Prepared By:

372 Grey County Road 21 East Parcel

Town of the Blue Mountains

Environmental Impact Study

Project No. 04-010-2021

March 2022

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

March 14, 2022

Rhemm Properties, Ltd.
Box 87 Clarksburg, Ontario
N0H 1J0

Attention: John Rodgers

RE: BIRKS NHC 04-010-2021
Environmental Impact Study
372 Grey County Road 21 – East Parcel, Town of the Blue Mountains

Dear Mr. Rodgers:

Thank you for retaining Birks Natural Heritage Consultants, Inc. (Birks NHC) to prepare an Environmental Impact Study (EIS) for the east parcel of the property described above. It is our understanding that you are proposing severance of the property and future development of four residential lots with fronting on Grey County Road 21, and that an EIS is required due to the presence of wetlands, woodlands and watercourses within, and/or adjacent to the proposed severance area.

Birks NHC completed comprehensive field surveys to review the existing conditions of the severance area and adjacent lands (Study Area) with a focus on characterizing any key natural heritage features/key hydrologic features and functions present. Through assessment of the field surveys, review of background information, and applicable policies and regulations, we have determined that the property and adjacent lands contain key natural heritage features/key hydrologic features and functions relating to the presence of wetlands, significant woodlands, significant wildlife habitats, habitat for threatened and endangered species, and Townline Creek watercourse (fish habitat).

The report provides an assessment of potential impacts associated with the proposed severance and future build-out and provides mitigation measures to reduce any potential impacts. At this time, no impacts to the identified key natural heritage features/key hydrologic features and functions are expected as a result of the proposed works.

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.

[redacted]

Stephanie Brady, HBES
Ecologist

[redacted]

Melissa Fuller, B.Sc.,
Ecologist

Table of Contents

page

Letter of transmittal i

1 INTRODUCTION 4

1.1 Purpose 4
1.2 Site Description 4
1.3 Adjacent Land Use 4
1.4 Study Area 4

2 ENVIRONMENTAL POLICY FRAMEWORK 6

2.1 Provincial Policy Statement (2020) 6
2.2 Endangered Species Act (2007) 7
2.3 Fisheries Act (1985) 7
2.4 Conservation Authorities Act (1990) 8
2.5 Niagara Escarpment Plan (2017) 8
2.6 County of Grey Official Plan (2019) 9
2.7 Town of The Blue Mountains Official Plan (2016) 10

3 STUDY APPROACH 11

3.1 Background Data Review and Sources 11
3.2 Field Surveys 11
3.2.1 Vegetation Community Mapping and Surveys 12
3.2.2 Amphibian Calling Surveys 12
3.2.3 Dawn Breeding Bird Surveys 13
3.2.4 Fish Habitat Assessment 13
3.2.5 General Wildlife Surveys 14
3.3 Species at Risk Assessment 14

4 EXISTING CONDITIONS 14

4.1 Vegetation Communities and Plants 14
4.1.1 Cultural/Maintained 14
4.1.2 FODM7-2 Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest 15
4.1.3 MAMM1-2 Cattail Graminoid Mineral Meadow Marsh 15
4.1.4 SWDM2-2 Green Ash Mineral Deciduous Swamp 15
4.2 Wildlife Habitat 17
4.2.1 Birds 17
4.2.2 Mammals 17

4.2.3 Amphibians and Reptiles 17
4.2.4 Fish and Fish Habitat 18

5 KEY NATURAL HERITAGE FEATURES AND KEY HYDROLOGIC FEATURES AND FUNCTIONS 19

5.1 Provincially Significant Wetland 19
5.2 Other Wetlands 19
5.3 Significant Woodland 19
5.4 Significant Valleylands 20
5.5 Significant Wildlife Habitat 20
5.5.1 Bat Maternity Colonies 20
5.5.2 Reptile Hibernaculum 20
5.5.3 Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs) 21
5.5.4 Colonially-Nesting Bird Breeding Habitat (Ground) 21
5.5.5 Woodland Area-sensitive Breeding Bird Habitat 21
5.5.6 Special Concern and Rare Wildlife Species 22
5.6 Areas of Natural and Scientific Interest 22
5.7 Fish and Fish Habitat 22
5.8 Habitat of Threatened and Endangered Species 22
5.8.1 Endangered Bat Species 23
5.9 Key Natural Heritage Features and Key Hydrologic Features and Functions Summary 23

6 IMPACT ASSESSMENT 25

6.1 Development Plan 25
6.2 Direct Impacts 25
6.2.1 Tree and Vegetation Removals 25
6.2.2 Erosion and Sedimentation into Key Natural Heritage Features and Key Hydrologic Features 27
6.2.3 Changes to the Hydrology/Water Quality Entering Sensitive Features 27
6.2.4 Loss of Habitat for Endangered Bat Species or Incidental Harm 28
6.2.5 Loss of and Disturbance to Wildlife and Wildlife habitat 28
6.3 Indirect Impacts 29
6.3.1 Anthropogenic Disturbance to Wildlife and Wildlife Habitat 29
6.3.2 Increased Potential for Invasion of Non-native Species 30

7 RECOMMENDATIONS AND MITIGATION MEASURES 30

7.1 Species at Risk 30
7.2 Woodland and Wetland Habitat 31
7.2.1 Setback Enhancement 31

7.2.2 Snapping Turtle Exclusion 32
7.3 Migratory Birds 32
7.4 General Mitigation Plan 32
7.5 Agency Approvals 33
8 CONCLUSIONS 33
9 REFERENCES 34

Figures

Figure 1: Study Area 5
Figure 2: Existing Conditions and Survey Locations 16
Figure 3: Proposed Development 26

In-Text Tables

Table 1: Summary of Field Surveys Completed 12
Table 2: Amphibian Calling Survey Results 18
Table 3: Key Natural Heritage Features and Key Hydrologic Features and Functions Summary 24

Appendices

Appendix A: Grey Sauble Conservation Authority Regulation Map 36
Appendix B: Niagara Escarpment Plan Map 38
Appendix C: County of Grey Official Plan Maps 40
Appendix D: Town of the Blue Mountains Official Plan Maps 43
Appendix E: Plant List 46
Appendix F: Breeding Bird Survey Data 48
Appendix G: Fish Habitat Photos 50
Appendix H: Significant Woodland Assessment 53
Appendix I: Significant Wildlife Habitat Assessment 59
Appendix J: Species at Risk Assessment

1 INTRODUCTION

Birks Natural Heritage Consultants, Inc. (Birks NHC) was retained by Rhemm Properties, Ltd. to undertake the preparation of an Environmental Impact Study (EIS) for the East Parcel of the property identified as 372 Grey County Road 21, Town of the Blue Mountains, Grey County (Figure 1).

1.1 PURPOSE

The objective of the EIS is to identify and characterize the potential functions associated with key natural heritage features/key hydrologic features (KNHFs/KHFs) and functions present within the Study Area and determine if potential impacts to those features and functions could arise from the proposed development. The EIS is focused on potential ecological impacts which could result from the proposed severance and future development of four residential lots with fronting on Grey County Road 21. The EIS is required due to the presence of wetlands, woodlands and watercourses within, and/or adjacent to the property.

This report has been prepared to address the natural heritage requirements of the Provincial Policy Statement (PPS, 2020), *Endangered Species Act* (ESA, 2007), Niagara Escarpment Plan (2017), County of Grey Official Plan (2019), and the Town of the Blue Mountains Official Plan (2016).

1.2 SITE DESCRIPTION

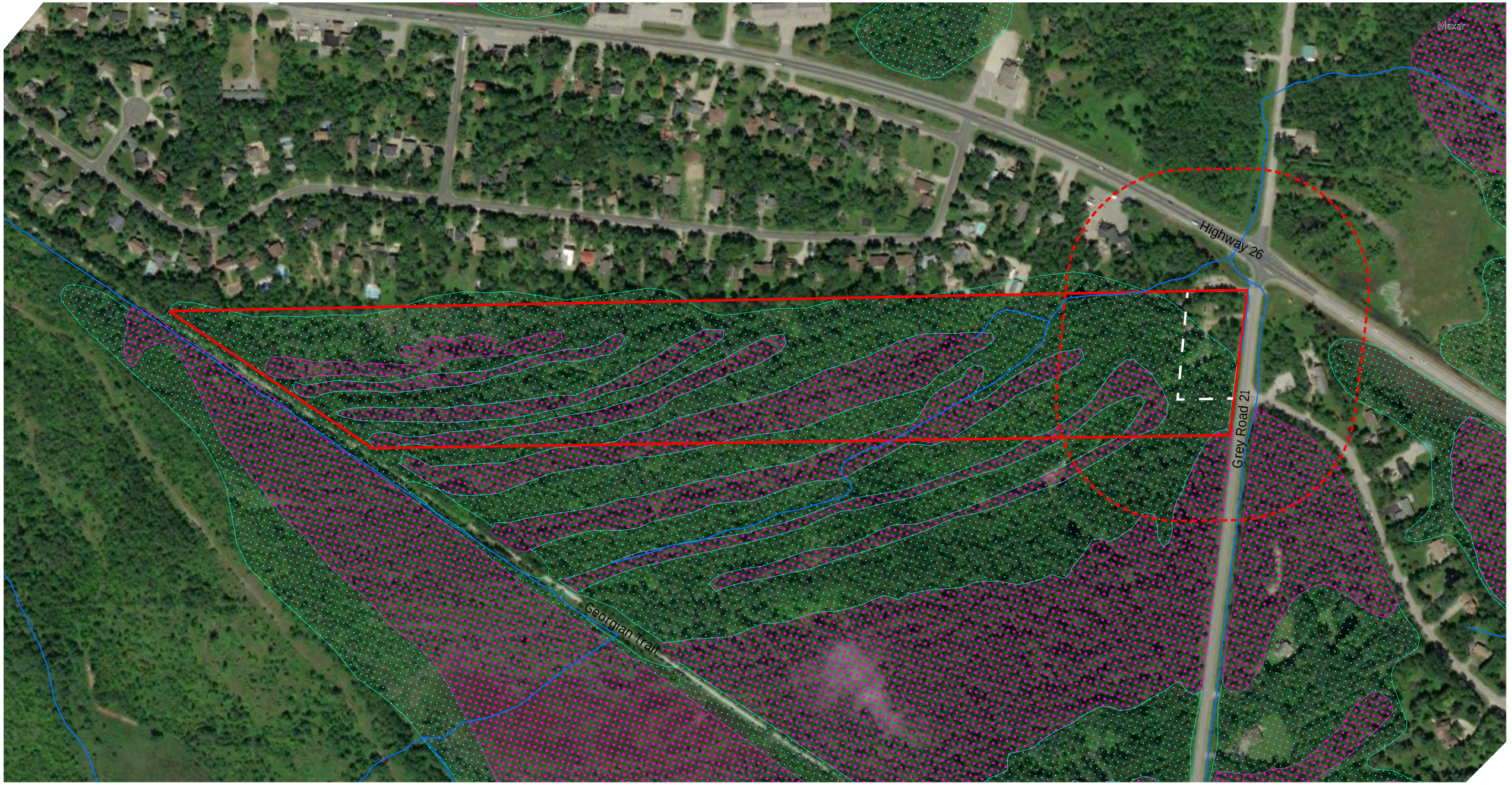
The East Parcel of the property (hereafter referred to as the 'property') is a rectangular-shaped property that measures approximately 13.5 hectares (ha). The property contains both maintained and naturalized conditions, including the presence of an existing residential dwelling (demolished December 2021) and associated maintained area, woodland, and wetland habitats. Portions of the wetland habitat on the property are part of the Silver Creek Provincially Significant Wetland (PSW) Complex. Drainage features are present along the northern and eastern property limits, which converge at Highway 26 where it flows through a culvert under the road to adjacent lands to the north.

1.3 ADJACENT LAND USE

The property is situated within a settlement/recreational area in the Township of the Blue Mountains, approximately 0.5 kilometres south of Georgian Bay shoreline. The property fronts Grey County Road 21 to the east. Components of Silver Creek PSW Complex are present on the property and adjacent lands; natural woodlands and wetlands are to the south and west. Further south and west are developed lands with recreational facilities such as ski clubs, resorts, bed and breakfasts and Inns. Highway 26, to the north, is built up with residential properties. Georgian Trail runs along the western property line.

1.4 STUDY AREA

For the purpose of this EIS, the Study Area is focused within an area approximately 120 metres (m) surrounding the proposed severance area as illustrated in Figure 1.



372 GREY ROAD 21 - EAST PARCEL

Town of the Blue Mountains

Figure 1:

Study Area

Property Limit

Watercourse (Birks NHC/LIO)

Proposed Severance Area (Approximate)

120m Study Area

Wetland

Un-evaluated Wetland

Provincially Significant Wetland

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA

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

N W E S

0 45 90 180 270 360 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\SBrady Projects\ArcGIS - Projects here\Projects - here\372GreyRd

PROJECT: 04-010-2021 STATUS: DRAFT DATE: 01/11/2021

The Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) 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 protection of natural heritage features and functions. All proposed development needs to meet the "no negative impact" test and demonstrate that there will be no negative impacts to the natural features and their ecological functions per Section 2.1 of the PPS.

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); 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 in policies 2.1.4, 2.1.5 and 2.1.6 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.

2.2 Endangered Species Act (2007)

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

Ontario Regulation (O. Reg.) 230/08 of the ESA identifies Species at Risk in Ontario and 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 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 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,* 1985. 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 modernized in 2017 and again in 2019. The purpose of *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". Section 28 of the *Conservation Authorities Act* states that a Conservation Authority may make the following regulations applicable in the area under its jurisdiction:

- Restricting and regulating the use of water in or from rivers, streams, inland lakes, ponds, wetlands and natural or artificially constructed depressions in rivers or streams;
- Prohibiting, regulating or requiring the permission of the authority for straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or watercourse, or for changing or interfering in any way with a wetland;
- Prohibiting, regulating or requiring the permission of the authority for development if, in the opinion of the authority, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected by the development; and,
- Provide for the appointment of officers to enforce any regulation made under this section or section 29.

An authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by Section 28, if, in the opinion of the authority, the activity is not likely to: a) affect the control of flooding, erosion, dynamic beaches or pollution or the conservation of land; b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and, (c) any other requirements that may be prescribed by the regulations are met.

The Study Area falls within the jurisdiction area of Grey Sauble Conservation Authority (GSCA) and the majority of the property is regulated due to the presence of Natural Hazard Areas and watercourses (Appendix A).

2.5 Niagara Escarpment Plan (2017)

The Niagara Escarpment Plan (NEP) seeks to protect the geologic feature of the Niagara Escarpment and lands in its vicinity as a continuous natural environment while allowing only compatible development. The NEP builds upon the PPS policies and works alongside the Oak Ridges Moraine Plan and the Greenbelt Plan providing direction regarding accommodation of future growth near sensitive lands.

