ENVIRONMENTAL IMPACT STUDY

11476 Highway 26

Collingwood, ON

INTEGRICON

Property Restoration and Construction Group Inc.

ENVIRONMENTAL IMPACT STUDY

11476 Highway 26, Collingwood, ON

Resubmission Prepared by:

Martin O'Halloran
SENIOR FISH AND WILDLIFE TECHNOLOGIST,
ISA CERTIFIED ARBORIST

Jake Carman, M.Sc.
ECOLOGIST, WATER RESOURCES ENGINEER

LGL Limited
445 Thompson Drive, Unit 2
Cambridge, ON N1T 2K7
cambridge@lgl.com
519-622-3300
www.lgl.com

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JUNE 2025
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1 Introduction

LGL Limited was retained by Integricon Property Restoration and Construction Group Inc. (IPCG) in early June 2021 to undertake natural heritage investigations in support of an Environmental Impact Study Report (EIS) for the Subject Lands at 11476 Highway 26, Collingwood, Ontario. The Subject Lands are limited to the property boundary (**Figure 1**).

The Subject Lands comprise a total area of 2.81 hectares with approximately 0.775 hectares proposed for development. The lands are located on Part Lot 48, Concession 10 and legally described as:

- PCL RD. ALLOW-3 SEC 51-NOTT-10; PT RDAL BTN CON 10 & 11 NOTTAWASAGA CLOSED BY BY-LAW NO. LT124501; PT 2, 51R27666

The Subject Lands were once host to a motel, but that building was removed and the lands have been vacant since approximately 2011, with the remnants of past use limited to pavement.

The Town of Collingwood land use mapping currently designates the Subject Lands as Strategic Growth Area and Greenlands land use. The Subject Property is partially regulated (**Figure 2**. Subject Property) under the Prohibited Activities, Exemptions and Permits (Ontario Regulation 41/24) administered by Nottawasaga Valley Conservation Authority (NVCA)(in this case) which supersedes the *Conservation Authorities Act* O.Reg. 172/06.

This EIS was prepared with the intent to satisfy Ontario Regulation 41/24 administered by NVCA as part of the development application review process. An initial pre-consultation draft EIS was circulated to the Town of Collingwood/NVCA in July 2021. This EIS resubmission seeks to address comments received from the pre-consultation and continued discussions with NVCA, and NVCA and municipal review comments arising from a previous EIS submission.

Initial natural heritage investigations were undertaken by Birks Natural Heritage Consultants Inc. in the early spring of 2021. LGL was retained to address data gaps and prepare the EIS Report on behalf of IPCG, with support from Loft Planning Inc. and Tatham Engineering Limited. DS was added to the consultant team to address hydrogeological aspects relating to the adjacent natural heritage features and the proposed site plan.

1.1 Revisions

This EIS resubmission includes notable revisions to reflect changes in legislation at the municipal and provincial levels. These include referencing the Town of Collingwood Official Plan (2024), new regulations (since the previous EIS submissions) associated with the *Endangered Species Act*, specifically Ontario Regulation 829/21, Ontario Regulation 830/21, revisions to the Species at Risk in Ontario list (i.e., uplisting of bat species), replacement of NVCA Regulation 176/06 with Ontario Regulation 41/24, and replacement of the Provincial Policy Statement 2014 with the Provincial Planning Statement 2024. Additionally, the revised EIS seeks to address review comments provided by the Town of Collingwood and the NVCA.

1.2 Proposed Undertaking

The proposal involves planning approvals for a residential development by way o f condominium tenure and includes:

- Official Plan Amendment
- Zoning By-law Amendment
- Site Plan Approval
- exemption to Plan of Condominium
- NVCA Development Permit

The portion of the Subject Property includes wetland habitat and is proposed to be rezoned Environmental Protection (EP).

1.3 Associated Studies

The following studies support the development application and may provide insight valuable for an assessment of potential impacts on the natural heritage system:

- Planning Justification Report – Loft Planning
- Preliminary Hydrogeology Report – DS Consultants, February 2023
- Additional Hydrogeological Investigation – DS Consultants, April 2025
- Wetland Risk Evaluation and Feature Water Balance Study, GBS Consultants, April 2025
- Surface Water and Groundwater Level Monitoring, DS Consultants, October 2024
- Water Taking and Discharge Plan, Tatham Engineering, June 2025
- Fill Management Plan, Tatham Engineering, June 2025
- Erosion and Sedimentation Control Plan, Tatham Engineering, June 2025
- Soil Management Plan, Tatham Engineering, June 2025
- Construction Management Plan, Tatham Engineering, June 2025
- Design Drawings, Tatham Engineering, June 2025

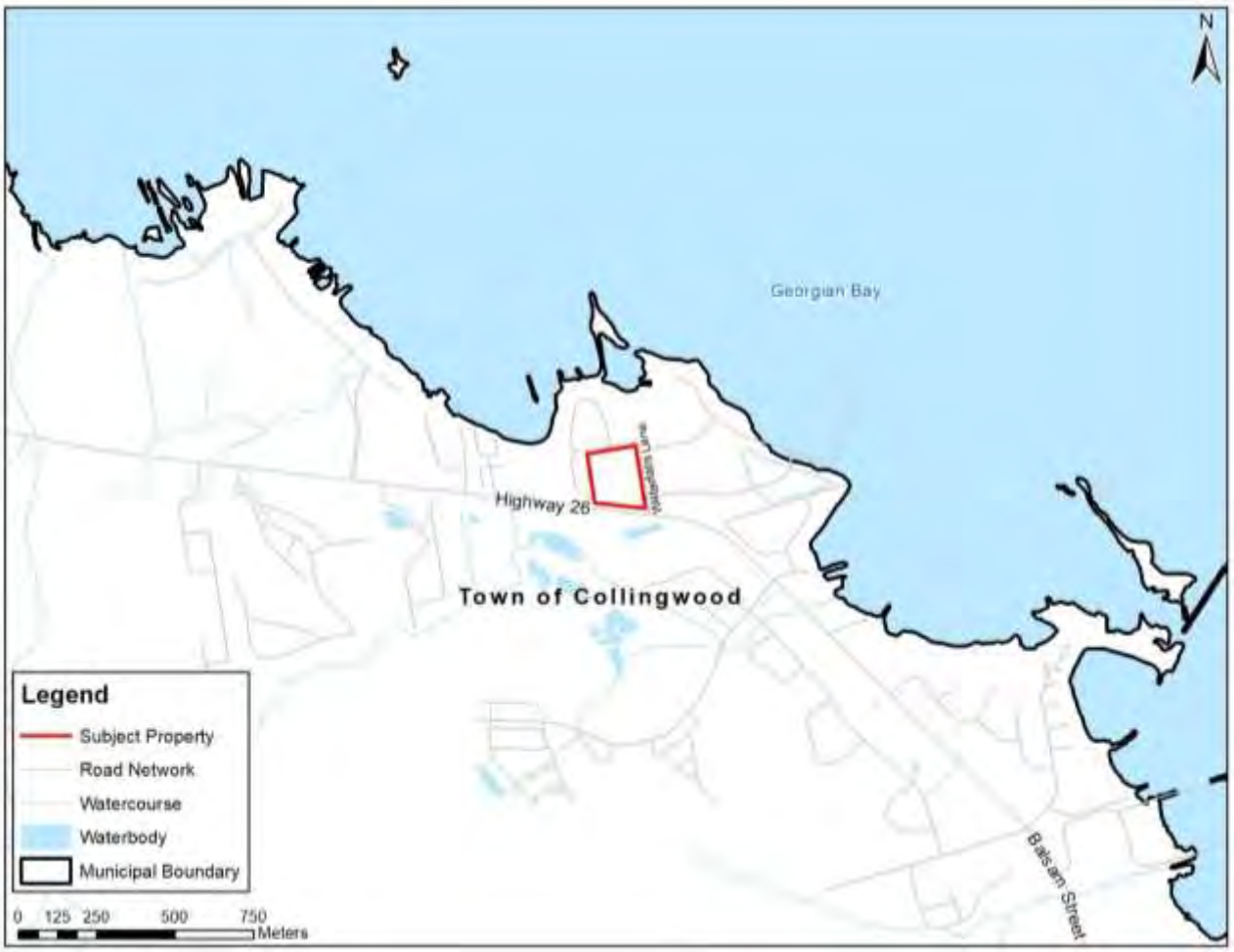
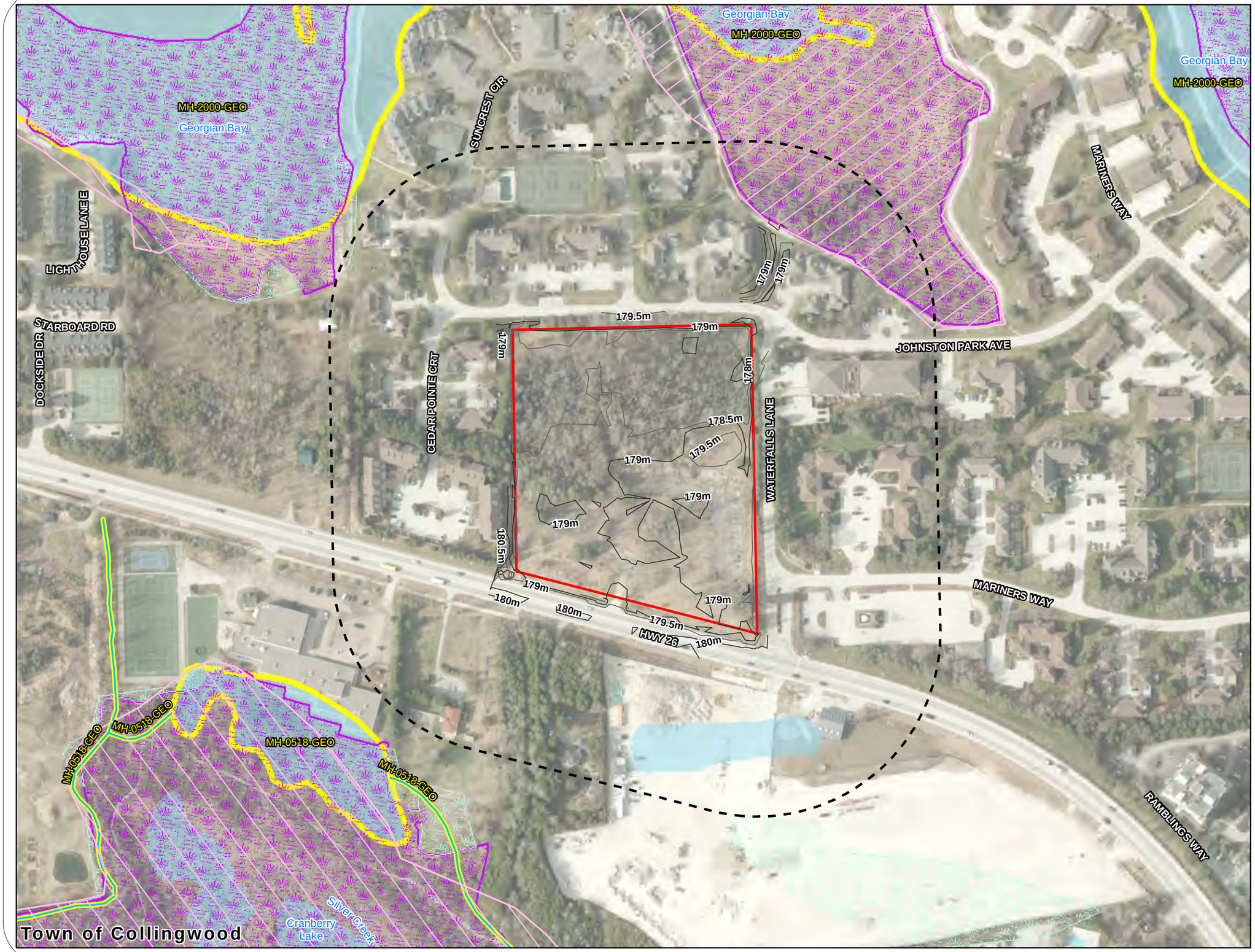


Figure 1. Key Map



LEGEND

- Subject Property
- Topographic Contour (1m Interval)
- Topographic Contour (0.5m Interval)
- Water Thermal Regime Not Known (Ontario GeoHub)
- Waterbody (Ontario GeoHub)
- Provincially Significant Wetland (Ontario GeoHub): Silver Creek Wetland Complex (CL7)
- Unevaluated Wetland (Ontario GeoHub)

Data sources: LGL Limited fiels survey, Birks Natural Heritage Consultants, Inc., County of Simcoe, Nottawasaga Valley Conservation Authority.

0 50 100 m

N

11476 Highway 26
Subject Lands Setting
Background Information

LGL LIMITED
environmental research associates

Project:	TA9135	**Figure:**	2
Date:	June, 2025	**Prepared By:**	AME
Scale:	1:2,400	**Verified By:**	MJO

2 Policy Context and Implications

To effectively assess the potential impacts of a proposed project it is important to understand the environmental protection policy framework governing the site. The following subsections briefly discuss relevant legislation and policy:

- Town of Colllingwood Official Plan, 2024
- Provincial Policy Statement, 2024
- Ontario Regulation 41/24 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses), NVCA
- Significant Wildlife Technical Guide (2020) and Criteria Schedule 7E (2015)
- *Endangered Species Act, 2007*
- *Migratory Bird Convention Act, 1994,* and Migratory Bird Regulations, 2022
- *Species at Risk Act, 2002*
- *Fisheries Act, 2019*

2.1 Town of Collingwood Official Plan

The policies governing the Subject Lands have notably changed with the updated Official Plan (2024) publication. Relevant policies are listed below.

2.1.1 Relevant Official Plan Policies

Natural Heritage System (a)- It is the intent of this Plan to ensure that the biodiversity, ecological function and connectivity of the Natural Heritage System is protected, maintained, restored or, where possible, enhanced for the long-term, recognizing linkages between and among natural heritage features and areas, hazard lands, source water resources, surface water features and ground water features.

The Natural Heritage System is intended to:

- Recognize the watershed and subwatersheds as the ecologically meaningful scale of integrated long-term planning, the evaluation of cumulative and climate change impacts, and the minimization of cross-jurisdictional impacts of development.
- Protect the health and water quality of the Nottawasaga Bay Shoreline and the Nottawasaga Valley Watershed, and its associated tributaries as a complete water resource system.
- Protect source water, surface and underground water resources.
- Plan for the efficient and sustainable use of water resources.
- Conserve native biodiversity and enhance climate change resiliency and carbon sequestration.
- Protect all significant natural heritage features and their associated ecological functions using a system-wide approach.
- Provide for or maintain connections and linkages between significant natural heritage features that maintain functionality and provide corridors for wildlife movement.
- Enhance the protection of public health and safety from natural hazards, including flooding.

(b) The Natural Heritage System identified is comprised of one designation and an overlay:

- The Environmental Protection Designation, which comprises the identified significant natural heritage features and an associated 30 metre buffer, that the Town shall protect and conserve - identified on Schedule 3.
- The Adjacent Lands Overlay, which is based on an approximate 90 metre setback from the boundary of the Environmental Protection Designation and is intended to act as a trigger for the completion of an Environmental Impact Study when required by the Town- identified on Schedule 3.

(c) The Natural Heritage System is also protected through a number of Town wide policies that are related to:

- Natural Hazards, which are generally integrated within the Environmental Protection Designation, with some additional information included on Schedule 3.
- Stormwater Management
- Endangered Species/Species at Risk
- Urban Forestry
- Source Water Protection

The Environmental Protection Designation includes a 30 m buffer from identified natural heritage features to protect their ecological and hydrological functions. The 30 m buffer is a minimum buffer and may be adjusted as a result of further analysis carried out in an EIS.

No buildings or structures, nor the cutting of trees, site alteration, or the removal or placing of fill of any kind, whether originating on the site or elsewhere, may be permitted within the Environmental Protection Designation, except with the approval of the Town in consultation with the Conservation Authority and any other agency having jurisdiction. Lands within the Environmental Protection Designation shall generally not form part of any new lots to be created for the purposes of development, other than to facilitate the establishment of the uses permitted by this Plan.

Environmental Impact Study (e)-Where development, redevelopment, and/or site alteration is proposed within the Environmental Protection Designation, the Town shall require that an Environmental Impact Study be prepared by a qualified professional with appropriate in-season field work, and in accordance with any applicable Federal, Provincial, and Town requirements that demonstrates that there will be no negative impacts on any natural heritage features, or their ecological functions, to the satisfaction of the Town, in consultation with the Conservation Authority and any other agency having jurisdiction.

(f) All proponents are encouraged to consult and engage Indigenous peoples in the preparation of Environmental Impact Studies.

(g) Where fish habitat and/or the habitat of endangered species and/or the habitat of threatened species are identified, the required Environmental Impact Study shall ensure that all Provincial and Federal requirements have been satisfied.

No Negative Impact (i)- The establishment of any permitted use shall demonstrate no negative impact to any element of the Natural Heritage System or associated ecological functions, as demonstrated through the required Environmental Impact Study. Where a permitted use requires impact mitigation, the mitigation shall result in no negative impact on the natural heritage features or their ecological functions.

