELC communities are not present within the study area; cultural woodland / thicket areas are significantly smaller than 10 ha in size. None of the listed species were documented during field investigations. Candidate Shrub/Early Succession Bird Breeding Habitat SWH is therefore not present.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Terrestrial Crayfish **<u>Rationale:</u>** 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. <u>Information Sources</u> • 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 • Significant Wildlife Habitat Technical Guide Index #36 provides development effects and mitigation measures.	Chimneys were not documented within the surveyed areas.
Special Concern and Rare Wildlife Species **<u>Rationale:</u>** 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 <u>Information Sources</u> • 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. • Significant Wildlife Habitat Technical Guide Index #37 provides development effects and mitigation measures.	**Potential habitat is present for Snapping Turtle.** **Further discussion is provided in the EIS.**

5.5 - 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	Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH (**Amphibian Breeding Habitat –Wetland)** 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 <20mcxlix . • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • Significant Wildlife Habitat Technical Guide Index #40 provides development effects and mitigation measures	Amphibian breeding habitat SWH was not confirmed on the during field investigations.
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 • A deer wintering habitat identified by the OMNRF as 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. • Significant Wildlife Habitat Technical Guide Index #39 provides development effects and mitigation measures	No portions of the study area are mapped as Deer Wintering Area by the MNRF (source: LIO).

5.6 - 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 Significant Wildlife Habitat Technical Guide Index #3 provides development effects and mitigation measures.	Not applicable, study area is not located on the 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 • Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures	Not applicable, study area is not located on Manitoulin Island.