The property is located within an area in the NEP designated as Recreation Areas (Appendix B). Designated Recreation Areas are areas of existing or potential recreational development associated with the Escarpment. Such areas may include both seasonal and permanent residences. Subject to Part 2 of the NEP (Development Criteria), the following uses may be permitted: existing uses, single and secondary dwellings, agricultural and agricultural related uses, nature preserves, recreational (*i.e.*, Bruce trail, golf courses, ski centre facilities), and development associated with a ski centre or a lakeshore residential area. New lots may be created for permitted uses, subject to the Development Criteria in Part 2, given that the development objectives of Section 1.8 (Escarpment Recreation Area) of the NEP and the requirements of applicable official plans, secondary plans and/or by-laws that are not in conflict with the NEP. Development permitted should be designed and located in such a manner as to provide for or protect access to the Niagara Escarpment, including the Bruce Trail corridor.

Development is not permitted in key hydrologic features (KHFs) or key natural heritage features (KNHFs) with the exception of the following, which may be permitted subject to compliance with all other relevant policies of this Plan:

- *development of a single dwelling and accessory facilities outside a wetland on an existing lot of record, provided that the disturbance is minimal and where possible temporary;*
- *forest, fisheries and wildlife management to maintain or enhance the feature;*
- *conservation and flood or erosion control projects, after all alternatives have been considered;*
- *the Bruce Trail, and other trails, boardwalks and docks on parks and open space lands that are part of the Parks and Open Space System; and*
- *infrastructure, where the project has been deemed necessary to the public interest and there is no other alternative.*

(NEP, 2017 Sections 2.6.2 and 2.7.2)

If in the opinion of the implementing authority, a proposal for development within 120 m of a KHF or KNHF has the potential to result in a negative impact on the feature and/or its functions, or on the connectivity between key features, a natural heritage evaluation will be required.

The property is not within an area of Development Control and therefore the Development and Growth Objectives of the NEP do not apply.

2.6 County of Grey Official Plan (2019)

Schedule A Land Use Types, Map 2 of the County of Grey Official Plan illustrates the property as Recreational Resort Area and Provincially Significant Wetland and Significant Coastal Lands (Appendix C). Appendix B Constraint Mapping, Map 2 of the County of Grey Official Plan further illustrates the property as containing Significant Woodlands, Other Wetlands, and Stream/River (Appendix C).

Escarpment Recreation Area and Recreational Resort Areas land use types as shown on Schedule A of the County of Grey Official Plan applies to the Escarpment Recreation Areas of the NEP. New

development in the Recreational Resort Area land use type must serve the public interest by contributing to the provision of community recreational amenities, by facilitating municipal service infrastructure, and by accommodating existing un-serviced development areas and areas with development potential (County of Grey, 2019, Section 3.8).

No development or site alteration is permitted within the Provincially Significant Wetlands and Significant Coastal Wetlands land use type shown on Schedule A, except where such activity is associated with forestry and uses connected with the conservation of water, soil, wildlife, and other natural resources but does not include buildings and will not negatively impact the integrity of the wetland (County of Grey, 2019, Section 7.3.1). Further, no development or site alteration may occur within the adjacent lands of the Provincially Significant Wetlands and Significant Coastal Wetlands land use type unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions. Similarly, no development or site alteration may occur within Significant Woodlands or SWH or their adjacent lands unless it has been demonstrated that there will be no negative impacts on the feature or its functions (County of Grey, 2019, Section 7.4.1).

The County of Grey generally encourages development be setback from wetlands, streams and rivers by at least 30 metres. In some cases, this 30 m distance can be reduced based on site specific circumstances or through the completion of an EIS.

2.7 Town of The Blue Mountains Official Plan (2016)

The Blue Mountains Official Plan Schedule A-4 illustrates the property as containing Wetland, Hazard, and Residential Recreational land use designations (Appendix D). The Blue Mountains Official Plan Constraint Mapping further illustrates PSW, Other Wetlands, Stream/River and Significant Woodlands on the property (Appendix D).

No development or site alteration is permitted within habitat of endangered and threatened species, and significant wetlands. Further, development and site alteration shall not be permitted in significant woodlands, significant valleylands, SWH, or ANSIs unless it has been demonstrated that there will be no negative impacts on the features of their ecological functions (Town of the Blue Mountains, 2016, B5.2.1). Similarly, no development or site alteration shall be permitted on adjacent lands unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated through an EIS that there will be no negative impact on the natural features or their ecological functions (Town of the Blue Mountains, 2016, B5.2.1). All buildings or structures and non-farm lots shall be located a minimum of 120 m from all PSWs; the successful completion of an EIS may reduce this wetland setback (Town of the Blue Mountains, 2016, B5.3.2). The EIS will indicate how adverse impacts on the natural features or ecological functions of the wetland are mitigated such that no negative impacts will occur to the natural features or ecological integrity of the wetland.

No buildings or structures are permitted within 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; and, recreational facilities as approved by the Niagara Escarpment Commission, on lands identified as being prominent escarpment slope (Town of the Blue Mountains, 2016, B5.4.2). Hazard designated lands within the Niagara Escarpment are also subject to the policies of the NEP. Buildings and structures are to be setback 30 m from all lakes and watercourses (Town of the Blue Mountains, 2016, B5.4.2d). Further, development is to be setback from the top of bank of all slopes and ravines having a slope of 3:1 or greater, in accordance with the requirements of the appropriate Conservation Authority (Town of the Blue Mountains, 2016, B5.4.2f).

The property is depicted by the Town of the Blue Mountains Zoning By-law as Holding and Holding (h1) representing the lands associated with and adjacent to the Silver Creek PSW, and Development (D) which represents the open portions of the property. It is noted that the proposed severance area is within the area designated as 'Development Zone'.

3 STUDY APPROACH

The following activities and assessments were 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:

- Aquatic Species at Risk Map (DFO, 2019)
- Atlas of the Breeding Birds of Ontario (Birds Canada, 2021);
- County of Grey Official Plan (2019)
- Land Information Ontario (LIO; NDMNRF, 2021)
- Natural Heritage Information Centre (NHIC; NDMNRF, 2021)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2021)
- Species at Risk in Ontario List (MNR, 2018)
- Township of The Blue Mountains Official Plan (2016)
- The Ontario Freshwater Fishes Life History Database (Eakins, 2021)

3.2 Field Surveys

KNHFs/KHFs and functions within the Study Area were characterized through completion 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 properties. The dates when all surveys were completed are included in Table 1 below.

Table 1: Summary of Field Surveys Completed

Date	Start/End Time	Type of Survey	Birks NHC Ecologist(s)
June 11, 2021 October 7, 2021	----	Wetland Delineation	S. Brady M. Fuller H. Marcks
June 11, 2021 August 2, 2021 September 17, 2021	----	Ecological Land Classification and vegetation surveys	M. Fuller
March 30, 2021 June 11, 2021 August 2, 2021	----	Fish Habitat Assessment	M. Fuller
June 11, 2021 June 25, 2021	7:00 – 7:25 7:52 – 7:57	Dawn Breeding Bird Surveys	S. Brady M. Fuller
March 27, 2021 April 8, 2021 May 20, 2021 June 28, 2021	21:20 – 21:48 21:15 – 21:35 21:22 – 21:55 21:40 – 21:57	Amphibian Calling Surveys	S. Brady M. Fuller

3.2.1 Vegetation Community Mapping and Surveys

As a first step in identifying and assessing for potential key features in the Study Area, the vegetation communities were assessed using Ecological Land Classification (ELC). The ecological community boundaries were determined through a review of aerial photography and then further refined during the site visits. The ELC system for Southern Ontario (Lee *et al.,* 1998) was used with modifications. In early 2007, the NDMNRF refined their original vegetation type codes to encompass the vast range of natural and cultural communities across Southern Ontario. These updated ELC codes have also been used for reporting purposes in this study where they are more representative. The resulting mapping is illustrated in Figure 2. A formal list of vegetation species encountered during the vegetation surveys is included in Appendix E.

Wetland Delineation

The wetland boundary was established in the field using the Ontario Wetland Evaluation System (OWES) to identify a boundary between upland and wetland habitat based on vegetation cover. The wetland boundary was mapped in the field using GPS on June 11 and October 7, 2021. The limit was surveyed and included within the topographic mapping by Tatham Engineering.

3.2.2 Amphibian Calling Surveys

The evening amphibian calling surveys generally followed the Bird Studies Canada Marsh Monitoring Protocol (2008). Two locations were surveyed within the Study Area (Figure 2). The amphibian survey stations were surveyed during the spring and early summer to detect species presence, including early

breeders and a survey time that coincides with 'optimum' breeding season for the majority of amphibian species.

The calling activity of individuals estimated to be within 100 m of the monitoring station were documented. 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.

3.2.3 Dawn Breeding Bird Surveys

Diurnal breeding bird surveys within the Study Area followed 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 quantitative estimates of bird abundance, species presence, and breeding activity in all habitat types within the Study Area. Four survey locations distributed throughout the Study Area were surveyed on June 11 and June 25, 2021 (Figure 2). A formal list of species encountered during the breeding bird survey is included as Appendix F.

3.2.4 Fish Habitat Assessment

A characterization of fish habitat was completed through assessment of feature morphology, water quality, flow regime and vegetation on March 30, 2021. Candidate features were also observed in June and August in order to characterize temporal contribution of the feature. Fish community information of the Nottawasaga River was obtained through background information sources including the NDMNRF, LIO and NVCA. Fish habitat photos are provided in Appendix G.

Fish habitat identified within the Study Area was assigned one of the following designations:

- Permanent direct fish habitat: a feature where flowing or standing water is present year-round and connected to known fish habitat;
- Seasonal direct fish habitat: a feature that provides direct habitat for fish under elevated water levels (during spring freshet and large storm events), but not under low water conditions, due to insufficient open water and refuge habitat or anoxic water quality conditions; and
- Indirect fish habitat: a feature where there is sufficient water to sustain aquatic invertebrates and plants and that discharges to direct habitat downstream. Fish cannot directly access the area as a result of a barrier to upstream fish movement (*i.e.*, steep channel grade, low water levels, perched culvert).

Direct fish habitat is defined as habitat used by fish for spawning, rearing, feeding or migration. Indirect fish habitat is aquatic habitat that is generally not used by fish, but that provides base flow and food for permanent and seasonal direct fish habitats.

3.2.5 General Wildlife Surveys

A wildlife assessment within the Study Area 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 on 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 Assessment

The Species at Risk assessment included an analysis of the habitat requirements of Species at Risk reported to occur in the region to identify those having potential to occur within the Study Area. Birks NHC staff reviewed data obtained through desktop review and the site 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 in the were considered. Where it is determined that the species have potential habitat within the Study Area, survey results were considered to determine the function of the potential habitat and whether the proposed works are in compliance with the regulations of the ESA.

4 EXISTING CONDITIONS

4.1 Vegetation Communities and Plants

The Study Area contains culturally influenced/maintained lands as well as natural woodlands, with upland and lowland deciduous communities. Vegetation communities and their respective locations are illustrated on Figure 2. The vegetation communities that occur in the Study Area are as follows:

1. Cultural/Maintained
2. FODM7-2: Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest
3. MAMM1-2: Cattail Graminoid Mineral Meadow Marsh
4. SWDM2-2: Green Ash Mineral Deciduous Swamp

No Species at Risk plants were identified at the time of the site visits). Appendix E provides a list of vascular plants documented within the Study Area at the time of the site visits

4.1.1 Cultural/Maintained

The cultural/maintained portions of the property are associated with past residential land use as well as past fill activities on the property. Fill piles were present throughout this area, however, were removed by the current landowner in an effort to clean the site. Old, abandoned cars were also present

throughout this area. Vegetation species documented include Perennial Ragweed, Everlasting Pea, White Sweet-clover, Palmate Coltsfoot, Common Red Raspberry, and Common Mullein. Select individual trees are present, the majority of which are Green Ash infected by the Emerald Ash Borer.

4.1.2 FODM7-2 Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest

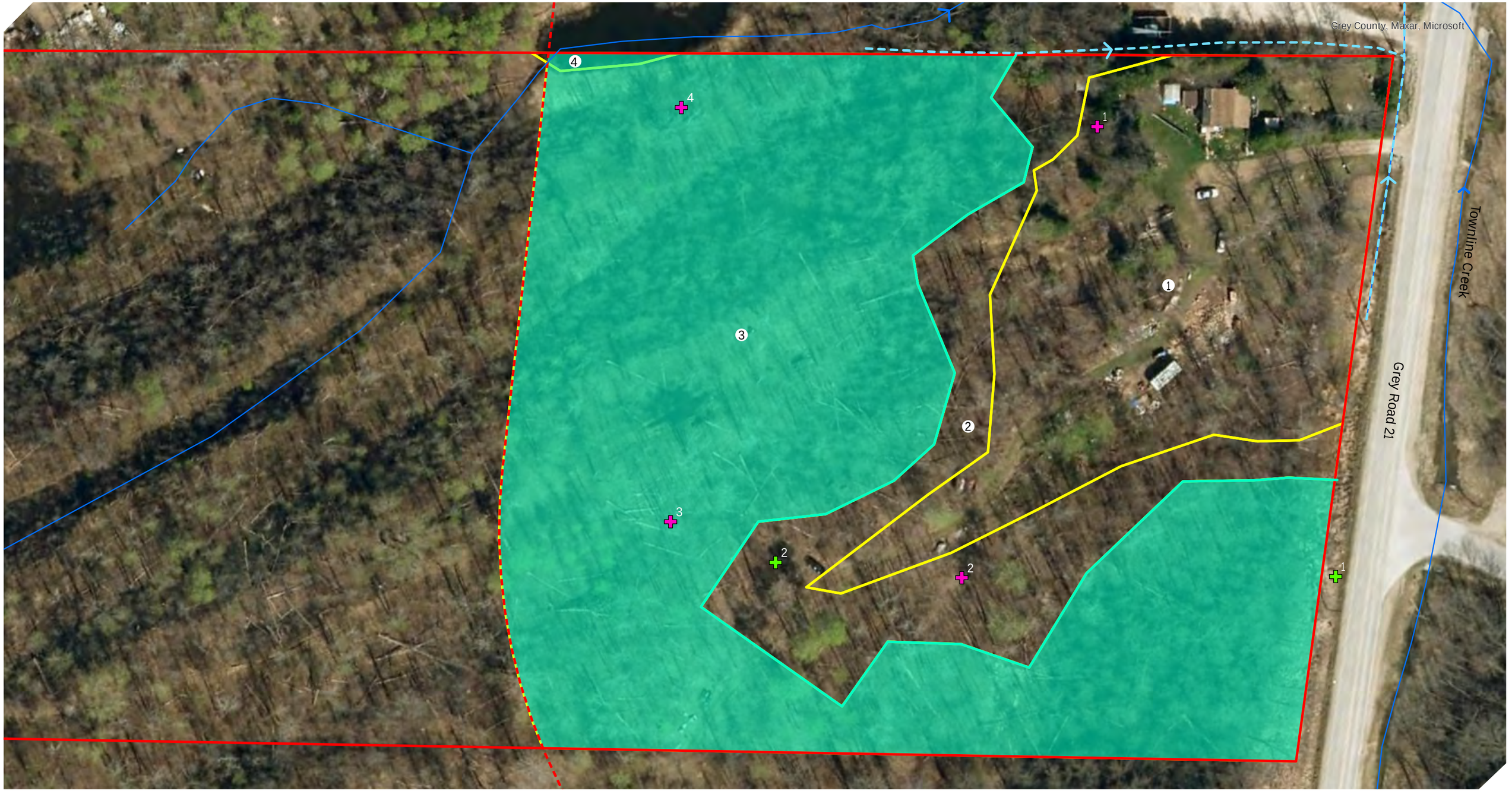
This vegetation community represents the transition zone between the upland cultural/maintained area and the SWDM2-2 green Ash Mineral Deciduous Swamp. Vegetation species within area include White Birch, American Basswood, Trembling Aspen, Balsam Poplar, Green Ash, and White Spruce in canopy. Dominate sub-canopy species include Eastern White Cedar and Glossy Buckthorn. Dominate ground layer species documented include Herb-Robert, Palmate Coltsfoot, Common Red Raspberry, Virginia Creeper, Tall Buttercup, and Chicory. Although Green Ash is a species commonly observed within wetland communities, the Southern OWES Manual (Version 3.3) does not identify this species as being a wetland indicator species as it can be observed in both upland and wetland communities. Thus, the shrub and herbaceous layers of the community were utilized to determine wetland presence; these communities were largely represented by upland plants and influenced by the adjacent maintained lands.