Compensation Where Impact Unavoidable (j)- Where development, redevelopment, and/or site alteration is necessary within the Environmental Protection Designation, and a negative impact is unavoidable as identified through an Environmental Impact Study, then the Town, in consultation with the Conservation Authority and any other agency having jurisdiction, may accept a compensatory mitigation approach. Where compensatory mitigation is proposed, it must be demonstrated through an Environmental Impact Study that the mitigation results in no net loss of the natural heritage features and/or their supporting ecological functions.

Existing Approvals (n)- Where a development has been partially, but not fully approved, and still requires subsequent approvals under the Planning Act, or where a request to extend an existing approval is made, the Town may require that an updated Environmental Impact Study or scoped environmental review be carried out to ensure that there is no negative impact to the Natural Heritage System and any supporting ecological functions in support of an extension to an existing approval, or any new approval required under the Planning Act.

Endangered Species/Species at Risk

In addition to the Natural Heritage System identified on the Schedules to this Plan, it is a requirement of this Plan that all applications for development, regardless of whether they are within a defined element of the Natural Heritage System, be accompanied by an analysis of Species at Risk, in accordance with Provincial legislation and policies to ensure the long-term conservancy of habitat for threatened and endangered species. Such an analysis shall be prepared by a qualified professional, with appropriate in-season field work, to the satisfaction of the Town, in consultation with the Province and any other agency having jurisdiction and may be scoped based on the scale and nature of the development proposed. The Town may require information of adherence to this policy through conditions of approval for site plan/subdivision/condominium.

2.1.2 Overlays and Designations

Schedule 1 illustrates the Subject Lands as Strategic Growth Areas and Greenlands System.

Schedule 2 illustrates the Subject Lands as Mixed-Use Corridor II and Environmental Protection.

Schedule 4 illustrates the Subject Lands as Highly Vulnerable Aquifer

Appendix 3 Figure 8 illustrates the Subject Lands as Provincially Significant Wetland (Silver Creek Wetland Complex CL7).

Appendix 3 Figure 10 illustrates the Subject Lands as Woodlands.

Appendix 3 Figure 13 illustrates the Subject Lands as NVCA Wetlands

Appendix 3 Figure 15a illustrates the Subject Lands as Other Environmental Features (woodlands, wetlands, hedgerows).

2.2 Provincial Planning Statement, 2024

The Provincial Planning Statement (PPS) (Ministry of Municipal Affairs and Housing, effective October 20, 2024) is issued under Section 3 of the *Planning Act*. The PPS provides policy direction for development that protects resources of provincial interest, public health and safety, and the quality of the natural environment:

> *Chapter 4.1 describes Wise Use and Management of Resources:*
>
> *4.1.1 Natural features and areas shall be protected for the long term.*
>
> *4.1.2. The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.*
>
> *4.1.3. Natural heritage systems shall be identified in Ecoregions 6E & 7E1, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.*
>
> *4.1.4. Development and site alteration shall not be permitted in a) significant wetlands in Ecoregions 5E, 6E and 7E1 ; and b) significant coastal wetlands.*
>
> *4.1.5. Development and site alteration shall not be permitted in:*
>
> *a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E1;*

b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1;

c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1;

d) significant wildlife habitat;

e) significant areas of natural and scientific interest; and

f) coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy 4.1.4.b),

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

4.1.6. Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

4.1.7. Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

4.1.8. Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 4.1.4, 4.1.5, and 4.1.6 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 functions.

4.1.9. Nothing in policy 4.1 is intended to limit the ability of agricultural uses to continue.

Negative impacts mean, in the context of the PPS and regarding other natural heritage features and areas, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple, or successive development or site alteration activities.

Consistent with the PPS, this submission uses the following terms and definitions:

“Ecological function” describes the natural processes, products, or services that living and non-living environments provide or perform within or between species, ecosystems, and landscapes. These may include biological, physical, and socio-economic interactions.

“Negative impacts (fish habitat)” are the harmful alteration, disruption or destruction of fish habitat, except where an exemption to the prohibition has been authorized under the *Fisheries Act*.

“Negative impacts (natural heritage features and areas)” describes degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple, or successive development or site alteration activities.

“Natural heritage features and areas” means features and areas, including significant wetlands, significant coastal wetlands, other coastal wetlands in Ecoregions 5E, 6E and 7E, fish habitat, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary’s River), habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area.

2.3 Federal Fisheries Act – Projects Near Water

The *Fisheries Act* requires that new developments avoid causing serious harm to fish unless authorized by the Minister of Fisheries and Oceans Canada. This applies to work being conducted in or near waterbodies that support fish that are part of, or support, a commercial, recreational, or Aboriginal fishery.

2.4 Migratory Birds Convention Act

The *Migratory Birds Convention Act* is administered by the Canadian Wildlife Service of Environment Canada and enables regulations that require authorization for designs which cause permanent destruction/disturbance of migratory bird habitat and authorization for killing/removing migratory bird fledglings, eggs, nests, or for other harmful activity to migratory birds to enable bridge construction/demolition, construction access, and construction work areas. The subject property falls within Environment Canada's Nesting Zone C2 (Nesting Period: early April to late August).

2.5 Endangered Species Act, 2007

The *Ontario Endangered Species Act* (ESA, 2007) provides for the conservation, protection, restoration, and propagation of species of fauna and flora of the Province of Ontario that are threatened with extinction. The ESA (2007) outlines the responsibilities of the Committee on the Status of Species at Risk in Ontario (COSSARO) in the listing of Species at Risk, the preparation of recovery strategies for endangered or threatened species, and the preparation of management plans for special concern species.

Section 9 of the ESA prohibits similar activities as the SARA, such as prohibitions on the kill, harm, harassment, capture, or take of a living Species at Risk, or to possess, transport, collect, buy, sell, lease, or trade a Species at Risk (living or dead). Section 10 of the ESA prohibits the damage or destruction of habitat of endangered, threatened, or extirpated species. Permits may be issued under Section 17 (2) of the ESA should a project result in a contravention of Section 9 and/or 10 of the ESA. As part of the permit process, an "overall benefit" to the impacted species must be included in the compensation package.

Note that the *Protect Ontario by Unleashing our Economy Act*, 2025, is repealing and replacing the ESA with the *Species Conservation Act* and is intending to streamline project approvals in part by removing some existing protections for at-risk species and modifying how habitat is designed. However, until these changes are fully in effect, the following existing Ontario Regulations are considered valid in context of this EIS submission.

2.5.1 Ontario Regulation 242/08

Ontario Regulation 242/08, under the *Endangered Species Act*, 2007, outlines various provisions related to the protection and management of species at risk in Ontario. Key sections include exemptions for specific species, protection of health and safety, development and infrastructure, stewardship activities, and condition exemptions.

2.5.2 Ontario Regulation 829/21

Ontario Regulation 829/21, under the *Endangered Species Act*, 2007, establishes species conservation charges for activities impacting certain at-risk species and their habitats. It designates six species- Barn Swallow, Blanding's Turtle, Bobolink, Butternut, Eastern Meadowlark, and Eastern Whip-poor-will- as conservation fund species. The regulation outlines the calculation of charges based on the potential impact of activities, with funds directed towards conservation efforts. It also includes provisions for payment, refunds, and adjustments for inflation

2.5.3 Ontario Regulation 830/21

Ontario Regulation 830/21, under the *Endangered Species Act,* 2007, provides exemptions for activities impacting four species: Barn Swallow, Bobolink, Eastern Meadowlark, and Butternut. It allows individuals and organizations to

create new habitat and meet specific conditions to qualify for exemptions. The regulation outlines the process for submitting notice forms, maintaining records, and updating information. It aims to balance development activities with the conservation of these at-risk species.

2.6 The Species at Risk Act, 2002

The *Species at Risk Act* (SARA) provides legal protection for listed species and their critical habitat, including prohibition against activities that could harm or kill them. The Act has provisions to protect the critical habitat of listed species. On private land, SARA prohibitions apply only to aquatic species listed as endangered, threatened, or extirpated in Schedule 1 of SARA, and migratory birds listed in the *Migratory Birds Convention Act*, 1994 and also listed as endangered, threatened or extirpated in Schedule 1 of SARA.

3 Background Information

3.1 Ontario Geohub

There is an unnamed drainage feature along the western property boundary of the Subject Lands, likely conveying a combination of drainage from the Cranberry Lake wetland feature to the south and overland flow from Highway 26. Silver Creek is located south of the Subject Lands, originating in spring-fed tributaries, supporting a permanent trout fishery. Georgian Bay lies to the north of the Subject Lands. The property is 66 m away from Provincially Significant Wetland, Silver Creek Wetland Complex (CL7). There is also an unevaluated wetland within the property, though the wetland limits mapped in LIO do not match those provided by NVCA. Further details on this wetland feature are described in Section 5.2. The wooded area found within the Subject Lands does not meet the criteria for Environmental Protection area: Category 1 or 2 Woodland (Collingwood OP, Schedule B) (Figure 2).

3.2 Natural Heritage Information Centre

The MNRF's NHIC database was searched for Species at Risk and provincial rank S1-S3. Of note is that data provided by the NHIC database is not necessarily the most current information available. According to the NHIC, the following species have been observed near the Subject Lands within the past 20 years:

- Bobolink (Threatened)
- Eastern Meadowlark (Threatened)
- Eastern Ribbonsnake (Special Concern)
- Lake Sturgeon, Great Lakes- Upper St. Lawrence River population (Threatened)
- Snapping Turtle (Special Concern)
- Stiff Yellow Flax (S3?)

S1 = Critically imperiled in Ontario because of extreme rarity (often 5 or fewer occurrences) or because of some factor (s) such as very steep declines making it especially vulnerable to extirpation.

S2 = Imperiled in Ontario because of rarity due to very restricted range, very few populations (often 20 or fewer occurrences) steep declines or other factors making it very vulnerable to extirpation.

S3 = Vulnerable in Ontario due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

Endangered (END) = A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's Endangered Species Act.

Threatened (THR) = A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

Special Concern = A species with characteristics that make it sensitive to human activities or natural events.

3.3 Ontario Reptile and Amphibian Atlas

The Ontario Reptile and Amphibian Atlas (ORAA) was searched for Species at Risk. Of note, the data resolution of the ORAA is 10 x 10 km squares. The following species have been recorded in the ORAA square (17NK52) encompassing the Subject Lands:

- Eastern Ribbonsnake (Special Concern)
- Snapping Turtle (Special Concern)

Endangered (END) = A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's Endangered Species Act.

Threatened (THR) = A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

Special Concern = A species with characteristics that make it sensitive to human activities or natural events.

3.4 Ontario Breeding Bird Atlas

The Ontario Breeding Bird Atlas (OBBA) was searched for Species at Risk. Of note, the data resolution of the OBBA is 10 x 10 km squares. The following species have been recorded in the OBBA square (17NK52) encompassing the Subject Lands during the most recent atlas period (2020-25):

- Barn Swallow (Special Concern): confirmed breeding
- Bobolink (Threatened): probable breeding
- Canada Warbler (Threatened): probable breeding
- Eastern Meadowlark (Threatened): probable breeding
- Eastern Wood-pewee (Special Concern): probable breeding
- Wood Thrush (Threatened): probable breeding

Endangered (END) = A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's Endangered Species Act.

Threatened (THR) = A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

Special Concern = A species with characteristics that make it sensitive to human activities or natural events.

3.5 Ontario Mammal Atlas

The Ontario Mammal Atlas (OMA) was searched for records of Species at Risk. Due to the difficulty of tracking bat species, atlas records were cross referenced with provincial assessment reports for all SAR bats. The following species have been recorded or are known to occur near the Subject Lands:

- Eastern Red Bat (Endangered)
- Eastern Small-footed Myotis (Endangered)
- Hoary Bat (Endangered)
- Little Brown Myotis (Endangered)
- Northern Myotis (Endangered)
- Silver-haired Bat (Endangered)
- Tri-colored Bat (Endangered)

Endangered (END) = A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's Endangered Species Act.

Threatened (THR) = A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

Special Concern = A species with characteristics that make it sensitive to human activities or natural events.

3.6 Ontario Butterfly Atlas

The Ontario Butterfly Atlas (OBA) was searched for Species at Risk. Of note, the data resolution of the OBA is 10 x 10 km squares. The following species have been recorded in the OBA (17NK52) square encompassing the Subject Lands:

- Monarch (Special Concern)

Endangered (END) = A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's Endangered Species Act.

Threatened (THR) = A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

Special Concern = A species with characteristics that make it sensitive to human activities or natural events.

4 Characterizing the Natural Environment – Approach and Methodology

Initial early season natural heritage field surveys at the Subject Property were undertaken by Birks Consulting, with additional, supplementary investigations undertaken by LGL.

LGL conducted surveys to document the existing natural heritage features and functions of the Subject Lands and Study Area. These included feature boundary delineations, Ecological Land Classification (ELC) and botanical inventories, breeding bird surveys, and significant wildlife habitat screening/assessment, and SAR assessments. **Table 1.** Biophysical Surveys provides a description of natural heritage surveys that were completed as part of the EIS.

Table 1. Biophysical Surveys

Date of Inventory	Environmental Conditions	Task	Survey Methodology	Survey Firm
April 28, 2021	Clear, 7°C, wind 3 km/hr N	General reconnaissance, anuran call survey	Marsh Monitoring Protocol	Birks Consulting
May 20, 2021	Clear, 22°C, wind 4 km/hr S	Anuran call survey	Marsh Monitoring	Birks Consulting

Date of Inventory	Environmental Conditions	Task	Survey Methodology	Survey Firm
			Protocol	
June 1, 2021	Clear, 13°C, wind 0 km/hr	Breeding bird survey	Bird Studies Canada, Breeding Bird Survey	Birks Consulting
June 5, 2021	Clear, 29°C, wind 17 km/hr SW	General reconnaissance	Pedestrian surveys	LGL
June 14, 2021	Clear, 15°C, wind 2 km/hr S	Breeding bird survey, general wildlife search	Bird Studies Canada, Breeding Bird Survey Pedestrian Surveys	LGL
June 18, 2021	Clear, 22°C, wind 5 km/hr W	Anuran call survey	Marsh Monitoring Protocol	LGL
June 30, 2021		Botanical inventory, ELC	Ecological Land Classification for Southern Ontario	LGL
June 22, 2022, deployment	Clear, 15°C, wind 10 km/hr N	Acoustic Recording Unit	Bat Survey Standard, 2022	LGL
June 28, 2022	Clear, 21°C, wind 10 km/hr W	Wetland community boundary staking	Ontario Wetland Evaluation System, wetland delineation	LGL and NVCA
July 7, 2022,	Overcast, light rain, 15°C, wind 5 km/hr E	Acoustic Recording Unit Retrieval	n/a	LGL Limited

5 Existing Conditions

5.1 Physiography

The Subject Lands are part of the lowlands of the Nottawasaga Basin bordering Georgian Bay known as the Simcoe Lowlands physiographic region (Chapman and Putnam, 1984). This area was flooded by the ancient Lake Algonquin and is now located east of Silver Creek in the Blue Mountains subwatershed of the Nottawasaga River Watershed (NVCA 2018). The soil type for the Subject Lands is identified as Kemble clay - shallow phase, characterized by light brown, calcareous clay loam till, founded on Brown Forest soils. This soil type is slightly stony and imperfectly drained (Hoffman et al., 1962).

5.2 Vegetation and Vegetation Communities

5.2.1 Purpose

The geographical extent, composition, structure, and function of vegetation communities were identified through air photo interpretation and field investigations. Air photos were interpreted to determine the limits and characteristics of vegetation communities. Investigations of the vegetation communities within the subject property were conducted on June 30, 2021, and June 28, 2022.

Vegetation communities were classified according to the *Ecological Land Classification for Southern Ontario: First Approximation and Its Application* (Lee et al. 1998). The communities were sampled using a plotless method for the purpose of determining general composition and structure of the vegetation. Plant species' status was reviewed for Ontario (Oldham 2009), and Collingwood (Natural Resource Systems Inc. 2012). Vascular plant nomenclature follows Newmaster et al. (1998) with a few exceptions that have been updated to Newmaster et al. (2007).

5.2.2 Vegetation Communities

The study area is comprised of a mixture of forest, wetland and cultural vegetation communities. A total of eight Ecological Land Classification (ELC) vegetation community types were identified within the study area including: Fresh-Moist White Cedar Hardwood Forest (FOM7-2), White Cedar Mineral Coniferous Swamp (SWC1-1), Green Ash Mineral Deciduous Swamp (SWD2-2), White Cedar-Hardwood Mixed Swamp (SWM1-1), Great Lakes Graminoid Coastal Meadow Marsh (MAM4-1), Forb Mineral Meadow Marsh (MAM2-10), Dry-Moist Old Field Meadow (CUM1-1), and Mineral Cultural Woodland (CUW1). All the vegetation communities identified within the study area are considered widespread and common in Ontario and are secure globally except for the MAM4-1. The Great Lakes Graminoid Coastal Meadow Marsh community is considered provincially rare and is ranked as a S2 vegetation community which has between 5 to 20 occurrences within the province (NHIC 2022). These communities are delineated in Figure 3 and described in Table 2.