4.1.3 MAMM1-2 Cattail Graminoid Mineral Meadow Marsh

This community is represented within a small polygon along the northern property boundary (Figure 2). It is directly associated with the presence of a small dug pond which is largely present within the adjacent property to the north. This community is largely dominated by Narrow-leaved Cattail. Companion species include Spotted Joe-Pye Weed, Water Smartweed, and Purple Loosestrife.

4.1.4 SWDM2-2 Green Ash Mineral Deciduous Swamp

This community represents the wetland habitat within the Study Area, which includes the Silver Creek PSW. Seasonal flooding was noted within the community where species indicative of more wet conditions were found in the swamp habitats, such as Black Ash, Sensitive Fern, Spotted Jewelweed, Graceful Sedge, Fox Sedge, and Ostrich Fern. Other tree companion species include American Elm and Balsam Poplar.



372 GREY ROAD 21 - EAST PARCEL

Town of the Blue Mountains

Figure 2:

Existing Conditions & Survey Locations

- Property Limit
- 120m Study Area
- Watercourse (Birks NHC/LIO)
- Seasonal Indirect Drainage Feature
- Wetland Area (Birks NHC)
- Wetland Limit (Birks NHC/Tatham)

Survey Locations

- Amphibian Calling
- Dawn Breeding Bird

Vegetation Communities

1. Cultural/Maintained
2. FODM7-2 Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest
3. SWDM2-2 Green Ash Mineral Deciduous Swamp
4. MAMM1-2 Cattail Graminoid Mineral Meadow Marsh

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA

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

N W E S

0 10 20 40 60 80 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\SBrady Projects\ArcGIS - Projects here\Projects - here\372GreyRd

PROJECT: 04-010-2021 STATUS: DRAFT DATE: 11/02/2022

4.2 Wildlife Habitat

4.2.1 Birds

The Study Area contains both forest and swamp communities that continue outside of the Study Area limits, as well as open maintained areas. A total of 35 bird species were recorded during site visits (Appendix F). The majority of the species recorded are considered provincially and locally common, such as American Robin, Song Sparrow, House Wren, and Black-capped Chickadee. A number of birds recorded represent the forested habitats in the Study Area, including American Redstart and Downy Woodpecker. Veery, Black-throated Green Warbler and Winter Wren, listed as area-sensitive breeding birds by the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015), were also recorded in the Study Area (possible breeding recorded).

A number of birds associated with aquatic habitats were recoded as flyovers including Double-crested Cormorant, Ring-billed Gull, Mallard, Great Blue Heron and American Bittern. This is indicative of suitable habitat within the general area but outside of the Study Area.

Eastern Wood-pewee (provincially listed as Special Concern) was heard calling in the woodlands at breeding bird survey station 4 (Figure 2) on June 25. Therefore, possible breeding was assigned for this species as it was not documented during the first survey on June 10.

4.2.2 Mammals

Typical mammals observed in residential and natural settings are expected to utilize the habitats within the Study Area. These include Gray Squirrel, Raccoon, and small rodents. Red Squirrel and White-tailed Deer were recorded in the Study Area. Given that the woodlands present within the Study Area contain standing trees with features such as cavities and crevices, it is also possible that bat species utilize the habitat present within and adjacent to the property. Based on available background mapping from LIO, no deer wintering habitat is present within the Study Area.

4.2.3 Amphibians and Reptiles

During spring amphibians gather to mate and lay eggs in water. Once hatched and grown, the amphibians emerge as adults. Some adult amphibians will remain in or near the water, while others will move to terrestrial habitats. Potential amphibian habitat was presumed to be present in the Study Area due to drainage features and mapped swamp wetlands.

The following species were observed in the Study Area: American Toad, Gray Treefrog, Northern Leopard Frog, Spring Peeper, Western Chorus Frog, and Wood Frog. Amphibians were both heard calling and visually observed within the Study Area. Two locations were surveyed on the Study Area during evening amphibian call surveys (Figure 2). Calling activity at amphibian call survey station 2 recorded a full chorus of Spring Peepers and overlapping, simultaneous calls of Western Chorus Frog and Wood Frog. Calling activity from amphibian call survey station 1 was predominantly Spring Peepers. A fourth calling survey was completed in June which recorded no activity within the wetland habitats.

This is indicative of ephemeral wetlands which were found to be dry by mid-June. Therefore, later calling species including Green Frog, were not documented within the Study Area.

Table 2: Amphibian Calling Survey Results

Date	Station 1	Station 2
March 27, 2021	Spring Peeper (L3)	Spring Peeper (L2-3)
April 8, 2021	Spring Peeper (L2-20) Wood Frog (L1-3)	Western Chorus Frog (L2-8) Spring Peeper (L3) Wood Frog (L2-10)
May 20, 2021	American Toad (L1-1) Northern Leopard Frog (L1-1)	American Toad (L2-5) Gray Treefrog (L2-5)
June 28, 2021	No Activity	No Activity

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

No targeted reptile surveys were conducted within the Study Area. Given the habitats present, species range maps, and observations in the general area (Ontario Nature, 2021), the following reptiles could be expected to be present within the habitats associated with the Study Area: Eastern Gartersnake and Snapping Turtle.

4.2.4 Fish and Fish Habitat

The Study Area is located along the border of the GSCA and the Nottawasaga Valley Conservation Authority (NVCA) watersheds. More specifically, the property is located within the Townline Creek subwatershed, a small escarpment watercourse that discharges directly to Georgian Bay. The watercourse is a permanent coldwater creek that supports Rainbow Trout (Blue Mountain Watershed Trust, 2021).

An intermittent watercourse flows north-easterly across the property, exiting the property immediately west of the utility building to the north of the property limits. Within the Highway 26 right-of-way, the flow path widens, dispersing over an area of 10 m (depth 5 cm), eventually draining to Townline Creek. A drainage ditch diverts a small portion of the property drainage to the westerly roadside ditch along Grey County Road 21 (Figure 2). The ditch outlets to Townline Creek at the intersection of Grey County Road 21 and Highway 26, in a perched condition through dense cattails. Fish habitat photos are provided in Appendix G. Flow was observed within both features during spring freshet (March 2021), however no flow was observed during subsequent site visits.

No fish sampling occurred as part of the field program, however, LIO fish sampling data from Townline Creek indicates that the following species inhabit the watercourse: Blacknose Dace (coolwater), Bluntnose Minnow (warmwater), Brook Stickleback (coolwater), Central Mudminnow (coolwater), Common Shiner (coolwater), Creek Chub (coolwater) and Fathead Minnow (warmwater). No aquatic species at risk are mapped in the area (DFO, 2019).

Given the temporary nature of the drainage features, and the barriers to fish presented by their respective outfalls, the features associated with the property are considered to be indirect fish habitat and contribute to the permanent fish habitat present within Townline Creek.

5 KEY NATURAL HERITAGE FEATURES AND KEY HYDROLOGIC FEATURES AND FUNCTIONS

The following sections present an examination of our findings as they relate to KNHFs and KHFs and functions in 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

Components of the Silver Creek PSW Complex are mapped within the Study Area and adjacent lands (Figure 1). As discussed, the limits of wetland habitat were delineated by Birks NHC Ecologists on June 11 and October 7, 2021 and is illustrated on Figure 2. Due to the presence of the Silver Creek PSW, consultation with the NDMNRF regarding the proposed updated wetland limit has been ongoing to ensure approval of delineation exercise.

5.2 Other Wetlands

Background mapping (*i.e.*, LIO, NHIC) indicates the presence of un-evaluated wetlands within the Study Area. Note that any un-evaluated wetland features which are contiguous with the Silver Creek PSW Complex should be regarded as part of the complex for planning purposes.

5.3 Significant Woodland

The Town of The Blue Mountains Official Plan Constraint Mapping illustrates Significant Woodlands on the property and adjacent lands (Appendix D).

The significance of the woodland feature was assessed according to the Natural Heritage Reference Manual (MNR, 2010, Section 7.3.1). The assessment is included in Appendix H of this report. The woodland size has been measured as approximately 51.5 ha, of which approximately 3.5 ha are within the Study Area (Appendix H). Woodland size criteria in the Natural Heritage Reference Manual indicates that where woodlands are 30 – 60% of the land cover, woodlands 50 ha in size or larger should be considered significant (MNR, 2010). According to the Nottawasaga Valley Conservation Authority Blue Mountains Subwatershed Health Check (NVCA, 2018), forest cover comprises approximately 35% of the total subwatershed. The woodland feature has been measured at approximately 51.5 ha in size, which would therefore be considered significant by size at a local scale.

The woodlands were further assessed by the recommended evaluation criteria for determining significant woodlands in the Natural Heritage Reference Manual (Appendix H).

5.4 Significant Valleylands

No Significant Valleylands are within the Study Area.

5.5 Significant Wildlife Habitat

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) was reviewed 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 full SWH assessment table is included as Appendix I. Based on that assessment, it was determined that the following candidate SWH functions may be associated with the Study Area:

5.5.1 Bat Maternity Colonies

Bat Maternity Colonies for Silver-haired Bat and Big Brown Bat are identified as candidate SWH because known locations of forested bat maternity colonies are extremely rare in Ontario. According to Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015), maternity colonies located in mature deciduous or mixed forest stands with more than 10 large diameter (greater than 25 cm dbh) wildlife trees per hectare are candidates for SWH designation. It remains extremely difficult to confirm this SWH designation as it requires that confirmation of use by more than ten Big Brown Bats or more than five Silver-haired Bats.

No specific surveys were undertaken to characterize potential high density cavity trees within the property, however, vegetation community SWDM2-2 within the Study Area was noted to contain mature trees which may provide this function to the listed bat species.

The existing residential dwelling was examined to assess for potential access points which may suggest the potential presence of an anthropogenic maternity colony. The structure was determined unlikely to provide suitable conditions and was demolished December 2021, prior to any potential bats returning to roost in the spring.

5.5.2 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 get below ground deep enough so they will not freeze. 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.

5.5.3 Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs)

Colonial birds are a diverse group including swallows, gulls, terns, and herons. While some colonial nesting birds such as gulls and terns nest on the ground, others nest high in trees like herons. Tree/shrub colonial nesting birds are frequently found nesting high in trees in wetlands, lakes, islands and peninsulas. NHIC indicates Mixed Wader Nesting Colony within the area (NHIC survey grid squares 17NK5629, 17NK5630, 17NK5529 and 17NK5530). However, no lakes, islands or peninsulas are present in the Study Area, and while swamp habitat with a number of dead standing trees is present on the property, none of the listed species were documented in the Study Area during the field investigations. Further, wetland habitat is limited to swamp communities where flooding duration is seasonal. Therefore, no suitable habitat is present within the Study Area to function as Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs) SWH. The NHIC record is connected to the habitats outside of the Study Area, likely associated with the Silver Creek PSW Complex to the north of Highway 26.

5.5.4 Colonially-Nesting Bird Breeding Habitat (Ground)

Ground colonial nesting birds are frequently found on islands in the Great Lakes and large rivers. Any rocky island or peninsula within a lake or large river is to be considered Candidate SWH according to the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015). The NHIC indicates Colonial Waterbird Nesting within the area of the property and Study Area (NHIC survey grid squares 17NK5629, 17NK5630, 17NK5529 and17NK5530). This record is connected to the habitats outside of the Study Area; no suitable habitat is present within the Study Area to function as Colonially-Nesting Bird Breeding Habitat (Ground) SWH.

5.5.5 Woodland Area-sensitive Breeding Bird Habitat

Woodland Area-Sensitive Breeding Bird Habitat generally requires that large mature trees, typically greater than 60 years in age, are present in contiguous forest communities with interior forest habitat at least 200 m from the forest edge. Although there is limited interior habitat at 200 m from the forest edge (less than 1 ha) in the contiguous woodland, there is an amount (16 ha) of interior habitat measured at 100 m from forest edge that is associated with the greater woodland adjacent to the Study Area. Three of the species listed in the Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) as area-sensitive birds were recorded in the Study Area (Veery, Black-throated Green Warbler, and Winter Wren); singing males in wooded habitat during the breeding season indicate possible breeding of these species although confirmed nesting was not documented within the Study Area. Woodland area-sensitive birds are therefore present in the area and it can be assumed that this function can be associated with the broader landscape and surrounding forested lands.

5.5.6 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, linking candidate habitat in the Study Area needs to be completed.

The following Special Concern species were identified as occurring or potentially occurring within the Study Area:

Eastern Wood-pewee (Special Concern)

The Eastern Wood-pewee is a small forest bird that lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-aged forest stands with little understory vegetation. One Eastern Wood-pewee male was heard calling in the woodlands within the property, at the western edge of the Study Area on June 25. As noted above, only possible breeding for this species was assigned as the individual was only documented during the second survey date.

Snapping Turtle (Special Concern)

The Snapping Turtle occurs in almost any freshwater habitat including small wetlands, ponds, and ditches. This species has recent occurrences recorded in the survey grid squares which encompasses the study area (NHIC survey squares 17NK5630 and 17NK5629; ORAA square 17NK52). While it is unlikely that the turtle would be found within the cultural/maintained area, this turtle has potential to utilize wetland habitats and drainage features within the Study Area. Snapping Turtles may also try to nest in unconventional habitats in the area, including loose gravel areas.

5.6 Areas of Natural and Scientific Interest

No Areas of Natural and Scientific Interest are located within 1 km of the property.

5.7 Fish and Fish Habitat

Given the temporary nature of the majority of identified drainage features in the Study Area, and the barriers to fish presented by their respective outfalls, the features are considered to be indirect fish habitat, contributing to the permanent fish habitat present within Townline Creek.

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 property limits and the adjacent lands. Based on data available, it was determined that potential habitat for a number of Threatened and Endangered species may be present in the Study Area (Appendix J). Of the species identified in Appendix J, Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis, Tri-colored Bat, are relevant to the Study Area and proposed development and are therefore considered further.

5.8.1 Endangered Bat Species

Assessment of the characteristics of woodlands as they relate to potential use by Endangered bat species has become a consideration in land development. Important habitat functions for Eastern Small-footed, Little Brown Myotis, Northern Myotis, and Tri-colored bats include hibernacula, maternity roost, day roosts, and foraging habitat. Of these habitat types, no features with potential to function as hibernacula exists within the Study Area.

Potential foraging habitat would be associated with woodland and wetland areas that provide an abundance of flying insects. Foraging habitat is widely available within the matrix of wetland and wooded areas common to throughout the Town of the Blue Mountains and Grey County. Day roosts are those 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. Maternity roosting habitat is found in forest habitats providing a relatively high density of large wildlife cavity trees (*i.e.*, snags). No specific surveys were undertaken to characterize potential high density cavity trees within the property, however, a number of clusters containing standing dead Ash trees were noted throughout the SWDM2-2 Green Ash Mineral Deciduous Swamp community. Therefore, it can be presumed that bat maternity roost habitat may be present within the SWDM2-2 community which extends beyond the Study Area within other portions of property and adjacent lands. Mature trees were noted within the FODM7-2 Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest, including scattered dead standing cavity trees such as Balsam Poplar and Trembling Aspen. However, these were found to be at a low density and clusters of cavity trees were not documented within this community. Cavity trees within the FODM7-2 are therefore unlikely to be utilized by bat maternal roost colonies but may function as day roost trees. Individual trees remaining within the cultural/maintained area also have the potential to function as day roost trees.

The existing residential dwelling was examined by Birks NHC staff to assess for potential access points which may suggest the potential presence of an anthropogenic maternity colony. The structure was determined unlikely to provide suitable conditions and was demolished December 2021, prior to any potential bats returning to roost in the spring.

5.9 Key Natural Heritage Features and Key Hydrologic Features and Functions Summary

The results of the site visits, and review of background information indicate both confirmed and candidate KNHFs and KHFs and functions to be associated within the Study Area. Our impact assessment will consider potential impacts only to features and functions summarized in Table 3 below.

Table 3: Key Natural Heritage Features and Key Hydrologic Features and Functions Summary

KNHF/KHF	Within Severance Area	Within 120m of Severance Area	Actions Required
Provincially Significant Wetland	None	Silver Creek PSW	Evaluation for potential impacts.
Other Wetland	None	Un-evaluated wetland	Evaluation for potential impacts.
Significant Woodlands	None	Contiguous Woodland Feature	Evaluation for potential impacts.
Significant Valleylands	None	None	No actions required.
Significant Wildlife Habitat	Potential • Reptile Hibernacula	Potential • Bat Maternity Colonies • Reptile Hibernacula • Special Concern and Rare Wildlife (Snapping Turtle) Confirmed • Special Concern and Rare Wildlife (Eastern Wood-pewee)	Evaluation for potential impacts.
Provincial Areas of Natural and Scientific Interest	None	None	No actions required.
Fish Habitat	Indirect fish habitat (intermittent drainage features)	Direct fish habitat (Townline Creek)	Evaluation for potential impacts.
Habitat of Threatened or Endangered Species	Potential • Endangered bat species	Potential Endangered bat species	Evaluation for potential impacts.

6 IMPACT ASSESSMENT

The intent of this study is to identify KNHFs and KHFs and functions associated with the Study Area and determine if potential impacts could arise from the proposed development. Impacts are evaluated on the current knowledge of the property based on data collected in 2021 by Birks NHC ecologists.

6.1 DEVELOPMENT PLAN

The proposal involves severance of the property and creation of four lots fronting Grey Road 21. No development or site alteration is proposed within a KNHF and KHF, including fish habitat, significant woodland, or wetland. An average setback of 25.25 m to the wetland limit has been included to provide a buffer to wetland functions. Due the minimum lot frontage requirements, an encroachment into the 30 m wetland setback of 1,130m^2 has been proposed in order to allow for the creation of Lot 4 and to allow for the provision of a 6m municipal trail along Grey Road 21. As such, an enhancement area of 2,425m^2 is being proposed to offset the encroachments. This offsetting strategy would be completed at a ration higher than 2:1 replacement to loss.

The Site Plan is presented in Figure 3.

6.2 DIRECT IMPACTS

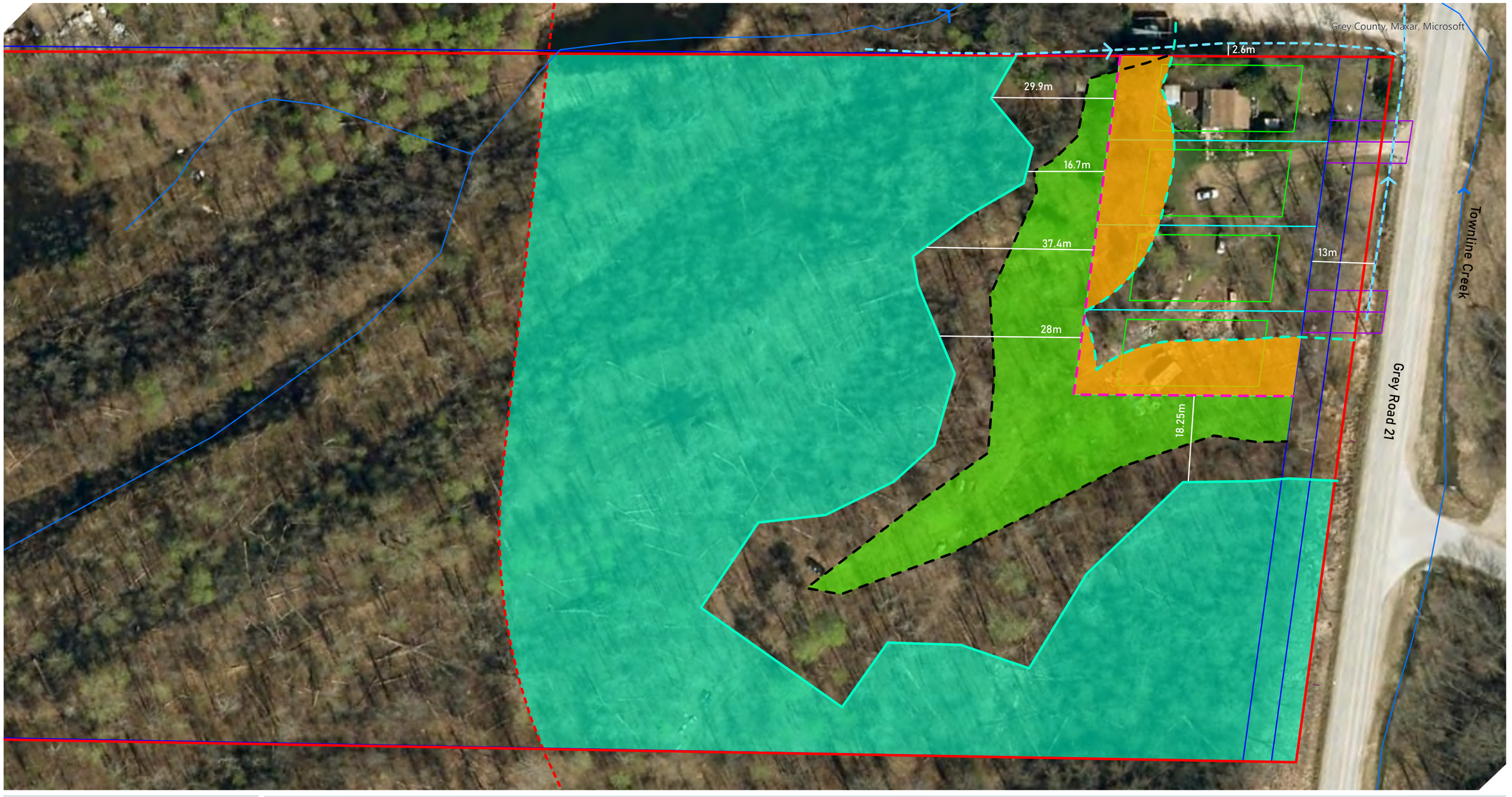
Direct impacts are those that are immediately evident as a result of a development. Typically, the adverse effects of direct impacts are most evident during the site preparation and construction phase of a development. Potential impacts of the proposed development include the following:

- Tree and vegetation removals;
- Erosion and sedimentation into natural heritage features;
- Changes to the hydrology/water quality entering sensitive features;
- Loss of and disturbance to wildlife and wildlife habitat; and,
- Loss of Endangered bat species habitat and incidental harm.

In the following sections we assess the potential for negative ecological impact to the identified natural heritage features and functions.

6.2.1 Tree and Vegetation Removals

The severance layout is contained entirely within the cultural/maintained portion of the property fronting Grey Road 21 (Figure 3). Notwithstanding, individual trees within the maintained area are present and therefore some limited tree removals may be required for the future buildout of the lots. The vegetation to be removed is not considered part of the significant woodland or wetland communities and is not expected to provide any significant function in terms of wildlife habitat. Individual tree removals in the proposed severance area are therefore not expected to have a negative ecological impact or have a significant direct impact on the structure, composition, or function of the contiguous woodland feature and its associated functions.



372 GREY ROAD 21 - EAST PARCEL

Town of the Blue Mountains

Figure 3:

Proposed Severance Plan

- Property Limit
- 120m Study Area
- Watercourse (Birks NHC/LIO)
- Seasonal Indirect Drainage Feature
- Wetland Limit (Birks NHC/Tatham)
- Wetland Area (Birks NHC)
- 30m Wetland Setback

Consent Sketch (Tatham)

- Future Municipal Trail and Right-of-Way
- Proposed Lot
- Building Envelope
- Driveway
- Proposed Wetland Setback
- Limit of Maintained Area
- Proposed Enhancement Area (2,425m2)
- Proposed 30m Setback Encroachements (1,130m2)

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA

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

N W E S

0 10 20 40 60 80 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\SBrady Projects\ArcGIS - Projects here\Projects - here\372GreyRd

PROJECT: 04-010-2021 STATUS: FINAL DATE: 14/03/2022

Currently, the majority of the 30m wetland setback is within a cultural/maintained area. Therefore, given the current limited function of the setback, there is no expectation that a reduced setback would result in a negative ecological impact to the wetland habitat and associated functions. An enhancement area of 2,425 m^2 is proposed as part of the severance application which would increase setback functions. Therefore, the proposed enhanced average setback of 25.25 m from the wetland would provide an increased buffer to the features (woodland, wetland).

6.2.2 Erosion and Sedimentation into Key Natural Heritage Features and Key Hydrologic Features

As discussed, no works are proposed within the identified KNHFs and KHFs (Figure 3). However, construction activities, especially operations involving handling of earthen material, increases the availability of sediment for erosion and transport by surface drainage. In order to mitigate the adverse environmental impacts caused by the release of sediment-laden runoff into any potential receiving intermittent drainage feature, wetland and woodland communities, measures for erosion and sediment control are required. Further, an average setback of 25.25 m from the wetland would act as a buffer to the wetland habitat and associated functions.

Any potential direct impacts to habitats which could result from sedimentation can be mitigated through the application of erosion and sediment control plans along the boundary of the vegetated setback and edges of the proposed soil disturbances. Erosion and sediment control measures will be implemented prior to and during the development and maintained until the site is stabilized.

Specific mitigation measures are provided in Section 7.

6.2.3 Changes to the Hydrology/Water Quality Entering Sensitive Features

The development areas are proposed with an average setback of 25.25 m from the wetland habitat and 2.6 m to 13 m from the northern and eastern seasonal drainage features, respectively, bordering the severances (Figure 3). All setbacks will remain post development and no site alteration is proposed beyond the lot limits, which will serve to limit the potential for deleterious substances to enter these features.

Alteration of land use may influence surface water run-off and water quality entering the wetland and drainage features present within the Study Area. Lot level water quality controls such as limiting lot coverage with hard surfaces, avoiding inappropriate disposal of deleterious substances (oil, gas, paint, etc.) and ensuring successful operation of a private septic system can limit the potential for contaminated water to enter adjacent retained natural features.

The proposed development areas are currently unvegetated with permeable surfaces. Therefore, there is an expectation that these areas contribute surface water run off to the intermittent drainage features, and adjacent wetlands. The development of the severed lots will result in an increase in impervious surfaces and therefore has potential to impact the hydrology of the area. However, water balance can be maintained provided that run off from the developed areas is directed towards the rear and front

yards and permitted to filter through retained natural lands. This will further serve as a treatment of runoff to ensure that water contributions from the developed areas do not contribute to degradation of water quality within adjacent aquatic habitats.

Therefore, no direct impacts are expected to occur to the wetland and intermittent drainage features within adjacent lands provided that mitigation measures are applied accordingly. Specific mitigation measures are provided in Section 7.

6.2.4 Loss of Habitat for Endangered Bat Species or Incidental Harm

Clusters containing standing dead Ash trees were noted throughout the SWDM2-2 wetland community. Therefore, it can be presumed that bat maternity roost habitat may be present within the wetland community which is expected to extend beyond the Study Area (Figure 2). Scattered standing cavity trees were found to be at a low density within the FODM7-2 and therefore the upland lands within the Study Area are unlikely to be utilized by bat maternal roost colonies, however but may function as day roost trees for non-reproductive individuals. The select remaining trees within the cultural/maintained area also have the potential to function as day roost trees.

No tree removals within the SWDM2-2 and FODM7-2 vegetation communities are proposed as part of the proposed development. Furthermore, an average setback of 25.25 m to the SWDM2-2 community where sensitive habitat including potential bat maternal roost habitat may be present would be implemented (Figure 3). Thus, there would be no loss of potential bat maternal roost habitat on the property from the proposed development. As discussed, the property does contain suitable day roosting habitat. Following mitigation measures provided in Section 7 (such as timing windows), it is unlikely that a bat would sustain incidental harm during construction activities and limited tree removals within the cultural/maintained severance area.

6.2.5 Loss of and Disturbance to Wildlife and Wildlife habitat

Typical wildlife species were recorded in the Study Area. Additionally, SWH were assessed as occurring or potentially occurring within the Study Area. The presence of woodland and wetland habitat within the Study Area may function as SWH for bat maternity colonies, reptile hibernaculum, and/or special concern wildlife species. Special Concern wildlife species (*i.e.,* Eastern Wood-pewee) and fish habitat (Townline Creek) were confirmed to be present in the Study Area. Direct impacts to these SWH functions/species however are not expected to occur as a result of the proposed severance development.

The proposed severance area is planned on the property outside of the mapped woodland, wetland, and watercourse features where the SWH functions have the potential to occur. Furthermore, an average setback of 25.25 m to the wetland limit will be provided. Therefore, there is no expectation that the proposed severance and future residential development would result in any direct impacts to those habitats or the wildlife that inhabit them. As discussed above, the proposed severance

development is planned to occur within the cultural/maintained area of the property, at the edge of woodlands, and would require vegetation removals outside of the significant woodland/wetland features. Given that the severance and future development of the lots is planned at the edge of the habitat, and an enhanced setback to the wetlands are proposed, the proposed severance is not anticipated to have a significant direct impact on the contiguous woodland/wetland feature and the habitat functions within would remain intact.