LEGEND

- Subject Property

Anuran Call Survey Station

- LGL
- Birks NHC

Breeding Bird Point Count Station

- LGL
- Birks NHC
- Bat Snag Tree
- Tree Location - Black Ash *Fraxinus nigra*
- Wetland Boundary Endorsed by NVCA June 28, 2022
- Drainage Ditch (LGL/Birks)
- Existing Pavement Cover

Vegetation Community

- Vegetation Community Boundary

CUM1-1	Dry-Moist Old Field Meadow Type
CUW1	Mineral Cultural Woodland Ecosite
FOM7-2	Fresh–Moist White Cedar–Hardwood Mixed Forest Type
H	Hedgerow
MAM2-10	Mixed Forb Mineral Meadow Marsh Type
MAM4-1	Great Lakes Coastal Meadow Marsh
SWC1-1	White Cedar Mineral Coniferous Swamp Type
SWD2-2	Green Ash Mineral Deciduous Swamp Type
SWM1-1	White Cedar-Hardwood Mixed Swamp Type

0 25 50 m

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11476 Highway 26
Existing Natural Heritage Features on Subject Property

LGL LIMITED
environmental research associates

Project:	TA9135	**Figure:**	3
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Scale:	1:1,100	**Verified By:**	MJO

Data Sources: LGL Limited field survey, Birks Natural Heritage Consultants, Inc., County of Simcoe & Nottawasaga Valley Conservation Authority.

Table 2. Summary of Ecological Land Classification

ELC Code	Vegetation Type	Species Association	Community Characteristics
TERRESTRIAL – NATURAL/SEMI-NATURAL			
FOM	Mixed Forest		
FOM7-2	Fresh-Moist White Cedar-Hardwood Mixed Forest	**Canopy:** includes eastern white cedar (*Thuja occidentalis*), red ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), and white birch (*Betula papyrifera*). **Sub-canopy:** includes eastern white cedar, trembling aspen (*Populus tremuloides*), red ash, and white ash. **Understory:** includes eastern white cedar, balsam poplar (*Populus balsamifera* ssp. *balsamifera*), red ash, trembling aspen, tartarian honeysuckle (*Lonicera tatarica*), common buckthorn (*Rhamnus cathartica*), and alternate-leaved dogwood (*Cornus alternifolia*). **Ground Cover**: includes spotted touch-me-not (*Impatiens capensis*), meadow horsetail (*Equisetum pratense*), poison-ivy (*Toxicodendron radicans* ssp. *negundo*), and periwinkle (*Vinca minor*).	• Tree cover > 60 % (FO). • Coniferous trees > 25 % and deciduous trees > 25 % of canopy cover (M). • Middle to lower slopes, seepage areas and bottomlands topographic positions (7). • Hardwood associates (-2).
TERRESTRIAL – CULTURAL			
CUM	Cultural Meadow		
CUM1-1	Dry-Moist Old Field Meadow	**Emergent Trees/Shrubs**: includes white spruce (*Picea glauca*), red ash, and ninebark (*Physocarpus opulifolius*). **Ground cover:** includes Kentucky bluegrass (*Poa pratensis* ssp. *pratensis*), goldenrod (*Solidago* sp.), scarlet strawberry (*Fragaria virginiana* ssp. *virginiana*), black medick (*Medicago lupulina*), awnless brome (*Bromus inermis* ssp. *inermis*), and common milkweed (*Asclepias syriaca*).	• Cultural communities (CU). • Tree cover and shrub cover < 25 % (M). • Mineral soil (1). • This community can occur on a wide range of soil moisture regimes (Dry-Moist) (-1).
CUW	Cultural Woodland		
CUW1	Mineral Cultural Woodland	**Canopy:** includes Colorado spruce (*Picea pungens*), scotch pine (*Pinus sylverstris*), sugar maple (*Acer saccharum* var. *Saccharum*), balsam fir (*Abies balsamea*), red ash, and white spruce.	• Cultural communities (CU). • 25 % < tree cover < 35 % (W). • Mineral Soil (1).

ELC Code	Vegetation Type	Species Association	Community Characteristics
		Understory: includes riverbank grape (*Vitis riparia*), common buckthorn, and common apple (*Malus pumila*). **Ground cover:** includes Kentucky bluegrass, common ragweed (*Ambrosia artemisiifolia*), ribgrass (*Plantago lanceolata*), bird's-foot trefoil (*Lotus corniculatus*), and flat-topped bushy goldenrod (*Euthamia graminifolia*)	
WETLAND			
SWC	**Coniferous Swamp**		
SWC1-1	White Cedar Mineral Coniferous Swamp	**Canopy:** includes eastern white cedar, red ash, and white birch. **Sub-canopy and Understory:** includes eastern white cedar, red ash and white birch. **Ground cover:** includes northern water-horehound (*Lycopus uniflorus*), awl-fruited sedge (*Carex stipata*), common water-plantain (*Alisma plantago-aquatica*), spotted touch-me-not, fowl manna grass (*Glyceria striata*), and coltsfoot (*Tussilago farfara*).	• Tree or shrub cover >25% and dominated by hydrophytic shrub and tree species (SW). • Conifer tree cover >75% of canopy cover (C). • White cedar dominant (1). • Almost entire dominated by white cedar (-1).
SWD	**Deciduous Swamp**		
SWD2-2	Green Ash Mineral Deciduous Swamp	**Canopy:** includes red (green) ash, eastern white cedar, trembling aspen, white ash, black ash (*Fraxinus nigra*), and white willow (*Salix alba*). **Sub-canopy:** includes red ash, white ash, cottonwood (*Populus deltoides*), trembling aspen, and eastern white cedar **Understory:** includes red ash, cottonwood, red-osier dogwood (*Cornus sericea* ssp. *sericea*), balsam poplar, trembling aspen, and eastern white cedar. **Ground cover:** includes northern water-horehound, lake-bank sedge (*Carex lacustris*), common water-plantain, meadow horsetail, sensitive fern (*Onoclea sensibilis*), and lesser duckweed (*Lemna minor*).	• Tree or shrub cover >25% and dominated by hydrophytic shrub and tree species (SW). • Deciduous tree cover >75% of canopy cover (D). • Ash dominant swamp (2). • Green (red) ash dominant (-2).

ELC Code	Vegetation Type	Species Association	Community Characteristics
SWM	**Mixed Swamp**		
SWM1-1	White Cedar-Hardwood Mixed Swamp	**Canopy:** includes eastern white cedar, ash species, and white birch. **Understory:** includes eastern white cedar, poplar species, and red ash. **Ground Cover**: includes spotted touch-me-not, periwinkle, poison ivy and horsetail species (*Equisetum* sp.).	• Tree or shrub cover >25% and dominated by hydrophytic shrub and tree species (SW). • Deciduous tree species >25% and coniferous tree species >25% of canopy cover (M). • White cedar dominant (1). • White cedar hardwood mixed (-1).
MAM	**Meadow Marsh**		
MAM4-1	Graminoid Coastal Meadow Marsh	**Emergent Trees/Shrubs:** includes red-osier dogwood, balsam poplar, trembling aspen, eastern white cedar and round-leaved dogwood. **Ground cover:** includes Canada Bluejoint **(***Calamagrostis canadensis),* Baltic rush *(Juncus arcticus),* common three-square *(Schoenplectus pungens* var. *pungens)*, broad-leaved cattail (*Typha latifolia*), narrow-leaved cattail (*Typha angustifolia*), soft rush (*Juncus effusus* ssp. *solutus*), purple loosestrife (*Lythrum salicaria*), riverbank grape, yellow sedge (*Carex flava),* variegated scouring rush (*Equisetum variegatum),* and Bebb's sedge (*Carex bebbii*).	• Tree and shrub cover <25% with variable flooding regimes (water depth <2m) (MA). • Species less tolerant of prolonged flooding (MAM). • Great Lakes Coastal (4). • Graminoid dominant (-1).
MAM2-10	Forb Mineral Meadow Marsh	**Ground Cover**: includes horsetail, sedge species (*Carex* spp.), Canada goldenrod (*Solidago canadensis*), narrow-leaved cattails (*Typha angustifolia*), and common milkweed (*Asclepia syriaca*).	• Tree and shrub cover <25% with variable flooding regimes (water depth <2m) (MA). • Species less tolerant of prolonged flooding (MAM). • Mineral substrate (2). • Forb Dominant (-10).
OTHER**	**Manicured and Hedgerow**		
H	Conifer Hedgerow	**Trees/shrubs:** Colorado spruce.	• Colorado spruce hedge

The natural/semi-natural features within the subject property consist of several different wetland and forest communities. Several swamp communities were identified within the central and northern portions of the subject property, partially consistent with the limits of the unevaluated wetland identified by MNRF and NVCA. The swamp community consists of three contiguous vegetation communities dominated by deciduous and coniferous tree species. Within the portion of the swamp dominated by Ash trees species, standing water was observed to be approximately 25 cm deep at the time of LGL's field investigation. The Ash trees within the community are generally showing signs of significant decline which is likely because of Emerald Ash borer infestation. Minimal regeneration was observed to be occurring within the Ash-dominated swamp. The portion of the swamp on the western side of the subject property consisted of a cedar swamp and mixed cedar-hardwood swamp. Species within these two

swamp communities were similar to those identified within the SWD2-2, however a higher portion of Eastern White Cedar was observed.

The Eastern White Cedar trees were showing signs of decline with varying level of crown dieback. Standing water within the Cedar swamp was observed to be approximately the same depth as in the Ash swamp. The mixed swamp company was observed to have no standing water during LGL field investigations in 2021 and 2022. A small coastal meadow marsh community was identified in the northwest corner of the subject property. The coastal nature of this community was confirmed by NVCA following the June 28, 2022, site visit. This community supports a variety of wetland species and is generally associated with the drainage feature identified within the subject property. A small mixed forest community was identified along the southern edge of the mixed swamp. This community was largely dominated by Eastern White Cedar in the canopy and these trees were observed to be in fair to good condition. In general, the forest and wetland communities within the study area support a higher proportion of native and specialized plant species and are of moderate to high quality.

Following the joint LGL/NVCA site visit in June 2022, NVCA ecology staff conferred with MNRF staff to confirm the coastal wetland designation and evaluation status of the wetland communities on the subject property. MNRF has confirmed (pers. comm between S. Varga, MNRF and E. Perry, NVCA) the coastal wetland designation and intends to include the currently unevaluated wetland communities into the neighbouring Silver Creek Provincially Significant Wetland Complex.

A small Forb-Mineral Meadow Marsh (MAM2-10) was identified during the wetland staking with NVCA in June 2022. This community is located on the east side of the subject property and parallels the drainage feature on site.

The cultural vegetation communities within the subject property contain a high proportion of non-native plant species that are well adapted to persist in areas that are regularly disturbed, including species that are adapted to high light conditions and limited soil moisture and species that are tolerant of salt spray. In general, the cultural vegetation communities within the study area are considered to be low quality.

One community that is not identified as an ELC vegetation community was identified within the study area. A coniferous hedgerow (H) was identified on the eastern side of the property and includes trees that have been planted or have likely been maintained for the purpose of preserving a screen between the subject property and the adjacent residential units and local roadways.

5.2.3 Flora

A total of 118 plant species have been recorded within the study area. Six of these plants could only be identified to genus and are not included in the following calculations. Of the 112 plant species identified, 65 (58%) plant species identified are native to Ontario and 47 (42%) plant species are considered introduced and non-native to Ontario. A list of vascular plants is presented in **Appendix B**. Definitions of the acronyms and species ranks used in **Appendix B** are described in **Appendix C**.

Several Black Ash (*Fraxinus nigra*) were identified within the swamp communities (SWD2-2 and SWM1-1) during detailed tree inventories. Black Ash is listed as "Endangered' under the *Ontario Endangered Species Act* (ESA). Discussion is provided in **Section 6**.

5.3 Feature Boundary Delineations

As noted in **Table 1**, the wetland boundary was staked by LGL June 22, 2022, and endorsed by NVCA concurrently. Wildlife and Wildlife Habitat

5.3.1 Purpose

Wildlife surveys were undertaken by LGL on June 14 and June 18, 2021. As noted above (**Table 1**), additional wildlife surveys were also conducted by Birks on April 28, May 20, and June 1, 2021. LGL deployed an acoustic recording

unit on the subject property during the period June 22 to July 7, 2022. The purpose of the investigation was to document wildlife and wildlife habitat and to characterize the nature, extent, and significance of wildlife use on the Subject Lands. Investigations included breeding bird surveys, anuran call surveys, observations of wildlife occurrence, wildlife habitat assessment, and Species at Risk screening. Thirty-one species of wildlife were recorded on the Subject Lands by LGL/Birks based on visual and auditory identification and observations of wildlife signs such as tracks and scat, as well as a review of secondary sources. A summary of wildlife species documented in the study area during field investigations is presented in **Table** 3 below.

5.3.2 Birds

Twenty-three bird species were observed within the Subject Lands during investigations by LGL/Birks. Bird species identified typically inhabit hedgerow, meadow, marsh, swamp and anthropogenic habitat types. The breeding bird surveys were conducted by Birks on June 1, 2021, and LGL on June 14, 2021. Surveys were conducted from dawn to approximately 4 hours after dawn. Bird vocalizations, along with direct observations of bird breeding behaviours, and opportunistic locating of bird nests were used to record breeding bird evidence (BBE). Survey methodology and breeding bird behaviours used as evidence of breeding success were categorized according to the *Ontario Breeding Bird Atlas* (Cadman et al., 2007). Given the relatively small size of the Subject Lands, LGL surveyed from a single breeding bird point count station. Wandering transects were also used to record incidental bird species. The LGL and Birks breeding bird point count station locations are shown on **Figure 3**.

The Subject Lands contained breeding bird species representative of several habitat types, and breeding evidence was obtained for 22 species of birds (see **Appendix D**). Of the 22 species recorded, 16 were considered to be breeding on (or near) the property. Breeding is defined as having a BBE code of either confirmed or probable. An additional 6 species were conservatively considered possible breeders with a lack of BBE. One species, the Ring-billed Gull (*Larus delawarensis*), was identified on site but suitable nesting habitat for this species was absent. Bird species identified within the Subject Lands can generally be characterized as species which occupy hedgerow, meadow, marsh, swamp and anthropogenic habitat types. No Species at Risk birds were recorded during targeted surveys. No bird nests were encountered during breeding bird surveys; however, nesting by bird species is expected to occur across much of the Subject Lands.

Table 3. Documented Wildlife in the Study Area

Wildlife	Scientific Name	Common Name	Species Status under Legislation/ Local Sensitivity				Source of Species Identification
			Canada SARA	Ontario ESA	Legal Status	S-Rank	
Herpeto-fauna	*Anaxyrus americanus*	American Toad	-	-	-	S5	x
	Hyla veriscolor	Gray Treefrog	-	-	FWCA(P)	S5	x
	Pseudacris crucifer	Spring Peeper	-	-	-	S5	x
	Lithobates clamitans	Green Frog	-	-	-	S5	x, y
	Lithobates sylvatica	Wood Frog	-	-	-	S5	x
	Thamnophis sirtalis sirtalis	Eastern Gartnersnake	-	-	-	S5	y
Birds	*Larus delawarensis*	Ring-billed Gull	-	-	MBCA	S5	x, y
	Zenaida macroura	Mourning Dove	-	-	MBCA	S5	x, y
	Dryocopus pileatus	Pileated Woodpecker	-	-	MBCA	S5	x, y
	Myiarchus crintus	Great Crested Flycatcher	-	-	MBCA	S5B	x, y
	Vireo olivaceus	Red-eyed Vireo	-	-	MBCA	S5B	x, y
	Cyanocitta cristata	Blue Jay	-	-	FWCA(P)	S5	x, y
	Crovus brachyrhynchos	American Crow	-	-	-	S5	x, y
	Poecile atricapillus	Black-capped Chickadee	-	-	MBCA	S5	x, y
	Sitta carolinensis	White-breasted Nuthatch	-	-	MBCA	S5	y
	Troglodytes aedon	House Wren	-	-	MBCA	S5B	x, y
	Turdus migraorius	American Robin	-	-	MBCA	S5	y
	Bombycilla cedrorum	Cedar Waxwing	-	-	MBCA	S5	x, y
	Passer domesticus	House Sparrow	-	-	-	SNA	x
	Haemorhous mexicanus	House Finch	-	-	MBCA	SNA	x
	Spinus tristis	American Goldfinch	-	-	MBCA	S5	x, y
	Mniotilta varia	Black–and-white Warbler	-	-	MBCA	S5B	x, y

Wildlife	Scientific Name	Common Name	Species Status under Legislation/ Local Sensitivity				Source of Species Identification
			Canada SARA	Ontario ESA	Legal Status	S-Rank	
	Setophaga ruticilla	American Redstart	-	-	MBCA	S5B	x
	Setophaga petechia	Yellow Warbler	-	-	MBCA	S5B	x, y
	Setophaga virens	Black-throated Green Warbler	-	-	MBCA	S5B	x
	Melospiza melodia	Song Sparrow	-	-	MBCA	S5	x, y
	Cardinalis cardinalis	Northern Cardinal	-	-	MBCA	S5	x, y
	Agelaius phoeniceus	Red-winged Blackbird	-	-	-	S5	x, y
	Quiscalus quiscula	Common Grackle	-	-	-	S5	x, y
Mammals	*Canis latrans*	Coyote	-	-	FWCA(F)	S5	y
	Odocoileus virginianus	White-tailed Deer	-	-	FWCA(G)	S5	y
	Myotis sp.	Myotis bats	END	END		S3?-S4	z
	Lasionycteris noctivagans	Silver-haired Bat	END	END		S4	z
	Lasiurus cinerus	Hoary Bat	END	END		S4	z
	Lasiurus borealis	Eastern Red Bat	END	END		S4	z

All acronyms used in this table are defined in Appendix C (Acronyms and Definitions Used in Species Lists).

Legislation Referenced in the Table:

SARA – *Canada Species at Risk Act*

ESA – *Ontario Endangered Species Act*

MBCA – *Migratory Bird Convention Act*

FWCA – *Fish and Wildlife Conservation Act*

Local Ranks:

Significant Wildlife Habitat Technical Guide (MNR 2000):

SWH – Area Sensitive Species

INT- Interior Species

Data Sources:

x – Birks, 2021 y – LGL 2021 z – acoustic detector

5.3.3 Herpetofauna

One species of reptile; Eastern Gartersnake (*Thamnophis sirtalis* sirtalis), was observed under a refuse pile found in the southwest portion of the Subject Lands. Reptile use of the Subject Lands is expected to be limited to

anthropogenic tolerant snake species. Aquatic habitats suitable to support turtle species were generally considered absent.

Anuran breeding evidence was documented by Birks and LGL for 5 species on the Subject Lands. Vocalizing male Spring Peeper (*Pseudacris crucifer*), American Toad (*Anaxyrus americanus*), Wood Frog (*Lithobates sylvatica*), Gray Treefrog (*Hyla versicolor*) and Green Frog (*Lithobates clamitans*) were noted within the study area. Numbers of recorded calling males were generally considered low (i.e., call level code 1); however, Spring Peeper was recorded in full chorus (i.e., call level code 3). Anuran breeding habitat was associated with swamp/marsh communities located at the northern portion of the Subject Lands. A summary of anuran species and their respective call level codes is presented **Table 4,** below.

Table 4. Amphibian Surveys of the Study Area

Station	Scientific name	Common name	SARA	ESA	Local	Legal Status	Call Level code (# individuals)
1*	*Pseudacris crucifer*	Spring Peeper	-	-	-	-	3 (full chorus)
1*	*Anaxyrus americanus*	American Toad	-	-	-	-	1 (3)
1*	*Lithobates sylvatica*	Wood Frog	-	-	-	-	1 (1)
1	*Lithobates clamitans*	Green Frog	-	-	-	-	1 (4)
2*	*Pseudacris crucifer*	Spring Peeper	-	-	-	-	3 (full chorus)
2*	*Anaxyrus americanus*	American Toad	-	-	-	-	1 (1)
2*	*Lithobates sylvatica*	Wood Frog	-	-	-	-	1 (5)
2*	*Dryophytes versicolor*	Gray Treefrog	-	-	-	FWCA(P)	1 (2)

*- Birks, 2021

Call Level Codes – Abundance Count (according to Bird Studies Canada).

Call Level One (1) – Individual males can be counted accurately.

Call Level Two (2)- Frogs can be generally counted but calls overlap thus no exact number can be obtained.

Call Level Three (3)- Calls continuous and overlapping, no reasonable estimate of numbers.

5.3.4 Mammals

The mammal community consisted of two recorded species. A single White-tailed Deer (*Odocoileus virginianus*) was noted within the Cedar swamp and scat from Coyote (*Canis latrans*) was noted at several locations within the study area. Terrestrial mammal species documented represent an assemblage that readily utilizes human influenced landscapes. Several bat species were confirmed using acoustic detector located just outside of the wetland boundary and are discussed in **Section 6**.

5.3.5 Wildlife Habitat

Wildlife habitats within the Subject Lands were found to be unevenly distributed. Most of the landscape within the Subject Lands was comprised of mixed, coniferous, and deciduous wetland (swamp/marsh) communities which constitute higher quality wildlife habitat. In the southern half of the Subject Lands adjacent to Highway 26, low quality habitat was observed consisting of cultural meadow/cultural woodland and disturbed areas, with overgrown vegetation over existing construction (i.e., remnant buildings and asphalt). The lands immediately surrounding the

Subject Lands consist of residential properties and developed lands. Several woodlands and wetlands (including the Silver Creek Wetland Complex) are within the vicinity of the Subject Lands, which may provide some corridor function for wildlife movement and connect habitats to the west and northeast of the Subject Lands. However, given the level of disturbance surrounding the Subject Lands, corridor function is expected to be limited.

Natural heritage features located within the Subject Lands support a modest assemblage of wildlife species that are tolerant of anthropogenic features and disturbance. The mixed/coniferous/deciduous swamp communities within the Subject Lands provide high quality habitat to interior treed habitat dwelling species, while transitions between the wetland and cultural communities and residential lands provide habitats for species that utilize edges (i.e., edge habitats). Hedgerows within the Subject Lands also provide habitat for species that utilize edge habitats.

The most notable habitats are the wetlands located within the Subject Lands. Three swamp communities (1 deciduous dominant, 1 coniferous dominant, 1 mixed) are located across the central and northern portions of the Subject Lands. Much of these swamp communities has been identified by NVCA as an unevaluated wetland. These wetland habitats, in particular the Cedar swamp identified by LGL, provides optimal high-quality habitat for herpetofauna as several anuran species were observed utilizing this habitat and exhibiting breeding behaviour.

5.3.6 Environmental Regulatory Framework

Eighteen of the recorded bird species are protected under the *Migratory Birds Convention Act* (MBCA) and one species is protected under the *Fish and Wildlife Conservation Act* (FWCA). The other animals recorded on the Subject Lands protected under the FWCA include Gray Treefrog, White-tailed Deer, and Coyote.

Of the 31 wildlife species recorded within the study area by LGL and Birks (2021), none are regulated under the *Ontario Endangered Species Act*, 2007 (ESA) or the federal *Species at Risk Act* (SARA). A query for rare species on the Natural Heritage Information Centre (NHIC) Biodiversity Explorer database (MNRF 2021) was conducted and 4 records were found in the vicinity of the Subject Lands. Records included Eastern Ribbonsnake (*Thamnophis sauritus*), Snapping Turtle (*Chelydra serpentina*), Eastern Meadowlark (*Sturnella magna*) and Bobolink (*Dolichonyx oryzivorus*).

Based on the treed habitat which dominates northern portions of the Subject Lands, potential was considered for endangered bat species (all regulated species under the ESA), including Eastern Small-footed Myotis (*Myotis leibii*), Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), Tri-coloured Bat (*Perimyotis subflavus*), Eastern Red Bat, Hoary Bat, and Silver-haired Bat.

The species described above, their respective legal status, biological requirements and the likelihood of presence within the Subject Lands are discussed below.

6 Species at Risk

6.1 Background Information Database Results

Species at Risk found in background database searches but not observed on the Subject Lands are discussed below.

Eastern Ribbonsnake

Eastern Ribbonsnake is designated as ‘Special Concern’ under both the ESA and SARA and this species does not receive any protection under the ESA. Eastern Ribbonsnake are typically found in close association with aquatic habitats, in particular marshes. Suitable habitat to support this species is provided by the wetland communities found at the in the northern portions of the Subject Lands. Eastern Ribbonsnake was not recorded during field investigations, however this does not confirm species absence from the Subject Lands. Mitigation to avoid adverse effects on this species has been proposed.

Snapping Turtle

Snapping Turtle is designated as 'Special Concern' under both the ESA and SARA. This species does not receive any protection under the ESA. Snapping Turtles are typically found in close association with a variety of aquatic habitats. Given the extensive canopy cover associated with swamp habitats, open aquatic habitats, which would be preferred by Snapping Turtle, were generally absent from the Subject Lands. Aquatic habitats found within the Subject Lands may provide movement/corridor habitat. No Snapping Turtle observations were recorded during field investigations.

Bobolink

The Bobolink is regulated as 'Threatened' under the ESA and is designated as 'Special Concern' by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) but has no status under SARA. Bobolink are typically described as residents of grassland communities with an abundance of grass species that are typical of old fields (Cadman et al. 2007). Bobolink are also commonly associated with agricultural lands. No habitat suitable to support this species was identified within the Subject Lands. Breeding bird surveys conducted in 2021 did not record Bobolink with the Subject Lands.

Eastern Meadowlark

The Eastern Meadowlark is regulated as 'Threatened' under the ESA and is designated as 'Special Concern' by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) but has no status under the SARA. Eastern Meadowlark are typically described as residents of grassland communities. Eastern Meadowlark are also commonly associated with agricultural lands. No habitat suitable to support this species was identified within the Subject Lands. Breeding bird surveys conducted in 2021 did not record Eastern Meadowlark with the Subject Lands.

6.2 Confirmed Presence of Species at Risk within the Subject Lands

Species at Risk confirmed on the Subject Lands include:

- Black Ash
- Bats

Black Ash were uplisted to the *Endangered Species Act* in 2022. The following describes current Black Ash regulations in Ontario:

Section 9 (1)(a) of the Endangered Species Act states that no person shall

- Kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered, or threatened species..

Section 9 (1.2) of the Endangered Species Act states that subject to section 57, the Minister may, by regulation, limit the application of the prohibitions in subsection (1) with respect to a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species.

Ontario Regulation 6/24 (January 24, 2024) covers Limitations on Section 9 Prohibitions. Section 2(1) of O.Reg 6/24 states:

- The prohibitions set out in clauses 9(1)(a) of the Act do not apply with respect to Black Ash if any of the following conditions are satisfied:
  - The Black Ash is not located in a municipality or territorial district set out in Schedule 1 to this Regulation (in this case, the Subject Lands are location in a municipality in Schedule 1)
  - The Black Ash has,
    i. a stem height that is less than 1.37 metres, or
    ii. a diameter that is less than 8 centimetres at a stem height of 1.37 metres.
  - The Black Ash is determined to be unhealthy in a report prepared in accordance with subsection (3) and submitted to the Ministry prior to the commencement of an activity that may impact the Black Ash.

A detailed tree inventory and preservation plan has been prepared under separate cover. Two Black Ash trees were inventoried (identifiers # 153, 154) in proximity to the proposed development. As of 2021, these trees were in poor and fair condition, respectively. Both are located within the wetland and will be unaffected by the proposed development in addition to meeting exemption criteria as described by Ontario Regulation 6/24. There are no Black Ash within the proposed development boundary.

As of January 2025, there are 7 bat species regulated by the *Endangered Species Act*, 3 more than at the time of the previous EIS submission.

Treed portions of the site have the potential to provide suitable roosting habitat for a variety of bats species. As of January 2025 there are now 7 bat species regulated as 'Endangered' under the Ontario ESA, including: Eastern Red Bat, Hoary Bat, Silver-haired Bat, Eastern Small-footed Myotis; Little Brown Myotis; Northern Myotis; and Tri-colored Bat. The ESA affords protection for both individuals of these species (subsection 9(1)) and their habitat (subsection 10(1)). Given that species-specific habitat regulations have not yet been developed by MECP for SAR bats, habitat is protected according to the general definition provided in the ESA. Specifically, according to section 2(1), the Act protects "an area, on which the species depends, directly or indirectly, to carry on its life processes, including processes such as reproduction, rearing, hibernation, migration or feeding".

Little Brown Myotis, Northern Myotis, and Silver-haired Bat will use cavities in the trees or exfoliating bark, while Tri-coloured Bat roosts in clumps of leaves in the foliage. Within the study area treed habitats occur, and all of these were considered potentially suitable. Little Brown Myotis will frequently use buildings, and the other 3 endangered bat species will use buildings but far less frequently. Eastern Small-footed Myotis is a saxicolous (rock-loving) species and will frequently roost in rock piles, talus or cracks and crevices in rock outcrops. Eastern Red Bats prefer foliage of deciduous trees for roost habitat. Hoary Bats prefer roosts in branches of large trees but may sometimes utilize cavities.

Following MECP's Bat Survey Standards Note 2021, the Subject Lands were reviewed again in June 2022 to consider ELC classification, to consider snag density calculations (as appropriate), and to map snags. Mature trees in treed ELC ecotypes (FOM7-2, SWC1-1, SWD2-2) in the wetland portions of the Subject Lands provide potentially suitable roosting habitat characteristics. In review of the tree inventory data for the Subject Lands, only 1 tree; #293, 55 cm diameter Apple (LGL 2022), in the proposed development area exhibited cavities, suggesting that few opportunities for roosting are available outside of forest ecosites.

An acoustic recording unit was deployed in 2022 within the proposed wetland 30 m protection setback and documented sonograms of Eastern Red Bat, Hoary Bat, Silver-haired Bat, and high frequency sonograms typical of Myotis species. These recordings were expected based on the availability of habitat south of Highway 26 in the Silver Creek PSW, the shoreline of Georgian Bay, and the wooded swamp on the Subject Lands. Foraging habitat is provided immediately surrounding the site by both the Georgian Bay shore/wetland area and the Silver Creek Swamp PSW south of Highway 26 (within 400 metres of the Subject Lands). Based on the abundance of potential foraging habitat within proximity to the Subject Lands (and in conjunction with the revised site plan), it is considered unlikely that the proposed tree removals will significantly impact the function of potential SAR bat habitat.

Correspondence with MECP regarding potential bat habitat dated October 4, 2022, is provided in Appendix E, and a relevant excerpt is provided:

> *Thank you for the updated information on this file and additional figures. I've had a chance to review the past information on the file as well as your responses to Shamus's comments. Please find below MECP's comment regarding this proposed development.*
>
> *The Ministry of the Environment, Conservation and Parks (MECP) has reviewed the information provided submitted by LGL Consulting submitted on September 28th and October 3rd of 2022 to*

assess the potential impacts of the proposal on Little Brown Myotis, Northern Myotis and Eastern Small-footed Myotis which are protected under the Endangered Species Act, 2007 (ESA).

It is understood that the development proposed on site will be located entirely out of the provincially significant wetland and its 30m buffer and that planned tree removals will be within the cultural woodland habitat on site. It is also noted that vegetation removals on site will occur after September 30th and prior to April 1st of any given year.

Based on our review of the project documentation and information that has been provided, the conclusions that LGL Limited has made that neither sections 9 nor 10 of the ESA will be contravened for species identified above, appear reasonable and valid and therefore authorization is not required.

MECP has been contacted again to discuss the implications of the additional 3 bat species (Eastern Red Bat, Silver-haired Bat, and Hoary Bat) uplisted in January 2025 to confirm that the initial assumptions of bat roost potential and mitigation is appropriate and acceptable. MECP (Daniel Williams) was contacted on June 12, 2025, to determine if any alterations to the proposed mitigation strategy are required. Mr. Williams confirmed that the ESA requirements include the proponent's responsibility to ensure compliance with Section 9 of the ESA. The applicant team then designed updated mitigation to reflect a revised timing window for vegetation removal to appropriately protect Eastern Red Bat, Hoary Bat, Silver-haired Bat, and Myotis bats. Vegetation removals are not to be conducted between April 1 and November 30 to mitigate impacts to Myotis sp., Tricolored bat, Eastern Red Bat, Hoary Bat, and Silver-haired Bat.

7 Significant Wildlife Habitat Screening, Ecoregion 6e

The PPS defines wildlife habitat as:

"areas where plants, animals, and other organisms live, and find adequate amounts of food, water, shelter, and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or non-migratory species."

Significant wildlife habitat is defined by the Province as:

"ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System. "

A Significant Wildlife Habitat (SWH) Screening has been prepared (Appendix G) upon consideration of ELC data, fauna evidence, and professional experience/expertise. The evaluation considers the following types of SWH:

- Seasonal Concentration Areas
- Rare Vegetation Communities
- Specialized Habitat for Wildlife
- Habitat for Species of Conservation Concern

Upon completion of the SWH screening, and taking a conservative approach, the following specific types of habitats could not be ruled out for the Subject Lands:

- Seasonal Concentration Areas: Candidate Bat Maternity Colonies, Candidate Turtle Wintering Area.
- Rare Vegetation Communities or Specialized Habitat for Wildlife: Confirmed Other Rare Vegetation Communities MAM4-1 Community.
- Specialized Habitat for Wildlife: Amphibian Breeding Habitat (Woodland), Amphibian Breeding Habitat (Wetland).
- Animal Movement Corridors: Amphibian Movement Corridors.

SWH Mitigation Support Tool (MiST) Indexes have been considered during the design of this project. MiST describes the habitat function and composition and Potential Development Effects and Mitigation Options for development activities. Mitigation discussion for SWH is provided in Section 15.