The proposed severance development is approximately 25 m from direct fish habitat (Townline Creek) and hydrologically disconnected from the feature by the presence of Grey County Road 21. The proposed severance allows for approximately 2.6 m and 13 m of separation from the lot limit to the seasonal indirect features paralleling the northern lot limit and paralleling Grey Road 21, respectively. Given that the features are seasonal, and that the majority of the wetland drainage outlets along the northern limit of the feature, a 2.6 m and 13 m setbacks to this drainage are sufficient to ensure that the features contribution of organics and food sources to downstream habitats remains consistent post development.

Best management practices shall be enforced to protect adjacent habitat features, and an erosion and sediment control plan is to be implemented to protect aquatic habitats. Following the mitigation measures provided in Section 7, there is no expectation that the proposed development would result in any direct impacts to fish and wildlife or their habitats.

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. Indirect impacts of the proposed development include:

- Anthropogenic disturbance to wildlife and wildlife habitat; and,
- Increased potential for invasion of non-native species.

6.3.1 Anthropogenic Disturbance to Wildlife and Wildlife Habitat

Wildlife tolerance to human presence varies; while some species are highly tolerant and are common in developed areas (*i.e.*, Grey Squirrel, Racoon), other species are more sensitive to human presence and disturbance. A residential development will bring increased human presence and associated anthropogenic disturbances in the form of increased noise and light, predation by pets, and supplemental feeding (*i.e.,* people depositing food for deer/birds in the winter). These impacts would be more prominent when a new development is proposed in un-developed areas.

The property is situated within a settlement/recreational area in the Township of The Blue Mountains, approximately 0.5 kilometres south of Georgian Bay shoreline. The property fronts Grey County Road 21 to the east. Further south and west are developed lands with recreational facilities such as ski clubs, resorts, bed and breakfasts and Inns. Highway 26, to the north, is built up with residential properties. Given that the proposed severance is within an area that has already experienced impacts from human

presence, it is not expected to result in a noticeable intensification of indirect human impacts. Additionally, the setback to the adjacent natural features is proposed to be enhanced and naturalized with vegetation (Section 7).

6.3.2 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. Currently, there is no evidence of unusual non-native and invasive species abundance within the Study Area. Mitigation measures are provided in Section 7 below to control the potential introduction of invasive 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 KNHFs and KHFs 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.

The following recommended mitigation measures are recommended to minimize the above listed potential impacts.

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 this act. 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 with a currency date of August 1, 2018, have been considered within this report.

Timing Windows

To prevent accidental harm site alteration should occur outside of the active breeding/roosting/nesting season for all potential Species at Risk that may utilize the property. Tree cutting should be timed to occur during the calendar months of November 1 to March 31. This will ensure that no bats actively roosting in trees will be killed or harmed as a result of clearing activities and is outside of the breeding bird season. If the work schedule requires that site alteration be completed during the active season, screening by an ecologist with knowledge of species present in the area should be undertaken to ensure that the risk of impacting Species at Risk has been evaluated and assumed to be low to non-existent.

7.2 Woodland and Wetland Habitat

The severance area is proposed within the cultural/maintained portion of the property and set back from wetland limits to minimize and avoid potential impacts to KNHFs and KHFs and their associated functions.

It is recommended that sediment and erosion controls along the limits of the severance area, and along the road facing lot lines, be installed prior to all construction activities. Sediment and erosion controls are to be installed prior to all construction activities and 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) are permitted within the adjacent retained natural areas. 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 swamp/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.

A 'T' fence (*i.e.*, sediment fence) should be erected along the severance limits to prevent inadvertent encroachment into these areas to be protected. This fence should be kept intact throughout the entire development and monitored to ensure that the barrier remains in good working condition. The installation of a permanent fence should be considered to ensure that the adjacent woodlands and wetland setback remain protected from future encroachment.

7.2.1 Setback Enhancement

The County of Grey encourages development be set back from wetlands by at least 30 m. In some cases, this 30 m distance can be reduced based on site specific circumstances or through the completion of an EIS. As discussed, the development proposes an average setback of 25.25 m with an encroachment area of 1,130 m^2 into the entire 30 m setback (Figure 3). Existing vegetation within that setback would remain, and an enhancement area of 2,425 m^2 has been proposed for the setback (Figure 3). Supplementing native vegetation in portions of the setback, within the enhancement area, is recommended to offset for the encroachment into the 30 m setback and further reduce any potential

impacts to the retained adjacent features and functions. A variety of approved native species should be planted that are representative of the existing natural communities. It is recommended that appropriate trees and shrubs be planted (*i.e.*, Trembling Aspen, Basswood, Paper Birch, and Dogwoods) and a native seed mix be applied to the enhancement area as a whole and to fill in the trail/path within the enhancement area. The installation of a permanent fence around the south and west severance lot lines should be considered to ensure that the vegetation setback remains protected. It is recommended that a planting plan be prepared by an Ecologist to outline the methodology and planting details of the enhancement area.

7.2.2 Snapping Turtle Exclusion

To prevent accidental harm during the construction phases of the project, exclusion fencing for reptiles shall be installed along the wetland setback limit during winter dormancy (November 1 - April 30) and prior to any site alteration. Weekly inspection of the exclusion fence should occur during the spring breeding (May/June) and fall migration (September/October) seasons to ensure that the exclusion measures remain effective during the species' active periods. Consideration for seasonal variance when establishing inspection windows is pertinent. For the remainder of the species' active season (July/August) the fence should be inspected at regular intervals to ensure that it remains in good working condition.

7.3 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 30th of any given year to avoid harm to breeding birds and their nests. If vegetation clearing is required between these dates, screening by an ecologist with knowledge of bird species present in the area should be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.

7.4 General Mitigation Plan

General mitigation of potential impacts to identified KNHFs and KHFs and functions during construction include:

- Fencing should be used appropriately as directed so that wildlife movements are only blocked when desired (*i.e.*, as exclusion fencing during construction).
- Erosion and sediment control plan to be implemented to protect the retained watercourses/drainage features, wetland and woodland habitats. Control measures to be in place until site works have been completed and the risk of sedimentation is no longer a concern.

- Tree cutting should be timed to occur during the calendar months of November 1 to March 31 and no cutting activity in forested areas should occur outside that period. This will ensure that no bats actively roosting in trees will be killed or harmed as a result of clearing activities and is outside of the breeding bird season.
- Refueling of all equipment should occur at least 30 m from retained natural features, including woodland and wetland habitat.
- Installation of the culverts required for construction of the lot accesses should occur under dry conditions and outside of the in-water work timing window for Townline Creek. The window should be confirmed with the NDMNRF prior to site alteration, but is generally expected to coincide with protection of spring and fall spawning habitat with in-water work permitted between June 15 and October 15.
- Control potentially contaminated materials (*i.e.,* fill, soil, gravel, excavated materials) moved by equipment during construction to prevent the spread of invasive plants.
- Inspect and clean equipment, boots and vehicles prior to allowing access to the property to prevent the spread of invasive plant species into the site.
- Where possible, maximize the distance of construction equipment used from the woodland edge to avoid disturbing wildlife.
- Should an animal be injured or found injured during the construction phase, they should be transported to an appropriate wildlife rehabilitation centre.

7.5 Agency Approvals

The Study Area falls within the jurisdiction area of GSCA and a portion of the Study Area is regulated due to the presence of Natural Hazard Areas and watercourses. Therefore, the GSCA review and approval will be required.

8 CONCLUSIONS

This EIS was prepared for the proposed severance of the property and development of four residential lots with fronting on Grey County Road 21. It is our understanding that the EIS is required due to the presence of wetlands, woodlands and watercourses within, and/or adjacent to the proposed severance area. The intent of the EIS was to identify the presence KNHFs and KHFs and functions within the Study Area that have the potential to be impacted by the proposed development.

The mitigation measures recommended in this report have been developed to avoid and mitigate any potential negative ecological impacts associated with the proposed development. Overall, potential ecological impacts are minimal and mitigable provided the listed mitigation measures are applied accordingly. At this time, it is the position of Birks NHC that this EIS supports the application for the proposed severance and future residential development.

9 REFERENCES

Birds Canada. 2021. Ontario Breeding Bird Atlas. Square Resources. Accessed December 2021. https://www.birdscanada.org/naturecounts/onatlas/findsquare.jsp

Bird Studies Canada. 2008. Marsh Monitoring Program Participant's Handbook for Surveying Amphibians. Revised 2008.

Blue Mountain Watershed Trust. 2021. Townline Creek. https://watershedtrust.ca/our-watersheds/townline-creek/

Cadman, M.D. and N. Kopysh. 2001. Ontario Breeding Bird Atlas, Guide for Participants. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature. 45pp.

Department of Fisheries and Oceans Canada (DFO). 2019. Aquatic Species at Risk Map. https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html

Eakins, R.J. 2021. The Ontario Freshwater Fishes Life History Database. https://www.ontariofishes.ca/home.htm

Greenbelt Plan. 2017. https://files.ontario.ca/greenbelt-plan-2017-en.pdf

Grey County. 2019. Recolour Grey: County of Grey Official Plan. https://docs.grey.ca/share/public?nodeRef=workspace://SpacesStore/faddf07b-9915-4617-b5ff-96de2e36092b

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application.

Ministry of Municipal Affairs and Housing (MMAH). 2020. Provincial Policy Statement. https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf

Ministry of Natural Resources (MNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition

Ministry of Natural Resources and Forestry (MNRF). 2014. Ontario Wetland Evaluation System, Southern Manual. 3rd Edition, Version 3.3.

Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF). Accessed December 2021. Land Information Ontario. https://www.ontario.ca/page/land-information-ontario

Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF). Accessed December 2021. Natural Heritage Information Centre Database. https://www.ontario.ca/page/natural-heritage-information-centre

Niagara Escarpment Plan. 2017. https://files.ontario.ca/appendix_-_niagara_escarpment_plan_2017_-_oc-10262017.pdf

Ontario Nature. Accessed December 2021. Ontario Reptile and Amphibian Atlas. https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/

The Town of the Blue Mountains. Office Consolidation to March 9, 2020. Comprehensive Zoning By-law 2018-65 https://archive.thebluemountains.ca/document_viewer.cfm?doc=549#page=18

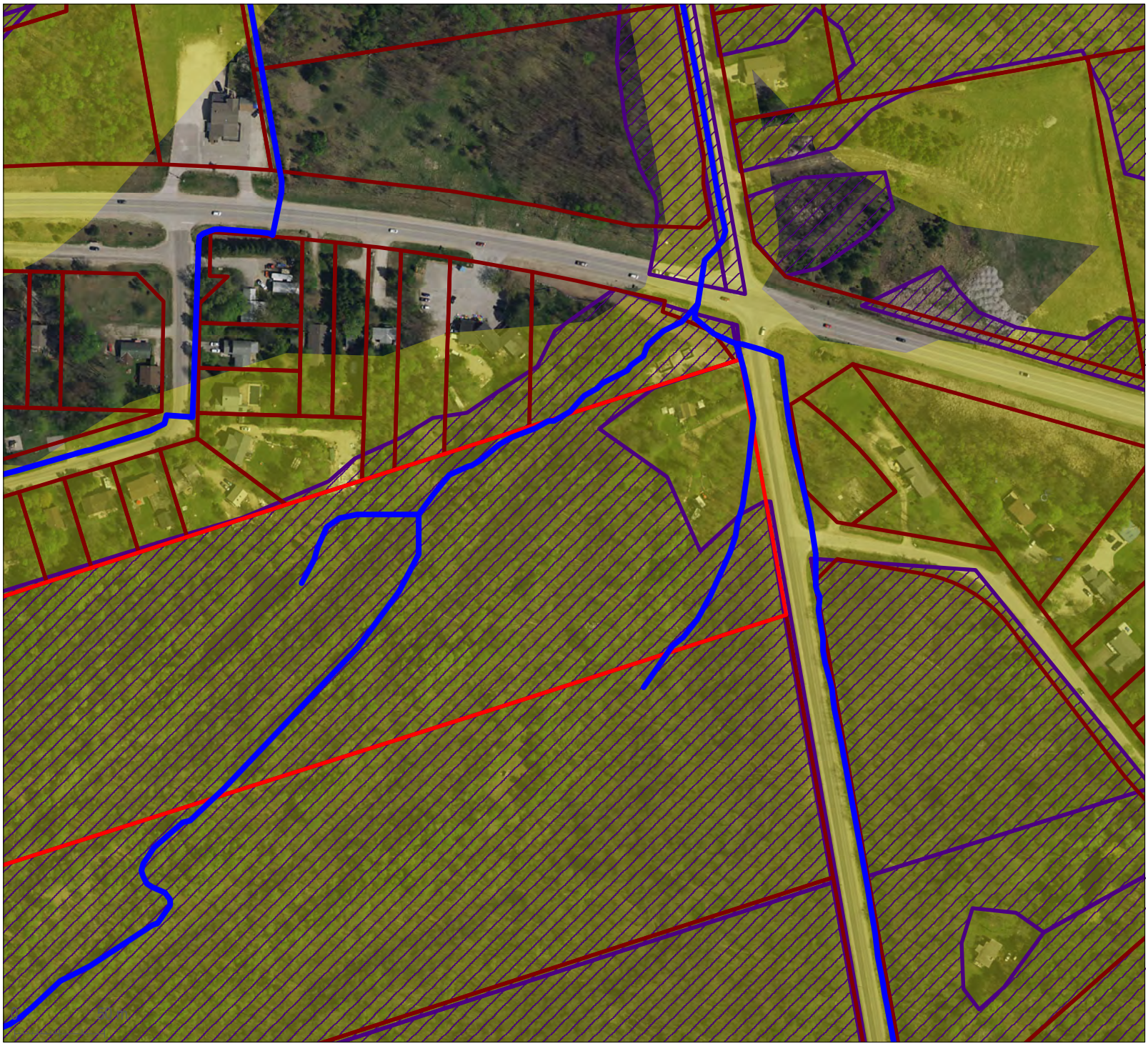
The Town of The Blue Mountains. 2016. The Town of The Blue Mountains Official Plan. https://www.thebluemountains.ca/official-plan.cfm

Watershed Trust. 2021. Townline Creek Assessment Report. https://watershedtrust.ca/townline-creek-assessment-report-for-2016/

Appendix A

Grey Sauble Conservation Authority Regulation Map

Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (Ontario Regulation 151/06)



Watercourses (Approx.)
Natural Hazard Area (Approx.)
Subject Parcel (Approx.)
Other Parcels (Approx.)
O. Reg 151/06 (Approx.)

N

0 50 m

GSCA Regulations Map
372 Grey Road 21 - East
Town of The Blue Mountains
Former Town of Collingwood
GSCA File: P21386

Thursday, August 12, 2021

Grey Sauble CONSERVATION

Projection: Universal Transverse Mercator - Zone 17 (N)
Datum: North American 1983 (mean for Canada)

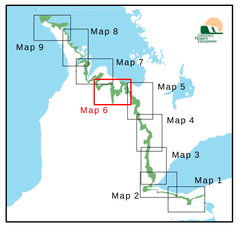
Appendix B

Niagara Escarpment Plan Map

BIRKS
NATURAL HERITAGE CONSULTANTS

NIAGARA ESCARPMENT PLAN

MAP 6



COUNTY OF GREY

MUNICIPALITY OF GREY HIGHLANDS
TOWN OF THE BLUE MOUNTAINS
TOWNSHIP OF CHATSWORTH
MUNICIPALITY OF MEAFORD (PART)

LEGEND

NIAGARA ESCARPMENT PLAN AREA

Plan Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Escarpment Recreation Area
- Mineral Resource Extraction Area
- Urban Area
- Minor Urban Centre

OVERLAY

- Niagara Escarpment Parks and Open Space System
- Amendments to the Niagara Escarpment Plan

NOTE: The Niagara Escarpment Plan designation boundaries shown on this map are approximate and subject to confirmation through site inspection and the application of the "Interpretation of Boundaries" section of the Niagara Escarpment Plan.