Candidate Bat Maternity Colonies

Treed habitat types within the subject property have the potential to meet the criteria for Bat Maternity Colonies through Candidate ELC ecosites of FOM and SWD. Maternity colonies can be found in tree cavities and vegetation. According to the Significant Wildlife Habitat criteria, maternity colonies considered SWH are found in mature deciduous or mixed forest stands with >10/ha large diameter (>25 cm dbh) trees, according to SWH Criteria for Ecoregion 6E. Since the Subject Lands are approximately 2.6 hectares and approximately half (1.27 ha) is forested, the Subject Lands do not meet the criteria for size of forested habitat for significance. However, since it is quite likely that general roost (and foraging) habitat is provided by the swamp, MiST Index #12 was reviewed and mitigation designed into the proposed development plan (avoidance of habitat and 30 m protection setback).

Confirmed Other Rare Vegetation Communities

Based on the botanical survey results, a rare vegetation community was identified within the subject property. The Graminoid Coastal Meadow Marsh (MAM4-1) community identified at the northern limit of the subject property is ranked as a S2 (very rare in Ontario, usually between 5 to 20 occurrences in the province). As such, the entirety of the MAM4-1 polygon is considered Significant Wildlife Habitat. There are no other rare vegetation communities associated with the study area, as the vegetation communities identified within the study area are considered widespread and common in Ontario and are secure globally. MiST Index #137 was reviewed and mitigation designed into the proposed development plan (avoidance of habitat, MAM4-1 is approximately 75 m from the southern wetland boundary.

Candidate Amphibian Breeding Habitat (Woodland)

ELC criteria is met for Amphibian Breeding Habitat (Woodland), as is candidate habitat criteria by the presence of woodland and wetland. MiST#14 has been reviewed for mitigation design to avoid adverse impacts to the amphibian breeding habitat.

Candidate Amphibian Breeding Habitat (Wetland)

ELC criteria is met for Amphibian Breeding Habitat (Wetland), as is candidate habitat criteria by the presence of the wetland. MiST#15 has been reviewed for mitigation design to avoid adverse impacts to the amphibian breeding habitat.

8 Natural Heritage System Buffers

To meet the Town's standard for evaluation of significance of natural heritage features and functions, this EIS and associated submissions have:

- Assessed the various natural heritage features and areas against relevant policies and guidelines (PPS, Natural Reference Manual, *Endangered Species Act* and associated Ontario Regulations, Significant Wildlife Habitat Technical Guide, Town of Collingwood Official Plan (2024).
- Assessed the various natural heritage features and areas against policies and guidelines related to natural hazards (e.g. wetlands).
- Assessed the appropriateness of proposed buffers/setbacks.

Within this submission there are several natural heritage features that are governed by policies and guidelines administered by the Town of Collingwood and NVCA. These include:

- Wetland boundary
- Candidate and Confirmed Significant Wildlife Habitat

- Species at Risk Habitat

These features and functions have formed the basis for design of the proposed development and natural heritage protections.

9 Proposed Development

The proposed plan has been designed with consideration o f polices governing natural heritage protection and hazard lands avoidance.

9.1 Natural Heritage Feature Setbacks

The Town of Collingwood OP, 2024, illustrates several natural heritage components, as do the findings of this EIS.

A wetland has been delineated by the applicant team and endorsed by NVCA. A 30 m protection buffer has been applied to the wetland boundary for which development activities are excluded (Figure 4. Opportunities and Constraints), with the exception of existing pavement removal and habitat enhancement.

9.2 Development

The proposed concept respects the 30 m wetland protection setback and includes 2 mixed-use buildings with 1 common level of underground parking.

The proposed development includes a 6-storey buildings with 100 and 94 units, respectively. The building will be connected by a ground floor common area. Access will be provided by a private driveway access from Highway 26. The majority of the property will remain in its current state (i.e., wetland and 30 metre buffer).

Given the proposed underground parking in relation to potential dewatering and the adjacent wetland, several studies have been prepared to accompany this EIS. DS Consultants and Tatham Engineering have each conducted studies and reports intended to identify the potential for impacts to the adjacent wetland and to provide mitigation to minimize or eliminate those impacts.

9.3 Vegetation Protection Zone

A vegetation protection zone (VPZ) has been identified for enhancement/restoration within the subject lands that provide opportunities to extend habitat area and increase the ecological function and value of the site for wildlife and native vegetation. The VPZ identified for enhancement is presented on **Figure 5**. Goals of VPZ enhancement are:

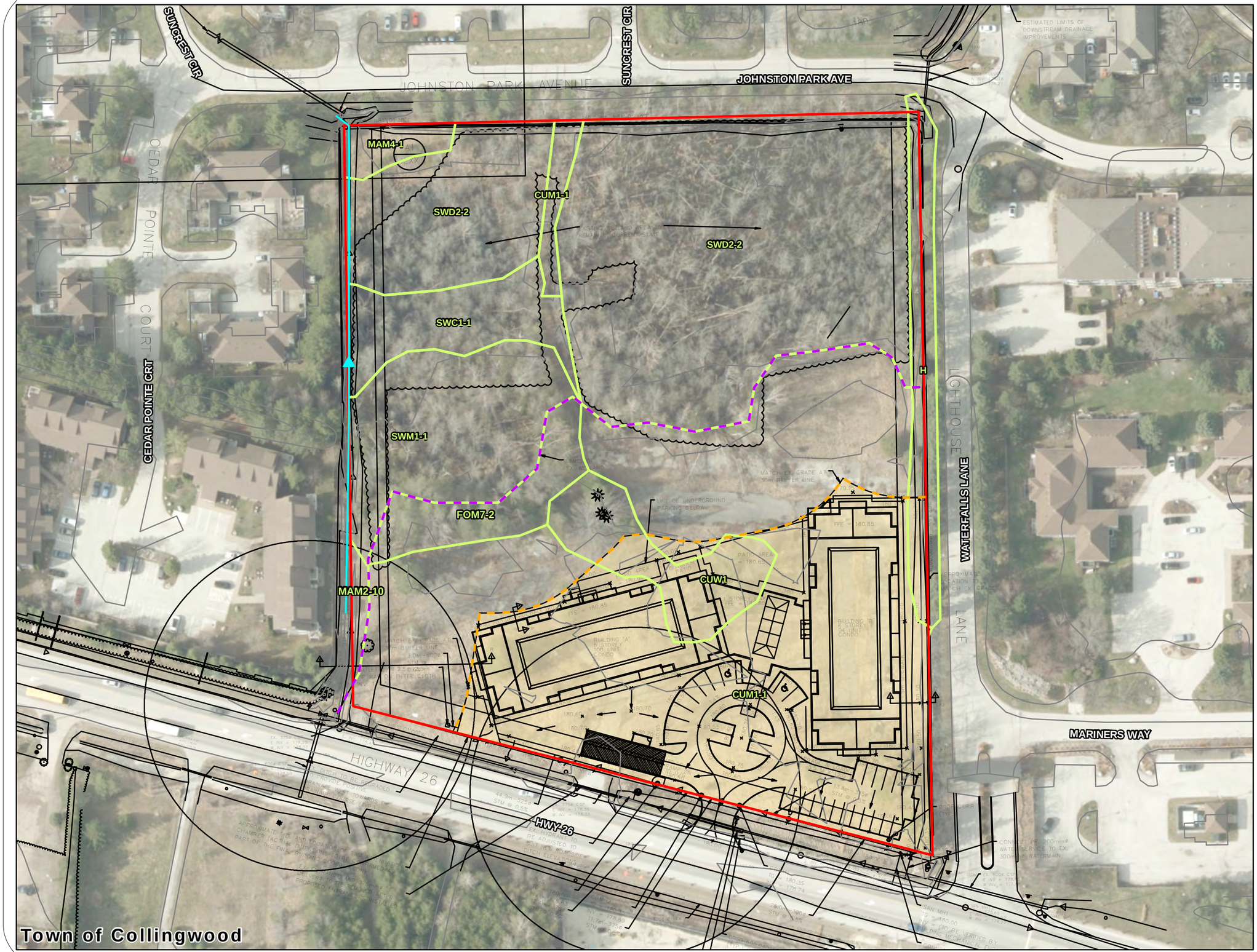
- To increase ecological value of the enhancement area.
- To restore native vegetation and self-sustaining seed source.
- To extend the wetland riparian vegetation community area.
- To isolate, to the extent possible, post-development conditions from the wetland habitats.

9.3.1 Landscape Design/Drawings

A detailed landscape design/plan should be prepared at the detailed design stage and is to include to the satisfaction of the Town/NVCA:

- Implementation strategy (i.e., responsibilities, coordination, safety, damage, topsoil specifications, etc.)
- Detailed site preparation plans
- Maintenance and watering

- Evaluation, monitoring, and reporting
- Survivorship guarantee



LEGEND

- Subject Property
- Wetland Boundary Endorsed by NVCA June 28, 2022
- 30m Wetland Protection Setback/ Vegetation Protection Zone Enhancement
- Drainage Ditch (LGL/Birks)
- Proposed Site Plan (June 26, 2025)
- Proposed Developable Area (0.86 ha)

Vegetation Community

- Vegetation Community Boundary

CUM1-1	Dry-Moist Old Field Meadow Type
CUW1	Mineral Cultural Woodland Ecosite
FOM7-2	Fresh–Moist White Cedar–Hardwood Mixed Forest Type
H	Hedgerow
MAM2-10	Mixed Forb Mineral Meadow Marsh Type
MAM4-1	Great Lakes Coastal Meadow Marsh
SWC1-1	White Cedar Mineral Coniferous Swamp Type
SWD2-2	Green Ash Mineral Deciduous Swamp Type
SWM1-1	White Cedar-Hardwood Mixed Swamp Type

Data Sources: LGL Limited field surveys, Birks Natural Heritage Consultants, Inc., County of Simcoe & Nottawasaga Valley Conservation Authority.

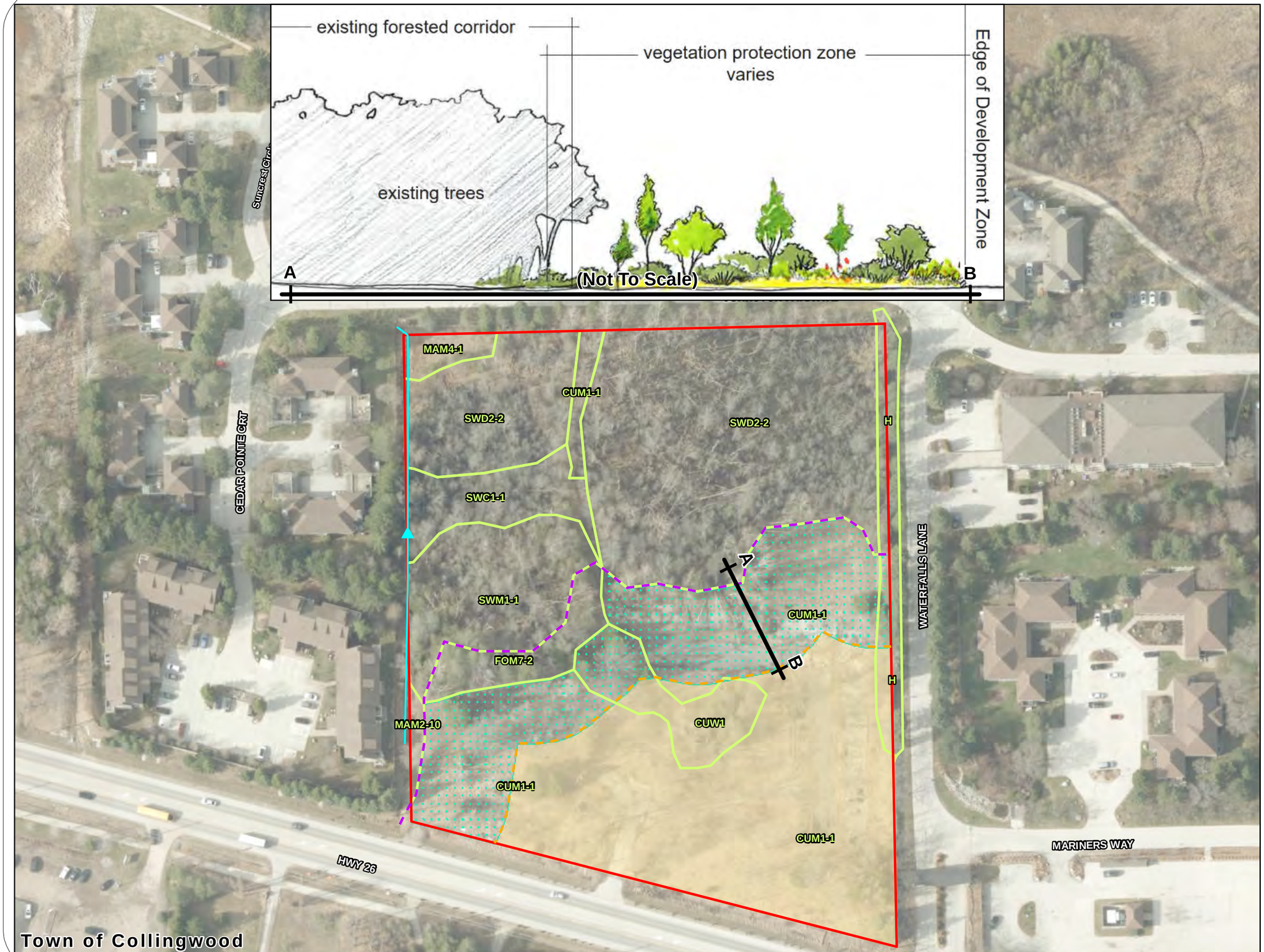
0 20 40 m

N

11476 Highway 26
Proposed Site Plan

LGL LIMITED
environmental research associates

Project:	TA9135	**Figure:**	4
Date:	June, 2025	**Prepared By:**	KC
Scale:	1:1000	**Verified By:**	MJO



LEGEND

- Subject Property
- Wetland Boundary
  Endorsed by NVCA June 28, 2022
- 30m Wetland Protection Setback/
  Vegetation Protection Zone Enhancement
- Drainage Ditch (LGL/Birks)
- Proposed Developable Area (0.86 ha)
- Proposed Vegetation Protection
  Zone Enhancement (0.54 ha)

Vegetation Community

- Vegetation Community Boundary
- CUM1-1 Dry-Moist Old Field Meadow Type
- CUW1 Mineral Cultural Woodland Ecosite
- FOM7-2 Fresh–Moist White Cedar–Hardwood Mixed Forest Type
- H Hedgerow
- MAM2-10 Mixed Forb Mineral Meadow Marsh Type
- MAM4-1 Great Lakes Coastal Meadow Marsh
- SWC1-1 White Cedar Mineral Coniferous Swamp Type
- SWD2-2 Green Ash Mineral Deciduous Swamp Type
- SWM1-1 White Cedar-Hardwood Mixed Swamp Type

Data Sources: LGL Limited field surveys, Birks Natural Heritage Consultants, Inc., County of Simcoe & Nottawasaga Valley Conservation Authority.

0 25 50 m

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11476 Highway 26
Vegetation Protection Zone

LGL LIMITED
environmental research associates

Project:	TA9135	**Figure:**	5
Date:	June, 2025	**Prepared By:**	AME
Scale:	1:1200	**Verified By:**	MJO

10 Water Balance

A Preliminary Hydrogeological Investigation (2023), an Additional Hydrogeological Investigation (2025), a Surface Water and Groundwater Level Monitoring, Wetland Risk Evaluation and Feature Based Water Balance Study (2025) for the proposed development were prepared by DS Consultants Ltd. The investigation assessed geological and hydrogeological conditions, potential construction dewatering requirements, groundwater quality, and potential impacts on local water resources (i.e., the PSW). Please refer to the Preliminary Hydrogeological Investigation(2023) , Additional Hydrogeological Investigation (2025), and Groundwater Level Monitoring, Wetland Risk Evaluation and Feature Based Water Balance Study (2025) for specific details. A brief summary is provided below.

10.1 Geology and Hydrogeology

The site lies within the Simcoe Lowlands and surface geology is characterized by sand, gravel, and Paleozoic bedrock. Bedrock depth ranges from 1.4 to 2.1 meters below ground surface. Groundwater levels were measured between 0.37 and 0.88 meters below ground surface in sand and 0.50 meters in bedrock.

Fill material consisting of sandy silt and organics was encountered in boreholes and extended to a depth of approximately 0.5 metres below ground level. Sand was encountered below the fill material and extended to the bedrock depth between 1.4 to 2.1 metres below ground surface.

Note that bedrock was encountered at 1.6 m at BH22-1 situated near the south edge of the wetland.

10.2 Groundwater Conditions

DS measured groundwater levels below ground surface throughout the monitoring period, ranging between 0.4 to 1.4 meters below ground surface (mbgs). Groundwater levels exhibited a positive response to major precipitation events. Notably, groundwater levels at the inlet piezometer (south portion of wetland) consistently remained below the base of the wetland, suggesting that groundwater is not discharging into the surface water feature and suggests that the wetland is surface water-fed with limited or no groundwater contribution. Groundwater at the outlet station (northwest portion of wetland) consistently remained below the surface water levels throughout the monitoring period but were occasionally higher than base of wetland during the spring months suggesting potential periodic groundwater contributions to the wetland. DS Consultants note that, despite the seasonal increases, groundwater levels remained below surface water levels for the most-part which suggests surface water is the dominant source of water at this monitoring station.

Groundwater flow is expected to be northwest towards Georgian Bay.

10.3 Water Balance

Pre-development infiltration has been calculated to be 8,441 m³/year; while runoff is calculated to be 5,962 m³/year. Post-development infiltration, with no mitigation, is calculated to be 5,421 m³/year; while runoff is calculated to be 11,972 m³/year. Increased impervious surfaces will reduce infiltration and increase runoff.

10.4 Dewatering Requirements

Based on a conceptual design of the proposed development showing 1 level of underground parking with finish floor level at 3 m below the average ground level, DS has calculated the short-term discharge during construction to be 352,000 L/day (including stormwater removal) and long-term discharge post-construction: 64,000 L/day. A long-term pumping test has been recommended to refine estimates.

10.5 Groundwater Quality

No exceedances of the Town of Collingwood Sewer Use Criteria. Groundwater can be discharged into municipal sewers without treatment, subject to permits.

10.6 Potential Impacts

Surface water features, such as the wetland on the Subject Lands, may be affected by dewatering activities since they exist within the predicted zone of impact (103 m from the centre of excavation). Monitoring and mitigation are proposed as a result (see Section 12). However, it must be noted that the high permeability sands on site will promote recharge of treated dewatering discharge to the shallow sand aquifer. Shallow groundwater is expected to flow northwestwards across site, towards the wetland.

Additional Baseline groundwater surveys and monitoring during construction have been recommended by DS. A set of mitigation triggers has been designed by Tatham Engineering in the Water Taking and Discharge Plan.

11 Wetland Risk Evaluation and Feature Water Balance Study

GeoBase Solutions Ltd. completed a wetland risk evaluation and water balance study using Toronto and Region Conservation Authority (TRCA) Wetland Water Balance Risk Evaluation Guidelines to assess the magnitude of hydrologic change which may occur within the Subject Lands wetland. Please refer to the Wetland Risk Evaluation and Feature Water Balance Study for specific detail. A brief summary is provided below.

The proposed development will maintain the size of the wetland catchment and slightly increase impervious surfaces by approximately 1%. The magnitude of hydrologic change is considered low risk based on TRCA's Guideline. GeoBase Solutions concludes that the feature-based water balance assessment is considered acceptable given the low level of risk to the wetland.

The mitigated water balance completed for the wetland catchment shows there is an increase in annual infiltration of 982 m^3/year and a decrease in runoff estimated at 631 m^3/year. GeoBase concludes that when considering the reduction in runoff represents 2.7% of the total annual runoff available to the wetland, and an increase in infiltration upgradient of the wetland provides additional groundwater contributions, potential risk to the wetland is considered very low.

12 Water Taking and Discharge Plan

Tatham Engineering prepared a Water Taking and Discharge Plan, relying on DS studies, to support future construction works for the Subject Lands.

12.1 Reduction of Groundwater Flow to Waterbodies

Given the short duration of proposed construction dewatering, and the fact water removed will be returned back to the watershed, dewatering activities are not anticipated to have a negative impact to Georgian Bay.

The Subject Lands wetland is located within the radius of influence and subsequently within the projected cone of groundwater depression extending beyond the excavation area during dewatering activities.

Dewatering monitoring is recommended at the wetland feature (i.e., established piezometer inlet and outlet locations) to ensure construction dewatering does not negatively impact the wetland.

12.2 Water Quantity, Quality, and Groundwater Level Monitoring

Tatham Engineering has prepared a Water Taking and Discharge Plan (2025). Baseline groundwater quality suggests that construction dewatering discharge may not meet Provincial Water Quality Objectives (PWQO). Water quality should be confirmed during trial dewatering. Preliminary data indicate that treatment- such as sediment/filtration bags or decantation tanks- will likely be needed to reduce suspended solids and associated metals. If water quality exceeds PWQO limits during construction, standard treatment methods should be considered, or the system should be shut down.

Tatham has designed detailed monitoring and triggers for mitigation (see Water Taking and Discharge Plan for detail) to include the following periods:

- Trial dewatering
- During construction
- Post construction

Triggers for mitigation include:

- Exceedances of PWQO's
- Exceedances of turbidity
- Sedimentation and/or erosion
- Water levels in on-site monitoring wells to be no more than 1 m lower than the proposed depth of excavation.
- Water level in PZ1 (wetland piezometer) at or below 0.1m bgs (elevation 177.8 m asl) with notification of the environmental consultant within 6 hours of observing water levels below the trigger limit.

Mitigation measures will be approved by the Project Engineer and the Environmental Consultant within 24 hours of observing water levels below the trigger limit. Potential mitigation measures could include a reduced dewatering pumping rate, redirection of treated dewatering discharge to an alternate location in the wetland, or cessation of dewatering efforts. The Project Engineer will provide recommendations to the dewatering contractor within 24 hours of noting water levels below the trigger limit.

Post-construction monitoring will occur every two weeks for four weeks, then every four weeks until 90% recovery.

Refer to Tatham's Water Taking and Discharge Plan for details.

13 Stormwater Management Report

Tatham Engineering prepared a Stormwater Management Report (2025) for the proposed development to address potential adverse impacts that the proposed development may have on the natural heritage features and surface water quality. Please refer to the Stormwater Management Report (2025) for specific detail.

Tatham's design criteria, to be approved by the Town and NVCA, include:

- Safe conveyance of the Regulatory Storm through the site to a sufficient outlet.
- NVCA requires pre-development and post-development water balance calculation with a target of achieving pre-development annual infiltration volumes.
- Water quantity controls to ensure post-development peak flow rates do not exceed pre-development rates at any drainage outlet.
- Water quality controls to satisfy MECP, including Enhanced water quality treatment (removal of 80% total suspended solids).
- Retention of the 5 mm storm on-site for erosion control.

- A phosphorus budget analysis and, where necessary, mitigation efforts to be provided to ensure post-development phosphorus loads match pre-development conditions.
- A detailed erosion and sedimentation control strategy to be implented during construction.

Post-development storm water flows will not exceed pre-development storm water flows (pers.comm. K. Sansom, Tatham Engineering, June 18, 2025). Approximately 0.3 ha of rooftop area will be collected by rooftop drains and conveyed to a stormwater storage reservoir within the underground parking structure which will maintain water quantity post development flows to pre-development conditions (refer to Stormwater Management Report).

Minor Flow Conveyance up to and including the 1:100 year storm event for the existing developed area will be collected via the internal storm sewer system and be conveyed to an oil grit separator (OGS). Outflow will be conveyed to an underground stormwater chamber then discharge into the existing drainage easement along the west side of the property (refer to Stormwater Management Report).

Major Flow Conveyance has been accommodated by rooftop and parking lot stormwater pipe design up to the 100-year storm. Overflows would be conveyed to the Highway 26 ditch (refer to Stormwater Management Report).

Water quality and TSS removal for the proposed parking lot will be provided via a treatment train comprised of an oil/grit separator (OGS), the Highway 26 roadside ditch, and the vegetated drainage easement near the west boundary of the property. The high groundwater conditions, shallow bedrock and sandy soils have deterred the inclusion of shallow rain garden features or LID features (as previously proposed), however an infiltration trench has been proposed near the front of the property (between the proposed building and Highway 26) within the proposed landscaped area to enhance the stormwater quality in this specific area as well as a best efforts approach for phosphorus mitigation and water balancing (refer to Stormwater Management Report).

Erosion control measures will be implemented prior to any development activity on the property and will be monitored on a regular basis or after significant storm events (> 15 mm storm). A two-phased double-walled wire-backed silt fence will be installed near the wetland boundary to allow for the removal of the existing remnant (foundation and parking lot, followed secondly by the recognition of the 30m wetland buffer limits and removal of the first silt fence installation.

Erosion control measures will be implemented prior to any development activity on the property and will be monitored on a regular basis or after significant storm events (> 15 mm storm). ESC fencing will occur in two phases:

- Phase 1- ESC fence to be installed near the wetland boundary to allow for the removal of the existing remnant (motel) foundation and parking lot pavement. Once the existing foundation and pavement is removed, site preparation and planting will occur for the restoration/enhancement of the wetland buffer (i.e., topsoil rehabilitation or import, subject to recommendations for landscaping at detail design). Once site preparation of the 30 m wetland buffer is complete the ESC fence will be removed.
- Phase 2- once Phase 1 is complete a new ESC fence will be installed at the 30 m wetland buffer to isolate the wetland from development activities of the Subject Lands.

14 Impact Assessment

This impact assessment considers the proposed development and activities that may impact the natural heritage system (e.g. vegetation removal, grading, construction dewatering, stormwater management, etc.). Transitioning the Subject Lands from the existing land use to the proposed includes consideration of direct, indirect, as well as cumulative impacts to the adjacent natural heritage system. This EIS incorporates the results of supporting studies (e.g., stormwater management plan, water balance) to ensure that pre-development and post-development hydrologic conditions and natural heritage system features and functions will be maintained, potential impacts can be mitigated, and ultimately to ensure that the wetland and the organisms that inhabit it are not impacted by the proposed development.

The analysis of potential impacts arising from the proposed development were determined by overlaying the plans onto air photography, survey drawings, and collected data presented graphically to determine the extent of the disturbance footprint. The outcome of the analysis is based primarily on the significance and sensitivity of the natural features identified on site and directly adjacent to the Subject Lands during background review and biophysical inventories. Consideration has been given to pre-construction, construction, and post-construction impacts, and mitigation measures are identified to avoid or minimize potential negative effects.

Negative effects that the NHS may incur because of the development proposal consider the following:

- Sensitivities such as species, plant communities, hydrology/wetlands
- Disturbance of areas and duration
- Direct on-site effects such as clearing, grubbing, grading, elimination of habitat, and vegetation loss.

Direct, indirect, and cumulative impacts are discussed in the following sections.

14.1 Direct Impacts

Direct impacts are generally defined as those that are directly related to the proposed development plan.

Grading, servicing, and building construction can result in vegetation removal, loss of wildlife habitat, disturbance/impediment to animal movement, increased erosion, sedimentation and turbidity, and increase in impervious surfaces.

Vegetation removal is proposed to occur within the existing redevelopment area (existing pavement from former motel). Vegetative species of local or provincial rarity status were not found in the proposed development area. Important natural heritage areas will not be affected in terms of vegetation removal on the Subject Lands. Several trees will be removed to facilitate the proposed construction.

Impediment to animal movement may occur as naturalized habitats become replaced by the proposed building. However, the developable portions of the Subject Lands provide a poor movement area due to openness, isolation, and vehicular traffic.

Hydrological changes can include alteration of the existing drainage pattern and may result in negative effects to the NHS if appropriate mitigation is not implemented. The Water Balance and Stormwater Management Report confirm pre- and post-development flow rates are expected to be similar, and thus, the hydrologic function of the NHS is not expected to be impacted as a result of the proposed development. A dewatering monitoring plan has been prepared to ensure that dewatering activities during construction do not create adverse impacts to the wetland, with the ultimate mitigation being cessation of dewatering.

Animals may become trapped within the construction site which could result in disruption of life processes, injury, or death.

14.2 Indirect Impacts

Indirect impacts may be caused by altered uses and activities on the Subject Lands after construction has been completed. These secondary effects that are reasonably foreseeable and may occur after the initial site clearing may include:

- Invasion by non-native species.
- Littering by future residents.
- Effects of noise on wildlife which may disrupt their ability to communicate.
- Wandering wildlife may enter the development site post-construction and possibly undergo injury or death
- Effects of light pollution on wildlife which may affect nocturnal behaviour of some species.

- Changes in flow quantity and/or quality in stormwater exiting the Subject Lands, and changes to the ecological conditions of the receptor habitat of the NHS.

14.3 Induced Impacts

Induced environmental impacts are a type of indirect impact that are generally the consequence of changes in human behaviours in response to the proposed development. These may include:

- Disturbance of sensitive wildlife species that inhabit the NHS might occur due to changes in land use from abandoned to the proposed development with a higher intensity of human activity (e.g., intrepid children) in close proximity to natural areas.
- Roaming household pets can result in increased predation or harassment of wildlife.

14.4 Cumulative Impacts

Cumulative impacts are the result of incremental impacts of multiples of successive developments. These may include the effects of other developments, municipal road and infrastructure construction, increased runoff, etc., and may interact with each other and compound or increase the degree of environmental impact. Provided developments are planned with appropriate avoidance of important or sensitive-species habitats, implementation of setbacks, demonstration of water budget pre/post-development, and habitat of sensitive forest/wetland species is avoided, the cumulative effects are anticipated to be minimal. The application of buffers and other land use planning tools to the Subject Lands takes on an enhanced importance in mitigating potential cumulative effects. Mitigation has been recommended to curb the potential for cumulative impacts.

15 Mitigation and Responses to Predicted Impacts

Development concepts have been designed, reviewed, and evaluated from a natural heritage perspective. Design components have been revised to alleviate potential impacts on various constraints, including natural heritage features and hydrology.

The proposed draft plan conforms to applicable policy by avoiding sensitive habitats, meeting the required setbacks, and designing mitigation appropriate to minimize or avoid impacts to the NHS.

15.1 Mitigation

A thorough list of mitigation and protection measures has been incorporated into this EIS and site design. Where impacts cannot be avoided, mitigation measures have been designed to reduce or minimize impacts on the natural heritage system form and functions. To the extent possible, enhancement measures will aim to produce a net benefit to the natural heritage system and eliminate impacts resulting from development. Considerations for mitigation and protection measures have included:

- Siting the proposed development as far from the NHS as possible and with compliance with regulatory policy.
- A vegetation protection zone and enhancement plantings (shrubs and trees) to isolate natural heritage features from proposed development.
- Timing windows for vegetation removals to avoid potential sensitive bird and bat nesting, birthing, rearing, and roosting periods.
- Enhanced Level stormwater management controls for stormwater management.
- A dewatering monitoring plan to respond to adverse effects, should they occur.
- Recommendation for a stringent Erosion and Sedimentation Control (ESC) Plan and work site isolation.
- Low impact development measures, where feasible, have been incorporated into the development design.

- Significant Wildlife Habitat Mitigation through protection setbacks.

Avoidance of negative impacts is the preferred approach to land development applications. However, where impacts can be anticipated, several mitigation measures are recommended to minimize the extent of impact on the natural heritage features. Table 5 considers potential impacts to the NHS resultant from the proposed development and provides recommendations to mitigate impacts. Note that mitigation recommendations are also listed as recommended conditions in Section 17.