SCALE 1:50000

Miles 1 0.5 0 1 2 3

Kilometres 1 0.5 0 1 2 3 4

BASE MAP LEGEND

ROADS

- Expressway
- Provincial Highway
- County or Regional
- Local Municipal

BOUNDARIES

- County or Regional Municipality
- Township, Local and Area Municipality

OTHER

- Railway
- Abandoned Railway
- Contour (10m Interval)
- Lot and Concession Boundary

The NIAGARA ESCARPMENT PLAN (2017) APPROVED AND ORDERED June 1, 2017. O.C. # 1026/2017

Base Map Data supplied by the Ontario Ministry of Natural Resources and Forestry, Land Information Ontario

Map Compiled and Produced by the Geographic Information Systems (GIS) Department of the Niagara Escarpment Commission, Ministry of Natural Resources and Forestry

Ontario

Appendix C

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

BIRKS
NATURAL HERITAGE CONSULTANTS

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

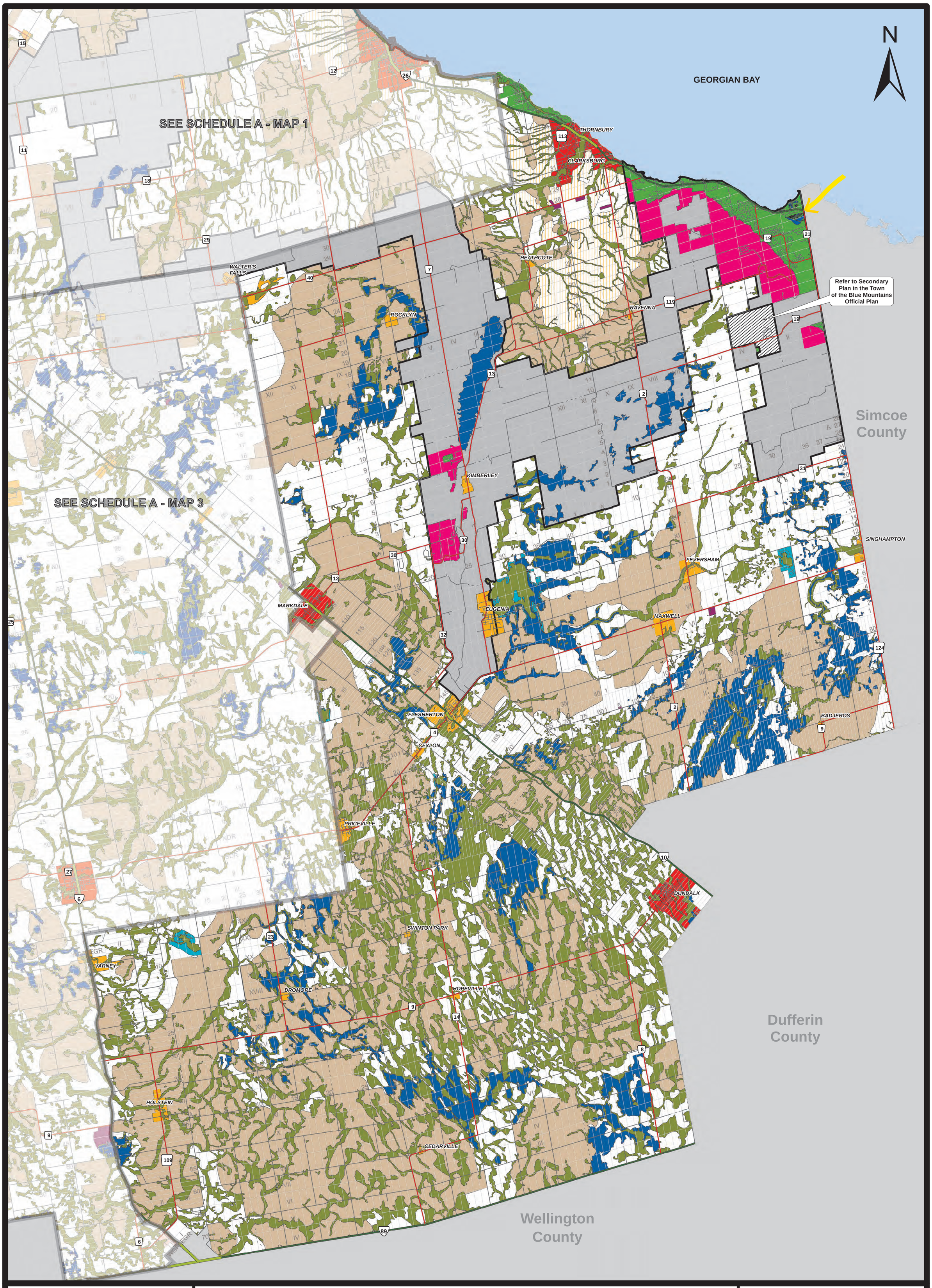
SCALE 1:95,000

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

AUTHOR: Grey County Planning and Development
FILE NAME: GR_OP_ApdxB_Map2eastX36.mxd
APPLICATION: ArcMap
DATE: June 7, 2019
PROJECTION: UTM zone 17N / NAD83
SOURCE: Teranet, Ministry of Natural Resources and Forestry

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.



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
- Recreational Resort Area
- Sunset Strip Area
- Industrial Business Park
- Space Extensive Industrial and Commercial
- Niagara Escarpment Plan Boundary **
- Niagara Escarpment Development Control 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 and Development
FILE NAME: GR_OP_SchedA_Map2eastX36.mxd
APPLICATION: ArcMap
DATE: June 7, 2019
PROJECTION: UTM zone 17N / NAD83
SOURCE: Teranet, Ministry of Natural Resources and Forestry

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 D

The Town of the Blue Mountains Official Plan
Schedule A-4 – Craigleith and Swiss Meadows
Appendix 1 - Constraint Mapping

BIRKS
NATURAL HERITAGE CONSULTANTS

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

Subject to Special Study Area Policies in Section B3.7.6.16

Ravenna

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

The Blue Mountains
Official Plan Schedule 'A-4'
Craigleith and Swiss Meadows

Designations

- Agricultural
- Commercial Corridor
- Craigleith Village Commercial
- Craigleith Village HSFPSW
- Escarpment
- Future Secondary Plan Area
- Craigleith Village Residential
- Hazard
- Institutional Area
- Major Open Space
- Recreational Commercial Area
- Recreational Ski
- Residential Recreational Area
- Resort Commercial
- Rural
- Special Agricultural
- Wetlands
- Niagara Escarpment Plan Boundary

0 500 1,000 Metres

N W E S

Subject to Section B3.7.6.7
Subject to Section B3.7.6.8
Subject to Section B3.7.6.9
Subject to Section B3.7.6.4
Subject to Section B3.7.6.11
Subject to Section B3.15.8.2
Subject to Section B3.15.8.1
Subject to Section B3.7.6.3
Subject to Section B3.7.6.6
Subject to Section B3.7.6.10
Subject to Section B3.11.6.1
Subject to Section B3.7.6.12
Subject to Section B3.11.6.1
Subject to Section B3.7.6.13

See Schedule A-5

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

Appendix E

Plant List

Appendix E. Vascular Plant List

Scientific Name	Common Name	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank
Ambrosia psilostachya	Perennial Ragweed	SU		N4N5
Anemonastrum canadense	Canada Anemone	S5		N5
Aralia hispida	Bristly Sarsaparilla	S5		N5
Arisaema triphyllum ssp. triphyllum	Jack-in-the-pulpit	S5		N5
Betula papyrifera	Paper Birch	S5		N5
Boehmeria cylindrica	False Nettle	S5		N5
Carex aurea	Golden Sedge	S5		N5
Carex comosa	Bearded Sedge	S5		N5
Carex gracillima	Graceful Sedge	S5		N5
Carex gynandra	Nodding Sedge	S5		N5
Carex intumescens	Bladder Sedge	S5		N5
Carex lupulina	Hop Sedge	S5		N5
Carex vulpinoidea	Fox Sedge	S5		N5
Cichorium intybus	Chicory	SNA		NNA
Cicuta maculata	Spotted Water-hemlock	S5		N5
Circaea alpina	Small Enchanter's Nightshade	S5		N5
Circaea canadensis	Broad-leaved Enchanter's Nightshade	S5		N5
Clematis virginiana	Virginia Virgin's-bower	S5		N5
Clinopodium vulgare	Field Basil	S5		N5
Cornus alternifolia	Alternate-leaved Dogwood	S5		N5
Cornus sericea	Red-osier Dogwood	S5		N5
Cypripedium acaule	Pink Lady's-slipper	S5		N5
Dactylis glomerata	Orchard Grass	SNA		NNA
Daucus carota	Wild Carrot	SNA		NNA
Dipsacus fullonum	Common Teasel	SNA		NNA
Echinops exaltatus	Tall Globe-thistle	SNA		NNA
Equisetum arvense	Field Horsetail	S5		N5
Erigeron annuus	Daisy Fleabane	S5		N5
Erigeron philadelphicus	Philadelphia Fleabane	S5		N5
Euthamia graminifolia	Grass-leaved Goldenrod	S5		N5
Eutrochium maculatum var. maculatum	Spotted Joe Pye Weed	S5		N5
Fragaria vesca	Woodland Strawberry	S5		N5
Frangula alnus	Glossy Buckthorn	SNA		NNA
Fraxinus nigra	Black Ash	S4		N5
Fraxinus pennsylvanica	Green Ash	S4		N5
Galium asprellum	Rough Bedstraw	S5		N5
Galium odoratum	Sweet Bedstraw	SNA		NNA
Geranium robertianum	Herb-Robert	S5		N5
Glyceria striata	Fowl Mannagrass	S5		N5
Hydrangea paniculata	Panicled Hydrangea	SNA		NNA
Impatiens capensis	Spotted Jewelweed	S5		N5
Juncus tenuis	Path Rush	S5		N5
Lathyrus latifolius	Everlasting Pea	SNA		NNA
Lythrum salicaria	Purple Loosestrife	SNA		NNA
Matteuccia struthiopteris var. pensylvanica	Ostrich Fern	S5		N5
Melilotus albus	White Sweet-clover	SNA		NNA
Oenothera biennis	Common Evening-primrose	S5		N5
Onoclea sensibilis	Sensitive Fern	S5		N5
Parthenocissus quinquefolia	Virginia Creeper	S4?		N4
Persicaria amphibia	Water Smartweed	S5		N5
Petasites frigidus var. palmatus	Palmate Coltsfoot	S5		N5
Phleum pratense ssp. pratense	Common Timothy	S4		N4
Picea glauca	White Spruce	S5		N5
Plantago major	Common Plantain	SNA		NNR
Poa pratensis	Kentucky Bluegrass	S5		N5
Populus balsamifera	Balsam Poplar	S5		NNR
Populus tremuloides	Trembling Aspen	S5		N5
Ranunculus acris	Tall Buttercup	SNA		NNA
Rhus typhina	Staghorn Sumac	S5		N5
Ribes hirtellum	Smooth Gooseberry	S5		N5
Rosa palustris	Swamp Rose	S5		N5
Rubus idaeus	Common Red Raspberry	S5		N5
Rubus occidentalis	Black Raspberry	S5		N5
Rubus pubescens	Dewberry	S5		N5
Rudbeckia triloba	Brown-eyed Susan	SNA		NNA
Rumex crispus	Curly Dock	SNA		NNA
Solidago canadensis	Canada Goldenrod	S5		N5
Streptopus lanceolatus	Rose Twisted-stalk	S5		N5
Symphyotrichum lateriflorum	Calico Aster	S5		N5
Symphyotrichum novae-angliae	New England Aster	S5		N5
Taraxacum officinale	Common Dandelion	SNA		N5
Thalictrum pubescens	Tall Meadow-rue	S5		N5
Thuja occidentalis	Eastern White Cedar	S5		N5
Tilia americana	American Basswood	S5		N5
Toxicodendron radicans	Poison Ivy	S5		N5
Trifolium aureum	Yellow Clover	SNA		NNA
Trifolium pratense	Red Clover	SNA		NNA
Typha angustifolia	Narrow-leaved Cattail	SNA		N5
Ulmus americana	American Elm	S5		N5
Urtica dioica	Stinging Nettle	SNA		N5
Verbascum thapsus	Common Mullein	SNA		NNA
Viburnum acerifolium	Maple-leaved Viburnum	S5		N5
Viburnum opulus ssp. trilobum	Highbush Cranberry	S5		N5
Vicia cracca	Tufted Vetch	SNA		NNA
Vitis riparia	Riverbank Grape	S5		N5

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)