Table 5. Recommended Mitigation

Development Activity	Potential Physical Impacts	Potential Impacts of Features and Functions	Recommended Mitigation Measures
Subject Lands Preparation			
Vegetation Removal	Loss of vegetation and wildlife habitat or loss of significant portions of habitat; loss of successional habitat	Direct loss of habitat (e.g., anuran breeding, nesting trees/cover, bat roosts, foraging); reduction in habitat below a critical level; habitat fragmentation	Identify and avoid or protect critical components of wildlife habitat (e.g., anuran breeding, nesting trees/cover, bat roosts. and foraging opportunity), leave a buffer around significant features, to the extent possible (e.g., wetlands). Landscape restoration plan will mitigate temporary construction-related impacts.
		Greater exposure of wildlife to predation and parasitism	Minimize vegetation removals and maintain/restore 30 m vegetated buffer of wetland communities on Subject Lands. Landscape restoration plan will mitigate temporary construction-related impacts.
		Increased vulnerability of the Subject Lands to invasion by non-native species	Where applicable, re-vegetate with native species. Dense plantings of native shrubs will occur along the edge of the wetland buffer to serve as a natural buffer between the development and wetland feature.
		Decreased biodiversity	Subject Lands are generally highly fragmented from surrounding natural heritage features. Minimize vegetation removals and maintain vegetated buffer to the extent possible along drainage feature at western limit of Subject Lands. Restoration/naturalization of the wetland buffer.
	Loss of natural linkages and corridors for animal movement	Isolation of species	Subject Lands are generally highly fragmented from surrounding natural heritage features. Minimize vegetation removals and maintain vegetated buffer to the extent possible along drainage feature at western limit of Subject Lands. Enhancement/naturalization of the wetland buffer.
	Disturbance of wildlife species	Disturbance of concentrations of wildlife (e.g., bird nesting,	Time activities to avoid wildlife disturbance; create a buffer area around

Development Activity	Potential Physical Impacts	Potential Impacts of Features and Functions	Recommended Mitigation Measures
		herpetofauna active season, bat roosts) due to noise produced by clearing activities or other human activities	sensitive species. Avoid vegetation removals during the breeding bird window, bat maternal roost window. Vegetation removal shall occur between September 30 and March 31.
Grading	Increased erosion, sedimentation and turbidity; increased inputs of nutrients and contaminants to waterbodies and wetlands; increased soil compaction	Decreased photosynthesis, loss of productivity, loss of fish habitat, loss of food organisms, and avoidance of areas by fish; lethal or sublethal toxic effects on aquatic life; changes in fish species composition and abundance; changes in wetland plant communities	Develop and implement an erosion and sediment control plan; control access and movement of equipment and people; designate areas for equipment storage; time activities to avoid sensitive periods of habitat use (e.g., spawning); minimize the area and duration of soil exposure and schedule grading to avoid times of high runoff volumes (spring and fall).
	Changes in natural drainage, including elimination of streams, and increased or decreased surface runoff; increased or decreased stream flows	Loss of fish habitat (e.g., water, spawning areas) and food organisms; changes in fish species composition and abundance; changes in wetland plant communities; channel erosion and changes in geomorphology	Minimize changes in land contours and natural drainage; maintain streams (permanent and intermittent), timing and quantity of flows and ensure grades are matched at the limit of the natural feature or the limit of any buffer area and meet a water balance of pre and post development.
	Disturbance of wildlife, particularly sensitive species	Disturbance of wildlife.	Identify sensitive species before beginning the work; design grading to avoid disturbing sensitive species; conduct work at a time that is least disturbing to sensitive species. Initiate site preparation activities during the late fall/winter.
Installation of Services and Utilities	Increased erosion, sedimentation and turbidity; increased inputs of nutrients and contaminants to waterbodies	Decreased photosynthesis, loss of productivity, loss of fish habitat, loss of food organisms, and avoidance of areas by fish; changes in fish species composition and abundance	Develop and implement an erosion and sediment control plan; time activities to avoid sensitive periods of habitat use; re-establish vegetation as soon as possible.
	Disposal of large amounts of water required by dewatering activities	Increased erosion, sedimentation and flooding of waterbodies or intolerant vegetation, changes in thermal regime.	Install a temporary storage basin to allow water to infiltrate during construction, construct permanent storm management facilities.
	Hydrological changes (e.g., changes in water levels as a result of rerouted water flow)	Changes in vegetative communities and fish and wildlife assemblages; reduction in groundwater recharge-removal or loss of stream baseflow	Maintain the existing hydrological regime; design underground facilities (e.g., seepage collars, trenches) to minimize impacts on groundwater flows and baseflows; minimize vegetation removal where feasible.
Building Construction	Increased erosion, sedimentation and turbidity; increased	Changes in plant communities	Control erosion, sedimentation and nutrient inputs through use of best management practices.

Development Activity	Potential Physical Impacts	Potential Impacts of Features and Functions	Recommended Mitigation Measures
	inputs of nutrients to waterbodies and wetlands		
	Water contamination by oils, gasoline, grease and other materials	Lethal or sublethal toxic effects on aquatic life and vegetation	Control contamination through good housekeeping practices.
	Increase in impervious surfaces; increased surface runoff and reduced infiltration and groundwater discharge; reduced stream baseflows and upwelling; loss of vegetation resulting in increased water temperatures	Changes in wetland vegetation communities; changes in wetland hydrology	Control quantity and quality of stormwater discharge using best management practices; implement infiltration techniques to the maximum extent possible and if soils permit; implement green roofs or blue roofs where feasible.
	Loss of vegetation, especially at wetland edges, barriers to animal and plant movement	Loss or fragmentation of wildlife habitat; loss of biodiversity- introduction of non-native species of plants and wildlife; increased predation and parasitism on native wildlife- interruption of functional connections	Maintain a sufficient buffer between buildings and significant features such that trees do not present a hazard to buildings; restrict access and buffer natural areas so future users are discouraged from dumping and improper use; Subject Lands plan has been designed to avoid impacts to wetland communities; consider additional restoration/naturalization of wetland buffer.
	Loss of wildlife (e.g., mortality due to collisions with buildings/ vehicles)	Avoidance of the area by wildlife species and gradual attrition of certain wildlife populations	Identify species sensitive to disturbance and time construction to avoid periods of habitat, use design buildings appropriately to prevent/ minimize mortality.
	Impediment to flying birds	Collision, injury or mortality	Design building using Bird-Friendly building design principles
	Dewatering	Changes in wetland hydrology, changes in species composition	See Tatham Water Taking and Discharge Plan for detail. Includes the following periods: • Trial dewatering • During construction • Post construction Triggers for mitigation include: • exceedances of PWQO's • exceedances of turbidity • sedimentation and/or erosion • water levels in on-site monitoring wells to be no more than 1m lower than the proposed depth of excavation

Development Activity	Potential Physical Impacts	Potential Impacts of Features and Functions	Recommended Mitigation Measures
			• water level in PZ1 (wetland piezometer) at or below 0.1m bgs (elevation 177.8 m asl) with notification of the environmental consultant within 6 hours of observing water levels below the trigger limit.

15.2 Species at Risk Mitigation

Species at Risk mitigation has been designed specific to the Subject Lands and is described in **Table 6**.

Table 6. Species at Risk Mitigation

Species At Risk	Potential Impact	Recommended Mitigation
Bats (Silver Haired Bat, Eastern Red Bat, Hoary Bat, Myotis spp. (Endangered): possible seasonal roosting occurrence in wooded areas.	Impacts to roosting bats which may result in abandoning the roost site, predation.	As a Condition of Approval, vegetation removals are to occur at a time when the potential occurrence of maternity colonies, or roosting bats is low to none, typically during the autumn/winter months (October to March) – Vegetation removals are to occur after November 30 and prior to April 1. Employ natural barriers to avoid incidental or accidental intrusion into retained habitat during construction and to limit wildlife movement into the construction zone. Maintain an environmental monitor on-call in the event of an animal-construction conflict. Limit the extent of vegetation removal and soil disturbance where possible. Implementation of appropriate setbacks, in this case 30 m from wetland. Refer to MECP correspondence in **Appendix E**
Black Ash	Health decline, tree removal.	The Black Ash encountered on the Subject Lands were experiencing health decline, and as such, as exempt from the protections of the Endangered Species Act. Nonetheless, Black Ash are part of the wetland community and have been protected with a 30 m buffer.

15.3 Significant Wildlife Habitat Mitigation

The Significant Wildlife Habitat Mitigation Support Tool (SWHMiST) is designed to help mitigate impacts on wildlife habitats during development processes. It provides guidance on understanding the functions of wildlife habitats, potential impacts, and recommended mitigation approaches to minimize or avoid these impacts

The Subject Lands and Study Area (or habitats with noticeable connection to the Study Area) were evaluated against SWH criteria and the following SWH was either confirmed, considered to be candidate, or could not be ruled out:

Seasonal Concentration Areas

- Candidate Bat maternity colonies
- Confirmed Other Rare Vegetation Communities
- Candidate Amphibian Breeding Habitat (Woodland)
- Candidate Amphibian Breeding Habitat (Wetland).

MiST Index #12 (Bat Maternity Colonies) was reviewed to mitigate potential impacts to bat maternity colonies. It's possible that bats may roost in the Significant Woodland near the Subject Lands, thus, avoidance of natural habitats and timing of vegetation clearing is recommended to avoid impacts to potential roosting bats.

Other Rare Vegetation Communities

A MiST has not been published for Other Rare Vegetation Communities for the MAM4. However, like other SWH mitigation specified in this EIS, feature avoidance and a protection setback and enhanced vegetation protection zone from the wetland will mitigate potential impacts from the proposed development. Note that the MAM4 is at the northern limit of the Subject Lands, situated well-away from the proposed development.

Candidate Amphibian Breeding Habitat (Woodland)

MiST#14 has been reviewed for mitigation design to avoid adverse impacts to the amphibian breeding habitat. Site selection is an important component of a successful mitigation strategy. As such, no development intrusion is proposed in the wetland or woodland and a protection buffer has been designed. In addition, water balance and a dewatering mitigation plan has also been developed.

Candidate Amphibian Breeding Habitat (Wetland)

MiST#15 has been reviewed for mitigation design to avoid adverse impacts to the amphibian breeding habitat. Mitigation has been designed in the same for both Candidate Amphibian Breeding Habitats.

15.4 Timing Windows

Timing windows are an effective strategy to avoid harm to sensitive species. Three timing windows are recommended in this application to avoid harm to nesting birds, roosting bats, and to animals which, although quite unlikely, may be hibernating in the existing pavement slabs.

Nesting Birds

- Vegetation removals should occur outside of the nesting period considered to be April 1 – August 31.

Roosting Bats

- Vegetation removals should occur outside of the bat roosting period considered to be April 1 – November 30.

15.5 Vegetation Protection Zone Enhancement

Setbacks are typically included in development site plans to comply with provincial and municipal standards to maintain a vegetation protection zone between sensitive natural heritage features and the proposed development and to minimize impacts on ecological functions.

The Town of Collingwood Official Plan (2024) and Ontario Regulation 41/24 recommend a minimum 30 m buffer on wetland boundaries.

A Vegetation Protection Zone Enhancement Plan will have objectives of preserving and improving the ecological integrity of the wetland buffer through strategic planting and maintenance. The plan should be submitted/finalized at the detail design stage by a qualified landscape designer/architect, and should include:

- Tree Planting: selection of native tree species that are well-suited to the local climate and soil conditions. Trees will be planted in a manner that promotes biodiversity, provides habitat for wildlife, and enhances the aesthetic value of the area.
- Shrub Planting: selection of a variety of shrubs to create a layered vegetation structure. Shrubs will be selected for their ability to provide food and shelter for local fauna, as well as their role in preventing soil erosion and improving soil health.
- Maintenance and Monitoring: Regular monitoring of the planted vegetation to ensure healthy growth and early detection of any issues, such as invasive species colonization. Maintenance activities will include watering, mulching, and pruning as necessary.
- Implementation strategy (i.e., responsibilities, coordination, safety, damage, topsoil specifications, etc.).
- Detailed site preparation plans.
- Maintenance and watering.
- Evaluation, monitoring, and reporting.
- Survivorship guarantee.

15.6 Compliance Monitoring During Construction by Civil Engineering Inspectors

- Inspection/confirmation that vegetation removals occurred during the appropriate window to mitigate impacts to wildlife.
- Regular erosion and sediment controls (ESC) inspections to ensure that ESC's are performing as intended and to ensure that the work zone delineation and natural heritage setbacks are respected.
- Regular tree protection fence/hoarding inspections to ensure that they are performing as intended and to ensure that tree protection zones are respected.
- In addition to regular ESC inspections, a wildlife encounter protocol should be developed to search for, safely and without harm capture wildlife (as possible) and relocate to suitable nearby habitat. Notifications of wildlife capture should be provided to the Municipality MECP, as appropriate (depending on species status and governing policy).
- Regular monitoring of construction dewatering activities and enacting the proposed mitigation plan if triggered by adverse results of dewatering discharge.

15.7 Performance Monitoring Post-Construction

- Monitoring success of restoration and landscape plantings and replacements as required, within the warranty period.
- Monitoring effectiveness of LID components. A post-construction monitoring program is to be developed by a civil engineer and provided at detailed design for the operation and maintenance of the proposed SWM components to ensure their functionality long-term.

16 Policy Conformance

An essential test of natural heritage protection planning is to demonstrate whether a proposed activity meets the requirements of various tiers of protection policy. The following addresses policy conformance.

16.1 Policies and Proposed Site Plan

Regulatory policy is compared against the proposed development application in **Table 7**.

Table 7. Demonstration of Provincial Planning Statement Adherence

Relevant Federal and Provincial Policy	Conformance
The *Fisheries Act* requires that new developments avoid causing serious harm to fish unless authorized by the Minister of Fisheries and Oceans Canada.	The proposed works are not expected to cause serious harm to fish given the project location compared to the nearest habitat, the stormwater management plan, and implementation of best practices regarding erosion and sedimentation controls.
The *Migratory Birds Convention Act* is administered by the Canadian Wildlife Service of Environment Canada. The Migratory Birds Convention Act enables regulations that require authorization for designs which cause permanent destruction/disturbance of migratory bird habitat and authorization for killing/removing migratory bird fledglings, eggs, nests, or for other harmful activity to migratory birds to enable bridge construction/demolition, construction access and construction work areas. The subject property falls within Environment Canada's Nesting Zone C2 (Nesting Period: early-April to late-August).	Vegetation removals are to be conducted outside of the timing window for nesting birds.
Section 9 of the *Endangered Species Act* prohibits similar activities as the SARA, such as prohibitions on the kill, harm, harass, capture or take of a living species at risk, or to possess, transport, collect, buy, sell, lease, trade a species at risk (living or dead). Section 10 of the ESA prohibits the damage or destruction of habitat of endangered, threatened, or extirpated species.	Timing window and habitat avoidance mitigation has been recommended for bats that frequent the Subject Lands. The Black Ash found on the Subject Lands are exempt from the ESA (see O.Reg 6/24) due to declining health but are protected by the 30m wetland buffer.
Provincial Planning Statement, 2024	Diversity and connectivity of natural features and the ecological function and biodiversity of natural heritage systems will be maintained. Development is not proposed in significant wetlands, significant woodlands, significant valleylands, significant wildlife habitat, significant areas of natural and scientific interest, coastal wetlands, or fish habitat. This EIS evaluates the development proposal on lands adjacent to the Subject Lands and demonstrates that there will be no negative impacts on the natural features on adjacent lands to the natural features and areas described above. The proposed development respects the 30m setback from potential natural hazards (wetland). This EIS recognizes that while the natural setting has been affected by intense urbanization activities. It also emphasizes the high natural heritage value in the wetland. Potential development impacts on the natural heritage system have been assessed, and a detailed list of mitigation has been designed to minimize or eliminate negative effects on terrestrial and aquatic habitat features and functions by avoiding the NHS and by providing an enhanced setback, avoiding impacts to hydrologic function of wetland by implementing a SWM strategy, designing a dewatering monitoring program with mitigation triggers, and providing a natural heritage protection setback. The combined efforts

Relevant Federal and Provincial Policy	Conformance
	avoid impacts to sensitive vegetation communities, species of concern, and NHS features and functions. A thorough background information search has confirmed that habitats for vulnerable, rare, threatened, or endangered plant and/or animal species occur within the Subject Lands and Study Area Since the proposed development area abuts the NHS, a conservative approach has taken into consideration the possibility that these species utilize habitats of the development zone. This provides the rationale for recommended mitigation such as timing windows, feature protection setbacks, habitat enhancement. Development or site alteration is outside of the Natural Heritage System. Natural features, areas, and systems contributing to the conservation of land, including areas providing hydrologic functions and ecological functions have been avoided, pollution will be prevented with good housekeeping practices, and erosion hazards are mitigated with the requirement for preparation of a robust erosion and a sediment control plan.

Table 8. Demonstration of Official Plan Policy Conformance

Relevant Town of Collingwood Official Plan Policy	Conformance
5.6.(b)(i)	The proposed development plan recognizes the Environmental Protection Designation governing the Subject Lands and provides a 30 m buffer to the wetland for protection and conservation.
5.6.(c)(i)	Natural Hazards have been integrated within the Environmental Protection Designation.
5.6.(c)(ii)	Appropriate stormwater management has been designed into the proposed plan.
5.6.(c)(iii)	Endangered Species/Species at Risk were screened through background information sources, searched for during detailed surveys, and MECP was consulted where applicable. Appropriate mitigation has been designed to mitigate or avoid impacts to SAR.
5.6.(c)(iv)	Urban Forestry has been considered through completion of a detailed tree inventory and preservation plan, assessment of natural heritage features and significance, with the result that only a portion of cultural woodland and cultural meadow habitats will be removed.
5.6.1.1(a)	The proposed development plan is compliant with the intent of the OP to ensure that lands within the Environmental Protection Designation are protected from the impacts of development and that the biodiversity and ecological function of the features incorporated within the Designation are protected, maintained, restored or, where possible, enhanced for the long-term. The wetland is protected by implementing a 30 m development setback and will be enhanced through removal of existing pavement currently to the edge of wetland, and by planting native, sustaining tree, shrub, and groundcover species strategic to habitat improvement.
5.6.1.3(b)	The Environmental Protection Designation includes a 30m buffer from identified natural heritage features to protect their ecological and hydrological functions.