Appendix F

Breeding Bird Survey Data

Dawn Breeding Bird Data

			Point Count Stations A,B						Conservation Rank		
Family	Scientific Name	English Common Name	1	2	3	4	Incidental	Breeding Evidence	Global G-rank	Provincial S-rank	Provincial Endangered Species Act
Alcedinidae	*Megaceryle alcyon*	Belted Kingfisher					X	Observed	G5	S4B	NAR
Anatidae	*Anas platyrhynchos*	Mallard		FO[A]				Observed	G5	S5	NAR
Ardeidae	*Botaurus lentiginosus*	American Bittern	FO[A]					Observed	G4	S4B	NAR
Ardeidae	*Ardea herodias*	Great Blue Heron		FO[A]				Observed	G5	S4	NAR
Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing		C[B]	C[B]		X	Possible	G5	S5B	NAR
Cardinalidae	*Passerina cyanea*	Indigo Bunting	T			S[A]		Probable	G5	S4B	NAR
Cardinalidae	*Pheucticus ludovicianus*	Rose-breasted Grosbeak		S[B]				Possible	G5	S4B	NAR
Corvidae	*Corvus brachyrhynchos*	American Crow	C/H[A], FO[B]	FO[A]				Possible	G5	S5B	NAR
Corvidae	*Cyanocitta cristata*	Blue Jay			S[A]			Possible	G5	S5B	NAR
Fringillidae	*Spinus tristis*	American Goldfinch	S/FO[A, B]	T		C[B]	X	Probable	G5	S5B	NAR
Fringillidae	*Carpodacus purpureus*	Purple Finch		S[A]				Possible	G5	S4B	NAR
Icteridae	*Agelaius phoeniceus*	Red-winged Blackbird	T	C[B]				Probable	G5	S4	NAR
Icteridae	*Icterus galbula*	Baltimore Oriole	T	T				Probable	G5	S4B	NAR
Icteridae	*Quiscalus quiscula*	Common Grackle		C[A]				Possible	G5	S5B	NAR
Laridae	*Fratercula arctica*	Ring-billed Gull	FO[B]					Observed	G5	S5B,S4N	NAR
Mimidae	*Mimus polyglottos*	Northern Mockingbird					X	Observed	G5	S4	NAR
Paridae	*Poecile atricapillus*	Black-capped Chickadee	C[A]	C[A]				Possible	G5	S5	NAR
Parulidae	*Geothlypis trichas*	Common Yellowthroat	S[B]	T	S[B]	S[B]	X	Probable	G5	S5B	NAR
Parulidae	*Mniotilta varia*	Black-and-white Warbler			S[A]	S[B]		Possible	G5	S5B	NAR
Parulidae	*Setophaga ruticilla*	American Redstart	S[A]	T	T	T	X	Probable	G5	S5B	NAR
Parulidae	*Dendroica petechia*	Yellow Warbler	S[A]	S[A]				Possible	G5	S5B	NAR
Parulidae	*Seiurus noveboracensis*	Northern Waterthrush				S[A]		Possible	G5	S5B	NAR
Parulidae	*Dendroica virens*	Black-throated Green Warbler			S[A]			Possible	G5	S5B	NAR
Passerellidae	*Melospiza melodia*	Song Sparrow	S[B]	S[A]	S[A]	T		Probable	G5	S5B	NAR
Phalacrocoracidae	*Phalacrocorax auritus*	Double-crested Cormorant		FO[A]				Observed	G5	S5B	NAR
Picidae	*Picoides pubescens*	Downy Woodpecker	C/H[A]				X	Possible	G5	S5	NAR
Scolopacidae	Scolopax minor	American Woodcock					X	Observed	G5	S4B	NAR
Troglodytidae	*Troglodytes aedon*	House Wren	S[A]	S[A]	S[B]	S[A]		Possible	G5	S5B	NAR
Troglodytidae	*Troglodytes troglodytes*	Winter Wren				S[B]		Possible	G5	S5B	NAR
Turdidae	*Turdus migratorius*	American Robin					X	Observed	G5	S5B	NAR
Turdidae	*Catharus fuscescens*	Veery		S[B]				Possible	G5	S4B	NAR
Tyrannidae	*Contopus virens*	Eastern Wood-pewee				S[B]	X	Possible	G5	S4B	SC
Tyrannidae	*Myiarchus crinitus*	Great Crested Flycatcher		S[B]		S[B]		Possible	G5	S4B	NAR
Vireonidae	*Vireo olivaceus*	Red-eyed Vireo	S[B]		S[B]	S[A]	X	Possible	G5	S5B	NAR
Vireonidae	*Vireo gilvus*	Warbling Vireo	S[A]				X	Possible	G5	S5B	NAR

Surveys Conditions:

[A]June 10, 2021; Start Time 0700hr/ End Time 0725hr; Temperature 18°C; Wind B0; Cloud Cover 5%; Precipitation Nil; Observer: S. Brady & M. Fuller

[B]June 25, 2021; Start Time 0752hr/End Time 0757hr; Temperature 25°C; Wind B0; Cloud Cover 100%; Precipitation Light; 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 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common
G-Rank: G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure
Endangered Species Act Species at Risk in Ontario List: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

Appendix G

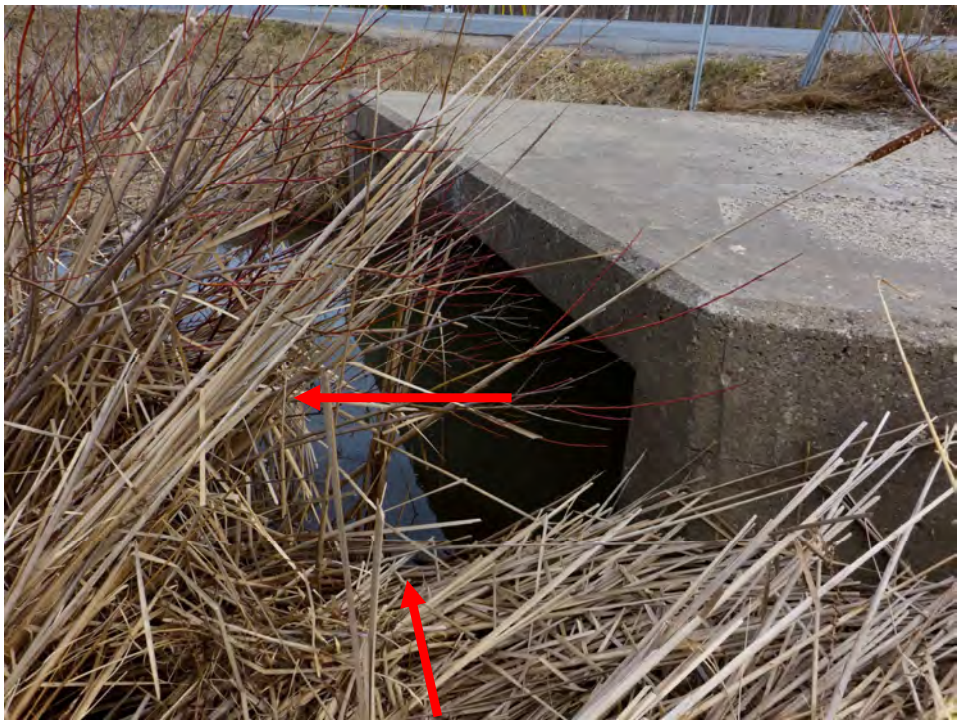
Fish Habitat Photos

BIRKS
NATURAL HERITAGE CONSULTANTS

Photographs 1a and b. Intermittent Drainage Outfall within Highway 26 southern right-of-way (March 30, 2021).

Direction of Flow

Photograph 2. Grey Road 21 westerly ditch outfall to Townline Creek. Looking south. (March 30, 2021)



Photograph 3. Grey Road 21 westerly ditch outfall to Townline Creek. Looking north (March 30, 2021)

372 GREY ROAD 21 - EAST PARCEL

Town of the Blue Mountains

Appendix G

Fish Habitat Characterization

- Property Limit
- 120m Study Area
- Watercourse (Birks NHC/LIO)
- Seasonal Indirect Drainage Feature
- Photo Locations

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA

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

N W E S

0 20 40 80 120 160 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\SBrady Projects\ArcGIS - Projects here\Projects - here\372GreyRd

PROJECT: 04-010-2021 STATUS: DRAFT DATE: 18/01/2022

Appendix H

Significant Woodland Assessment

WOODLANDS

Woodland size 51.5 ha

Appendix H. Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
Woodland Size Criteria		
• Size refers to the aerial (spatial) extent of the woodland (irrespective of ownership) • Woodland areas are considered to be generally continuous even if intersected by narrow gaps 20m or less in width between crown edges. • Size value is related to the scarcity of woodland in the landscape derived on a municipal basis with consideration of the differences in woodland coverage among physical sub-units (e.g., watersheds, biophysical regions). • Size criteria should also account for differences in landscape-level physiography (e.g., moraines, clay planes) and community vegetation types.	Where woodlands cover: • Is less than about 5% of land cover, woodlands 2ha in size or larger should be considered significant • Is about 5-15% of land cover, woodlands 4ha in size or larger should be considered significant • Is about 15-30% of land cover, woodlands 20ha in size or larger should be considered significant. • **Is about 30-60% of land cover, woodlands 50ha in size or larger should be considered significant** • Occupies more than 60% of the land, a minimum size is not suggested, and other factors should be considered	• According to the Blue Mountains Subwatershed Health Check (NVCA 2018), there is 35.0% of forest cover in the subwatershed which contains the study area. • Therefore, a woodland must be 50 ha in size or larger to be considered significant. • The woodland in the Study Area is part of a continuous woodland that extends beyond the property. The total area of the woodland is approximately 51.5 ha. • ***Therefore, based on Woodland Size Criteria, the woodland unit within the study area appears to be considered Significant in the context of the PPS.***
Ecological Function Criteria		
Woodland Interior		
• Interior Habitat more than 100m from the edge (as measured from the limits of a continuous woodland as defined above) is important for some species. • For purposes of this criterion, a maintained public road would create an edge even if the opening was not wider than 20m and did not create a separate woodland.	Woodlands should be considered significant if they have: • Any interior habitat where woodlands cover less than about 15% of the land cover • 2 ha or more of interior habitat where woodlands cover about 15-30% of the land cover • **8 ha or more of interior habitat where woodlands cover about 30-60% of the land cover** • 20 ha or more of interior habitat where woodlands cover about 60% of the land cover	• No interior habitat is within the Study Area. However, the woodland feature within the Study Area and adjacent lands contribute to interior habitat within the contiguous woodland feature, measured at approximately 16.3 ha. • ***Therefore, the woodland unit appears to be Significant by the Woodland Interior Criteria in the context of the PPS.***

Appendix H. Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
Proximity to Other Woodlands or Other Habitats		
• Woodlands that overlap, abut or are close to other significant natural heritage features or areas could be considered more valuable or significant than those that are not. • Patches close to each other are of greater mutual benefit and value to wildlife.	Woodlands should be considered significant if: • A portion of the woodland is located within a specific distance (e.g., 30m) of a significant natural feature or fish habitat likely receiving ecological benefit from the woodland and the entire woodland meets the minimum area threshold (e.g., 0.5-20ha, depending on circumstance)	• The contiguous woodland feature contains wetland habitat and watercourses which could be receiving ecological benefit from the woodland unit. • ***Therefore, based on Proximity to Other Woodlands or Other Habitats Criteria, the woodland unit within the study area would be considered Significant in the context of the PPS.***
Linkages		
• Linkages are important connections providing for movement between habitats. • Woodlands that are located between other significant features or areas can be considered to perform an important linkage function as "stepping stones" for movement between habitats.	Woodlands should be considered significant if they: • Are located within a defined natural heritage system or provide a connecting link between two other significant features, each of which is within a specified distance (e.g., 120m) and meets minimum area thresholds (e.g., 1-20ha, depending on circumstance)	• Woodland on the property is generally bordered by municipal roads and the Georgian Rail Trail which impairs the linkage function of the feature to other significant features. • ***Therefore, based on Linkages Criteria, the woodland unit within the study area would not be considered Significant in the context of the PPS.***
Water Protection		
• Source water protection is important. • Natural hydrological processes should be maintained.	Woodlands should be considered significant if they: • Are located within a sensitive or threatened watershed or a specific distance (e.g., 50m or top of valley bank if greater) or a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, watercourse or fish habitat and meet minimum area thresholds (e.g., 0.5-10ha, depending on circumstance)	• According to the Drinking Water Source Protection Interactive mapping tool, the property and Study Area are mapped as being within a Highly Vulnerable Aquifer (vulnerability score 6). • ***Therefore, based on Water Protection Criteria, the woodland unit within the study area would be considered Significant in the context of the PPS.***
Woodland Diversity		
• Certain woodland species have had major reductions in representation on the landscape and may need special consideration.	Woodlands should be considered significant if they have: • A naturally occurring composition of native forest species that have declined	• The overall forest community within the study area is not representative of a rare vegetation community, uncommon within Grey County. • The contiguous woodland feature is not characteristic of a varying terrain.

Appendix H. Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
• More native diversity is more valuable than less diversity.	significantly south and east of the Canadian Shield and meet minimum area thresholds (e.g., 1-20ha, depending on circumstance) • A high native diversity through a combination of composition and terrain (e.g., a woodland extending from a hilltop to a valley bottom or to opposite slopes) and meet minimum area thresholds (e.g., 2-20ha, depending on circumstance)	• ***Therefore, the woodland unit within the study area would not be considered Significant by the Woodland Diversity criteria in the context of the PPS.***
Uncommon Characteristics Criteria		
• Woodlands that are uncommon in terms of species composition, cover type, age or structure should be protected. • Older woodlands (i.e., woodlands greater than 100 years old) are particularly valuable for several reasons, including their contributions to genetic, species and ecosystem diversity.	Woodlands should be considered significant if they have: • A unique species composition or the site is represented by less than 5% overall in woodland area and meets minimum area thresholds (e.g., 0.5ha, depending on circumstance) • A vegetation community with a provincial ranking of S1, S2 or S3 (as ranked by the NHIC and meet minimum area thresholds (*e.g.*, 0.5ha, depending on circumstance) • Habitat (e.g., with 10 individual stems or 100m^2 of leaf coverage) of a rare, uncommon or restricted woodland plant species and meet minimum area thresholds (e.g., 0.5ha, depending on circumstance): vascular plant species for which the NHIC's Southern Ontario Coefficient of Conservatism is 8, 9 or 10; tree species of restricted distribution such as sassafras or rock elm; species existing only in a limited number of sites within the planning area • Characteristics of older woodlands or woodlands with larger tree size structure in native species meet minimum area thresholds (e.g., 1-10ha, depending on circumstance): older woodlands could be	• The woodlands within the Study Area did not contain a unique species composition, age, or structure. • The woodland communities on the property are not ranked S1, S2, or S3. • The woodlands in the Study Area do not contain larger trees or characteristics of older woodlands. • ***Therefore, the woodland unit within the study area would not be considered Significant by the Uncommon Characteristics Criteria in the context of the PPS.***

Appendix H. Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
	defined as having 10 or more trees/ha greater than 100 years old; larger tree size structure could be defined as 10 or more trees/ha at least 50cm in diameter, or a basal area of 8 or more m^2/ha in trees that are at least 40cm in diameter	
Economic and Social Function Values Criteria		
• Woodlands that have high economic or social values through particular site characteristics or deliberate management should be protected.	Woodlands should be considered significant if they have: • High productivity in terms of economically viable products together with continuous native natural attributes and meet minimum area thresholds (e.g., 2-20ha, depending on circumstance) • A high value in special services such as air-quality improvement or recreation at a sustainable level that is compatible with long-term retention and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance) • Important identified appreciation, education, cultural or historical value and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance)	• The contiguous woodland feature does not generate economically viable forest products. • No formal recreational use of Study Area or the property; the Georgian Trail borders the eastern property line and crosses through the woodland unit outside of the Study Area. • The woodland feature is not identified as providing education, cultural or historical value. • ***Therefore, the woodland unit within the study area does not appear Significant by the Economic and Social Function Values Criteria in the context of the PPS.***

Appendix I

Significant Wildlife Habitat Assessment

Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

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 and the listed wildlife species were not documented during field investigations.
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4	• 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.	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	Suitable habitats are not present within the Study Area; no ponds of suitable size, lakes or coastal inlets are present. Swamp habitat within the Study Area does not provide suitable habitat for waterfowl stopover and staging areas (aquatic).

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	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	SWD5 SWD6 SWD7	• 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	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.	NHIC does not list any element occurrence of Waterfowl Concentration Areas in the area. Listed species were not documented during field investigations.
Shorebird Migratory Stopover Area **<u>Rationale:</u>** 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	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. <u>Information Sources</u> • Western hemisphere shorebird reserve network. • Canadian Wildlife Service (CWS) Ontario Shorebird Survey. • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs	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"	Suitable habitat is not present within the Study Area; no lakes, rivers, beach areas or unvegetated shoreline habitats. Listed species were not documented during field investigations.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
	Ruddy Turnstone Sanderling Dunlin		• Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	• Significant Wildlife Habitat Mitigation Support Tool Index #8 provides development effects and mitigation measures.	
Raptor Wintering Area **<u>Rationale:</u>** 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 **<u>Special Concern:</u>** Short-eared Owl Bald Eagle	<u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. <u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	• 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 <u>Information Sources:</u> • 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 property contains woodlands that continue outside of the Study Area however large open uplands are not present within the Study Area. Bald Eagle habitat is not present in the Study Area. There are no forest/swamp communities on shoreline areas within the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Bat Hibernacula **Rationale;** Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH • The locations of bat hibernacula are relatively poorly known. Information Sources • OMNRF for possible locations and contact for local experts • Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern • Development and Mines for location of mine shafts. • Clubs that explore caves (e.g. Sierra Club) • University Biology Departments with bat experts.	• All sites with confirmed hibernating bats are SWH. • The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms • Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects. • 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 Study Area.
Bat Maternity Colonies **Rationale:** Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario. • Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred Information Sources • OMNRF for possible locations and contact for local experts • University Biology Departments with bat experts.	• Maternity Colonies with confirmed use by; • >10 Big Brown Bats[E] • >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.	**Vegetation community SWDM2-2 present within the Study Area contains mature trees which may provide this function to the listed bat species.** **Further consideration provided in EIS report.**

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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.	The property contains drainage features and swamp habitat however, while portions of the property contain water of sufficient depth during certain times of the year, flooding is seasonal and substrates were determined unsuitable for this function. Suitable turtle wintering habitat (*i.e.*, deep water during winter months in areas with soft substrates) is considered to be absent from the Study Area.

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.	**Features associated with this function appear to be common in the general landscape as reptile hibernaculum habitat may be found in almost any ecosite.** **While there are no talus, rock barren, or alvar sites in the general area, reptiles may gain access to below the frost line for hibernation through rodent burrows and tree root systems in the Study Area.** **Further consideration provided in EIS report.**

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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 Study Area does not meet criteria related to ELC Ecosite Codes and the listed wildlife species were not documented during field investigations. No bridges, steep slopes, cliffs or banks were observed.
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) **Rationale:** 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. Information Sources • Ontario Breeding Bird Atlas, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • **Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony** • Aerial photographs can help identify large heronries. • Reports and other information available from CAs. • MNRF District Offices. • Local naturalist clubs.	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	**NHIC lists Mixed Wader Nesting Colony in survey squares encompassing the area (17NK5629, 17NK5630, 17NK5529 and17NK5530).** No lakes, islands or peninsulas are present in the Study Area. Wetland habitat is limited to swamp treed communities where flooding duration is seasonal. None of the listed species were documented in the Study Area during the field investigations. Great Blue Heron was observed as a fly-over.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
				development effects and mitigation measures.	**Further consideration provided in EIS report.**
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.	**NHIC lists Mixed Wader Nesting Colony in survey squares encompassing the area (17NK5629, 17NK5630, 17NK5529 and17NK5530).** Habitat does not meet key criteria to be considered significant – no rocky islands or peninsulas were documented within the area. None of the listed species were documented in the Study Area during the field investigations. **Further consideration provided in EIS report.**
Migratory Butterfly Stopover Areas **<u>Rationale:</u>** Butterfly stopover areas are extremely	Painted Lady Red Admiral <u>Special Concern</u> Monarch	Combination of ELC Community Series; need to have present one Community Series from each land class: <u>Field:</u> CUM CUT	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	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	Study Area is not located within 5 km 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	
rare habitats and are biologically important for butterfly species that migrate south for the winter.		CUS Forest: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	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	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.	
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 5 km of Lake Ontario and thus this habitat function is not applicable.
Deer Yarding Areas	White-tailed Deer	Note: OMNRF to determine this habitat.	• 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	No Studies Required: • Snow depth and temperature are the greatest influence on deer use of winter	No deer wintering SWH is mapped by MNRF (LIO) in the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Rationale: 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.		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	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.	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.	
Deer Winter Congregation Areas **Rationale:** Deer movement during winter in the	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC	• 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.	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	No deer wintering SWH is mapped by MNRF (LIO) in the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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.		SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• 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	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.	

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. No cliff or talus slopes are present in the area.
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. No sand barren sites are present in the area.
Alvar **Rationale;** Alvars are extremely rare habitats in Ecosregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2	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	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.	• 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	Habitat in the Study Area does not meet key criteria to be considered significant. No alvar sites are present in the area.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	**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	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	• Conservation Authorities.	• Significant Wildlife Habitat Mitigation Support Tool Index #17 provides development effects and mitigation measures.	
Old Growth Forest **<u>Rationale:</u>** 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. <u>Information Sources</u> • 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 Study Area woodland has been measured to be greater than 30 ha in size with over 10 ha of interior forest assuming a 100 m buffer at the edge of the forest. However, the woodland habitat is not considered to be old growth forest as the dominant trees are less than 140 years old and the woodland lacks the characteristics required to be considered old growth.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
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. No savannah sites are present in the area.
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. There are no tallgrass prairie sites within the area.
Other Rare Vegetation Communities **Rationale:** Plant communities that often contain rare species which depend on	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	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 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	No rare vegetation communities have been documented within the Study Area.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
the habitat for survival.	Type that is Provincially Rare is Candidate SWH.		• Field Naturalist clubs. • Conservation Authorities.	development effects and mitigation measures.	

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.	The Study Area is predominantly swamp with limited upland forest habitat, less than 120 m wide. Waterfowl nesting areas adjacent to wetland ecosites is not present within the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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" • Significant Wildlife Habitat Technical Guide Index #26 provides development effects and mitigation measures	Suitable habitat features are not present within the property; no shorelines, islands, lakes, rivers or open water wetlands are present. The listed wildlife species were not documented during field investigations.
Woodland Raptor Nesting Habitat	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk	May be found in all forested ELC Ecosites.	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer	Studies confirm: • Presence of 1 or more active nests from species list is considered significant.	The Study Area woodland has been measured to be greater than 30 ha in size but with less than 1 ha of

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Rationale: Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Red-shouldered Hawk Barred Owl Broad-winged Hawk	May also be found in SWC, SWM, SWD and CUP3	• Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. Information Sources • OMNRF Districts. • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Conservation Authorities.	• 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.	interior forest assuming a 200 m buffer at the edge of the forest. No stick nests or any of the listed species were observed during site investigations.
Turtle Nesting Areas **Rationale;** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle Special Concern Species Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. Information Sources	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.	Candidate ELC ecosites were not documented within the Study Area. There are no areas of exposed soil suitable for turtle nesting within the Study Area. Note that nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
			• 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	• 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.	
Seeps and Springs **<u>Rationale;</u>** 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 <u>Information Sources</u> • 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 was not observed within the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Breeding Habitat (Woodland). **<u>Rationale:</u>** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians	• Presence of a wetland, pond or woodland pool (including vernal pools) >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 <u>Information Sources</u> • 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.	The call survey results indicate that the Study Area is not a candidate for significant amphibian breeding habitat (woodland).
Amphibian Breeding Habitat (Wetlands) **<u>Rationale;</u>** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within	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.	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.	The call survey results indicate that the Study Area is not a candidate for significant amphibian breeding habitat (wetlands).

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Central Ontario landscapes.			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 • Reports and other information available from Conservation Authorities.	• A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined below. • Significant Wildlife Habitat Technical Guide Index #15 provides development effects and mitigation measures.	
Woodland Area-Sensitive Bird Breeding Habitat **Rationale:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren **Special Concern:** 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. Information Sources • 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.	The contiguous woodland has been measured to be greater than 30 ha in size but with less than 1 ha of interior forest assuming a 200 m buffer at the edge of the forest. **Veery, Black-throated Green Warbler, and Winter Wren were recorded in the Study Area. Singing males in wooded habitat during the breeding season indicate possible breeding of these species.** Confirmed nesting was not documented within the Study Area for the listed species. **Further consideration provided in EIS report.**

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 **<u>Rationale;</u>** 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. <u>Information Sources</u> • 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	The Study Area is predominantly wooded, with natural areas being deciduous lowland forest and swamp. A small cattail meadow marsh is present on the property and adjacent lands along the northern property line. Given the size and location of the meadow marsh, it is unlikely to function as marsh breeding bird SWH. None of the listed species were recorded in the Study Area during site surveys; American Bittern was observed as a fly-over.
Open Country Bird Breeding Habitat Sources Defining Criteria **<u>Rationale;</u>** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years	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. <u>Information Sources</u> • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs.	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	Vegetation communities within the Study Area are not appropriate to provide this function.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
based on CWS (2004) trend records.			• Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.		
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.
Terrestrial Crayfish **Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish; (*Cambarus Diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. Information Sources • Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult	Chimneys were not documented within the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
		swamp ecosites can be used by terrestrial crayfish.		• Significant Wildlife Habitat Technical Guide Index #36 provides development effects and mitigation measures.	
Special Concern and Rare Wildlife Species **Rationale:** These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites Information Sources • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website "Get Information" : http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. • Significant Wildlife Habitat Technical Guide Index #37 provides development effects and mitigation measures.	**Eastern Wood-pewee (Special Concern) was heard calling in the Study Area.** **Snapping Turtle (Special Concern) has recent occurrences recorded in survey squares which encompass the Study Area.** **Further consideration provided in EIS report.**

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 movement corridors are to be determined when amphibian breeding habitat is confirmed as SWH.
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	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	Deer wintering SWH is not present in the Study Area therefore deer movement corridors are not expected to be present.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
minimizing their vulnerability while travelling.					

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.

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
6E- 17 **<u>Rationale:</u>** 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 <u>Information Sources</u> • 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.

Appendix J

Species at Risk Assessment

Species at Risk Assessment

Common Name	Scientific Name	ESA Designation	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area
			Reptiles		
Blanding's Turtle	*Emydoidea blandingii*	Threatened	Shallow lakes, ponds and wetlands with mucky soft bottoms.	NHIC occurrence (square 17NK5630) identifies the species within the area. No other species records (*i.e.,* ORAA) within the Study Area and general Town of the Blue Mountains area.	Marginal – Treed swamp wetlands are present within the Study Area which may be considered marginal summer estivation habitats. No development proposed within wetland habitats. **No further consideration for this species is required.**
Eastern Hog-nosed Snake	*Heterodon platirhinos*	Threatened	Fields, forest, shrublands, beaches, old dune habitats. Open, sandy soils. Eastern shore of Georgian Bay in forest clearings and rock outcrops.	No occurrences reported within the Study Area and general Town of the Blue Mountains area with the exception of a historical 1982 record along the shores of Georgian Bay (ORAA square 17NK53).	Marginal – forest habitat present. No rock outcrops, beach or sandy dune habitats in the Study Area. No recent known records of the species in the Study Area. **No further consideration for this species is required.**
			Birds		
Barn Swallow	*Hirundo rustica*	Threatened	Feeds above meadows, fields and farmyards and over water. Nests almost exclusively on human-made structures (*i.e.*, barns, bridges).	Ontario Breeding Bird Atlas square 17TNK52 indicates confirmed breeding in the general area.	Yes – human-made structures present within the property. No nests were identified during the 2021 field surveys. Species not documented during dawn breeding bird surveys. **No further consideration for this species is required.**

Species at Risk Assessment

Common Name	Scientific Name	ESA Designation	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area
Eastern Meadowlark	*Sturnella magna*	Threatened	Primarily tall native grasslands, such as pastures, savannahs and hayfields. Non-native pastures, hayfields, weedy meadows. Large tracts of open area are preferred over smaller fragments.	Ontario Breeding Bird Atlas square 17TNK52 indicates probable breeding in the general area (presumed territory)	No – no open habitats are present within the Study Area; species not documented during the 2021 dawn breeding bird surveys. **No further consideration for this species is required**.
Bobolink	*Dolichonyx oryzivorus*	Threatened	Common in areas of agricultural grasslands such as hay and pasture farm fields but are also found in other open areas.	NHIC square 17NK5629 that encompasses the Study Area indicates occurrences of this species. Ontario Breeding Bird Atlas square 17TNK52 indicates breeding in the area.	No – potential habitat is not present in the Study Area; species not documented during 2021 breeding bird surveys. **No further consideration for this species is required.**
Chimney Swift	*Chaetura pelagica*	Threatened	Found in and around urban settlements where they nest and roost in chimneys and other man-made structures. Tend to be close to water for feeding (*i.e.*, flying insects).	No - Ontario Breeding Bird Atlas square 17TNK52 indicates no known occurrences for the species in the general area.	No – existing human-made structures within the property do not contain suitable nesting features. Species not documented during the 2021 dawn breeding bird surveys. **No further consideration for this species is required.**
Mammals					
Eastern Small-footed Myotis	*Myotis leibii*	Endangered	Roosts in rock outcrops, buildings, under bridges, in caves, mines or hollow trees. Hibernates in caves and abandoned mines.	Found from south of Georgian Bay to Lake Erie and east to the Pembroke area. There are also records from the	Marginal day roosting – Forest communities are not known to provide suitable maternity roosting habitat for the species; however, can

Species at Risk Assessment

Common Name	Scientific Name	ESA Designation	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area
				Bruce Peninsula, the Espanola area, and Lake Superior Provincial Park. No known background sources.	provide marginal day roosting habitat for males or non-reproductive individuals. **Additional consideration for potential impacts to the species and General Habitat is provided below.**
Little Brown Myotis	*Myotis lucifugus*	Endangered	Roosts in buildings, barns, or trees with suitable characteristics (*i.e.*, loose bark, cavities). Forages over water, along waterways, forest edges. Hibernates in caves or abandoned mines.	Likely most common bat species. No known background sources.	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat. **Additional consideration for potential impacts to the species and General Habitat is provided below.**
Northern Myotis	*Myotis septentrionalis*	Endangered	Roosts in trees with suitable characteristics *i.e.*, loose bark, cavities). Forages in forest edges and forest gaps. Hibernates in caves or abandoned mines.	Found in southern Ontario to the north shore of Lake Superior. Occasionally as north as Moosonee. No known background sources.	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat. **Additional consideration for potential impacts to the species and General Habitat is provided below.**
Tri-colored Bat	*Perimyotis subflavus*	Endangered	Roosts in structures, barns, or trees with suitable characteristics. Forages over water, along waterways and in the forest. Hibernates individually in caves or abandoned mines.	Less common. Found in southern Ontario, with a scattered distribution. No known background sources.	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat. **Additional consideration for potential impacts to**

Species at Risk Assessment

Common Name	Scientific Name	ESA Designation	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area
					the species and General Habitat is provided below.
			Plants		
Butternut	*Juglans cinerea*	Endangered	In Ontario, Butternut usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It is also found on well-drained gravel sites and rarely on dry rocky soil. This species does not do well in the shade, and often grows in sunny openings and near forest edges.	Known occurrences in Grey County and Town of the Blue Mountains area.	Yes – the deciduous forest habitat and open portions of the property contain suitable conditions for the species. Species not documented during spring and summer vegetation surveys. **No further consideration for this species is required**

Designation Status

Provincial Status – Species at Risk in Ontario list maintained by the Ministry of the Environment, Conservation, and Parks, Ontario Regulation 230/08. *Endangered Species Act,* 2007