Relevant Town of Collingwood Official Plan Policy	Conformance
5.6.1.4(a)	The boundaries of the Environmental Protection Designation shown on Schedule 2 were conceptually delineated in the Official Plan. It is the intent of the Plan that their precise locations be determined in consultation with the Conservation Authority and any other agency having jurisdiction, at the time of the consideration of specific development applications. To that extent and as part of this EIS, the wetland boundary was staked by LGL and endorsed by the NVCA.
5.6.1.4(d)	No buildings or structures, nor the cutting of trees, site alteration, or the removal or placing of fill of any kind whether originating on the site or elsewhere, may be permitted within the Environmental Protection Designation, except with the approval of the Town, in consultation with the Conservation Authority and any other agency having jurisdiction. Lands within the Environmental Protection Designation shall generally not form part of any new lots to be created for the purposes of development, other than to facilitate the establishment of the uses permitted by the Official Plan. Vegetation removal has not occurred on the Subject Lands through this application process. The applicant will acquire all relevant permissions and approvals prior to site alteration.
5.6.1.4(e)	This Environmental Impact Study has been prepared by a team of qualified inter-disciplinary professionals using appropriate in-season field work, and in accordance with any applicable Federal, Provincial, and Town requirements to demonstrate that there will be no negative impacts on natural heritage features, or their ecological functions.
5.6.1.4(i)	The establishment of any permitted use (assumed to be activities other than Permitted Uses as defined in the OP) shall demonstrate no negative impact to any element of the Natural Heritage System or associated ecological functions, as demonstrated through this Environmental Impact Study.
5.6.4.1(a)	In addition to the Natural Heritage System identified on the Schedules in the OP, it is a requirement that all applications for development, regardless of whether they are within a defined element of the Natural Heritage System, be accompanied by an analysis of Species at Risk, in accordance with Provincial legislation and policies to ensure the long-term conservancy of habitat for threatened and endangered species. This EIS includes an analysis prepared by a qualified firm with appropriate in-season field work, and MECP was consulted and accepted the analysis and proposed mitigation. Further, the EIS has recommended a set of conditions of approval (Section 17) to ensure that natural heritage, species at risk protection and mitigation strategies are implemented through design and construction phases. .

17 Recommendations for Conditions of Approval

To ensure mitigation is implemented the following recommendations should be included as part of Draft Plan Approval:

- Site alteration, specifically within NVCA regulation area should be reviewed by NVCA with issuance of a permit (O. Reg. 41/24) to the discretion of NVCA.
- Conditions to restrict or discourage vegetation removals during important wildlife periods, such as the nesting bird window and the roosting bat window. Tree removals should be avoided between April 1 and November 30 for roosting bats, and vegetation removals should be avoided between April 1 and August 31 for breeding birds.
- Condition to restrict development from 30m of the wetland boundary.
- Conditions to plant trees/shrubs within the Vegetation Protection Zone, with a detailed landscape plan to be prepared by a qualified professional and to the satisfaction of the Town and NVCA.

- Provision of a two-phase erosion and sedimentation control plan and commitment for regular inspections/maintenance during the construction period, to the satisfaction of the Town and NVCA.
- A rigid fence to be erected at the property line to restrict future owners from encroachment into the NHS/Environmental Protection Designation.
- Conditions for stormwater quantity and quality controls as described in Tatham Engineering and DS Consultant submissions, to the satisfaction of the Town of Collingwood and NVCA.
- Conditions for a Water Taking and Discharge Plan to the satisfaction of the Town and NVCA.
- Conditions to consider bird-friendly building design at the detail design stage.

18 Summary and Conclusions

The proposed development includes a 6-storey tower with underground parking, stormwater management tank interior to the building and outletting to the municipal sewer system, green roof, and landscaped areas and rain garden intended to minimize impervious surfaces and maximize infiltration to the extent possible. A wetland occurs on much of the Subject Lands, part of the Silver Creek Provincially Significant Wetland complex, will be protected with a 30-metre buffer. The buffer is proposed for enhancement with tree and shrub plantings.

While the proposed development is contained within an existing urbanized portion of the Subject Lands, it is located adjacent to the aforementioned wetland which is host to NVCA regulated areas, aquatic habitat, a variety of flora and fauna species, some of which are species at risk, and conservatively considered candidate significant wildlife habitat.

While these aforementioned sensitivities are not found within the proposed development area, it is integral to consider protection and mitigation during design of the development plan. To that end the following has been included in this process:

- Identification of natural heritage system boundaries, in this case, delineation of the wetland boundary.
- Detailed tree inventory and preservation planning prepared under separate cover.
- Design of natural feature protection setbacks (30 metres from wetland).
- Design of stormwater management features to meet Town and NVCA criteria and review satisfaction for storm runoff control.
- Design of mitigation measures to include timing windows for vegetation removals, erosion and sediment control during construction, and a rigid Water Taking and Discharge Plan.
- Recommendations to formalize requirements for bird-friendly building design at the SPA stage.

Connectivity of the NHS will not change in the post-development scenario due to existing urbanization encapsulating the Subject Lands. Trees to be removed to facilitate the proposed development will be replaced/compensated in the Vegetation Protection Zone (through enhancement efforts).

Given all of the above, a residual negative impact to natural heritage features and functions is not anticipated as a result of this development proposal. This conclusion is based on and supported by the following:

- Redevelopment will occur only within existing heavily urbanized landscape setting and former motel lands with existing pavement occupying the proposed development area.
- Appropriate protection setbacks have been applied to the natural heritage system.
- The development proposal supports the restoration of natural green elements and incorporates use of built green elements into site design.
- Secondary sources and detailed surveys revealed the presence of Species at Risk, but redevelopment activities are not expected to harm or harass any SAR or influence their habitats, all of which are outside of the proposed development envelope and beyond influence from the proposed development activities.
- Mitigation has been recommended to minimize/eliminate impacts associated with bird and bat migration.

- A demonstration of conformity to environment protection policies contained in the PPS, the Town of Collingwood Official Plan (2024), and NVCA regulations.

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Appendix A
Data Collected by Birks Natural Heritage Consulting Inc.

	Survey #1 April 28, 2021	Survey #2 May 20, 2021
Monitoring Station 1	Spring Peeper (L1-5) American Toad (L1-3) Wood Frog (L1-1)	Green Frog (L1-4) American Toad (L1-3) Spring Peeper (L1-2)
Monitoring Station 2	Spring Peeper (L3) American Toad (L1-1) Wood Frog (L1-5)	Grey Tree Frog (L1-1)

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

			Point Count Stations [A]			Breeding	Conservation Rank		
Family	Scientific Name	Common Name	1	2	Incidental	Evidence [D]	G-rank[E]	S-rank[F]	SARO Status[G]
Corvidae	*Corvus brachyrhynchos*	American Crow	FO	FO		observed	G5	S5B	NAR
Fringillidae	*Spinus tristis*	American Goldfinch	S/FO		X	possible	G5	S5B	NAR
Parulidae	*Setophaga ruticilla*	American Redstart	S	S	X	possible	G5	S5B	NAR
Paridae	*Poecile atricapillus*	Black-capped Chickadee			X	possible	G5	S5	NAR
Parulidae	*Mniotilta varia*	Black-and-white Warbler		S	X	possible	G5	S5	NAR
Parulidae	*Setophaga virens*	Black-throated Green Warbler			X	observed	G5	S5	NAR
Corvidae	*Cyanocitta cristata*	Blue Jay	C/FO	C	X	possible	G5	S5	NAR
Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing			X	observed	G5	S5B	NAR
Icteridae	*Quiscalus quiscula*	Common Grackle	FO			observed	G5	S5B	NAR
Tyrannidae	*Myiarchus crinitus*	Great Crested Flycatcher			X	observed	G5	S4B	NAR
Fringillidae	*Haemorhous mexicanus*	House Finch	S			possible	G5	S5B	NAR
Passeridae	*Passer domesticus*	House Sparrow	P			possible	G5	SNA	NAR
Troglodytidae	*Troglodytes aedon*	House Wren		S	X	possible	G5	S5B	NAR
Columbidae	*Zenaida macroura*	Mourning Dove	S		X	possible	G5	S5	NAR
Cardinalidae	*Cardinalis cardinalis*	Northern Cardinal	S			possible	G5	S5	NAR
Picidae	*Dryocopus pileatus*	Pileated Woodpecker			X	observed	G5	S5	NAR
Vireonidae	*Vireo olivaceus*	Red-eyed Vireo	S	S		possible	G5	S5B	NAR
Icteridae	*Agelaius phoeniceus*	Red-winged Blackbird			X	observed	G5	S4	NAR
Laridae	*Larus delawarensis*	Ring-billed Gull	FO			observed	G5	S5B,S4N	NAR
Passerellidae	*Melospiza melodia*	Song Sparrow	S	S		possible	G5	S5B	NAR
Parulidae	*Setophaga petechia*	Yellow Warbler			X	observed	G5	S5B	NAR

Surveys Conditions:
[A] June 1, 2021; Start Time 0600hr/ End Time 0620hr; Temperature 13°C; Wind B0; Cloud Cover 0%; Precipitation Nil

[D] 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.
FO - Flyover
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

Conservation Rank - from MECP, NHIC, SAR and SARO Lists
[E] S-rank - S1 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common
[F] G-Rank - G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure
[G] SARO - EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

Spring Vascular Plant List

Scientific Name	Common Name	Provincial S_Rank	Global G_Rank	Provincial Endangered Species Act (ESA)
Abies balsamea	Balsam Fir	S5	G5	NAR
Acer negundo	Manitoba Maple	S5	G5	NAR
Acer saccharinum	Silver Maple	S5	G5	NAR
Ambrosia artemisiifolia	Common Ragweed	S5	G5	NAR
Arctium minus	Common Burdock	SNA	GNR	NAR
Asclepias syriaca	Common Milkweed	S5	G5	NAR
Betula papyrifera	Paper Birch	S5	G5	NAR
Carex gracillima	Graceful Sedge	S5	G5	NAR
Circaea alpina	Small Enchanter's Nightshade	S5	G5	NAR
Cirsium arvense	Canada Thistle	SNA	G5	NAR
Cornus alternifolia	Alternate-leaved Dogwood	S5	G5	NAR
Cornus sericea	Red-osier Dogwood	S5	G5	NAR
Daucus carota	Wild Carrot	SNA	GNR	NAR
Equisetum sp.	Horsetail species	---	---	NAR
Euthamia graminifolia	Grass-leaved Goldenrod	S5	G5	NAR
Fragaria virginiana	Wild Strawberry	S5	G5	NAR
Fraxinus americana	White Ash	S4	G5	NAR
Fraxinus nigra	Black Ash Black Ash Updated to S4	S3	G5	NAR
Fraxinus pennsylvanica	Red Ash	S4	G5	NAR
Geranium robertianum	Herb-Robert	S5	G5	NAR
Glyceria striata	Fowl Mannagrass	S5	G5	NAR
Impatiens capensis	Spotted Jewelweed	S5	G5	NAR
Juncus sp.	Rush species	---	---	NAR
Lonicera tatarica	Tatarian Honeysuckle	SNA	GNR	NAR
Lotus corniculatus	Garden Bird's-foot Trefoil	SNA	GNR	NAR
Lysimachia nummularia	Creeping Jennie	SNA	GNR	NAR
Maianthemum racemosum	Large False Solomon's Seal	S5	G5	NAR
Malus pumila	Common Apple	SNA	G5	NAR
Narcissus pseudonarcissus	Common Daffodil	SNA	GNR	NAR
Onoclea sensibilis	Sensitive Fern	S5	G5	NAR
Parthenocissus quinquefolia	Virginia Creeper	S4?	S5	NAR
Phalaris arundinacea	Reed Canarygrass	S5	G5TNR	NAR
Phragmites australis ssp. australis	European Reed	SNA	G5T5	NAR
Picea glauca	White Spruce	S5	G5	NAR
Pinus sylvestris var. sylvestris	Scots Pine	SNA	GNRTNR	NAR
Plantago lanceolata	English Plantain	SNA	G5	NAR
Populus balsamifera	Balsam Poplar	S5	G5	NAR
Populus tremuloides	Trembling Aspen	S5	G5	NAR
Pteridium aquilinum	Bracken Fern	S5	G5	NAR
Rhamnus cathartica	European Buckthorn	SNA	GNR	NAR

Scientific Name	Common Name	Provincial S_Rank	Global G_Rank	Provincial Endangered Species Act (ESA)
Ribes cynosbati	Prickly Gooseberry	S5	G5	NAR
Rosa multiflora	Multiflora Rose	SNA	GNR	NAR
Rubus idaeus	Red Raspberry	S5	G5	NAR
Salix nigra	Black Willow	S4	G5	NAR
Taraxacum officinale	Common Dandelion	SNA	G5	NAR
Thuja occidentalis	Eastern White Cedar	S5	G5	NAR
Toxicodendron radicans var. radicans	Eastern Poison Ivy	S5	G5T5	NAR
Trifolium pratense	Red Clover	SNA	GNR	NAR
Tussilago farfara	Coltsfoot	SNA	GNR	NAR
Typha angustifolia	Narrow-leaved Cattail	SNA	G5	NAR
Viburnum opulus ssp. trilobum	Highbush Cranberry	S5	GNR	NAR
Vicia sativa	Common Vetch	SNA	GNR	NAR
Vinca minor	Periwinkle	SNA	GNR	NAR
Viola renifolia	Kidney-leaved Violet	S5	G5	NAR
Vitis riparia	Riverbank Grape	S5	G5	NAR

Provincial Rank: S1 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common
Global Rank: G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure
ESA: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

Appendix B
Vascular Plant List (LGL)

Appendix B
Vascular Plant List

	Scientific Name	Common Name	GRank	SRank	MNR	COSEWIC	CUM1-1	CUW1	FOM7-2	H	MAM4-1	MAM2-10	SWC1-1	SWD2-2	SWM4-1
	EQUISETACEAE	**HORSETAIL FAMILY**													
	Equisetum arvense	field horsetail	G5	S5					X						
	Equisetum pratense	meadow horsetail	G5	S5					X					X	
	Equisetum variegatum ssp. *variegatum*	variegated horsetail	G5T	S5							X	X			
	DENNSTAEDTIACEAE	**BRACKEN FERN FAMILY**													
	Pteridium aquilinum var. *latiusculum*	eastern bracken-fern	G5T	S5					X						
	DRYOPTERIDACEAE	**WOOD FERN FAMILY**													
	Athyrium filix-femina var. angustum	northern lady fern	G5T5	S5							X	X		X	X
	Onoclea sensibilis	sensitive fern	G5	S5										X	
	PINACEAE	**PINE FAMILY**													
	Abies balsamea	balsam fir	G5	S5				X							
*	*Picea pungens*	Colorado spruce	G5	SE1				X		X					
*	*Pinus sylvestris*	scotch pine	G?	SE5				X	X						
	Picea glauca	white spruce	G5	S5			X	X							
	CUPRESSACEAE	**CEDAR FAMILY**													
	Thuja occidentalis	eastern white cedar	G5	S5					X				X	X	X
	RANUNCULACEAE	**BUTTERCUP FAMILY**													
	Anemone canadensis	Canada anemone	G5	S5							X	X			
	Caltha palustris	marsh marigold	G5	S5										X	
	Ranunculus sceleratus var. *sceleratus*	cursed buttercup	G5T5	S5										X	
*	*Ranunculus acris*	tall buttercup	G5	SE5			X					X			
	BETULACEAE	**BIRCH FAMILY**													
	Betula papyrifera	white birch	G5	S5					X				X	X	X
	CARYOPHYLLACEAE	**PINK FAMILY**													
*	*Dianthus armeria*	deptford pink	G?	SE5			X								
	GUTTIFERAE	**ST. JOHN'S-WORT FAMILY**													
*	*Hypericum perforatum*	common St. John's-wort	G?	SE5			X								
	VIOLACEAE	**VIOLET FAMILY**													
	Viola renifolia	kidney-leaved violet	G5	S5					X						
	SALICACEAE	**WILLOW FAMILY**													
	Populus balsamifera ssp. *balsamifera*	balsam poplar	G5T?	S5					X		X			X	X
	Populus deltoides	cottonwood												X	X
*	*Salix fragilis*	crack willow	G?	SE5										X	
*	*Populus alba*	silver poplar	G5	SE5										X	

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Vascular Plant List

	Scientific Name	Common Name	GRank	SRank	MNR	COSEWIC	CUM1-1	CUW1	FOM7-2	H	MAM4-1	MAM2-10	SWC1-1	SWD2-2	SWM4-1
	Populus tremuloides	trembling aspen	G5	S5					X		X			X	X
*	*Salix alba*	white willow	G5	SE4										X	
	PRIMULACEAE	**PRIMROSE FAMILY**													
*	*Lysimachia nummularia*	moneywort	G?	SE5					X					X	
	GROSSULARIACEAE	**GOOSEBERRY FAMILY**													
	Ribes cynosbati	prickly gooseberry	G5	S5					X						
	ROSACEAE	**ROSE FAMILY**													
*	*Malus pumila*	common apple	G5	SE5				X							
*	*Rosa multiflora*	multiflora rose	G?	SE4					X						
	Physocarpus opulifolius	ninebark	G5	S5			X								
	Fragaria virginiana ssp. *virginiana*	scarlet strawberry	G5T?	SU			X		X						
	Rubus idaeus ssp. *strigosus*	wild red raspberry	G5T	S5					X						
	FABACEAE	**PEA FAMILY**													
*	*Lotus corniculatus*	bird's-foot trefoil	G?	SE5			X	X				X			
*	*Medicago lupulina*	black medick	G?	SE5			X								
*	*Vicia sativa* ssp. *nigra*	spring vetch	G?T?	SE5			X								
*	*Vicia cracca*	tufted vetch	G?	SE5			X								
*	*Melilotus alba*	white sweet-clover	G?	SE5			X								
	LYTHRACEAE	**LOOSESTRIFE FAMILY**													
*	*Lythrum salicaria*	purple loosestrife	G5	SE5							X	X			
	ONAGRACEAE	**EVENING-PRIMROSE FAMILY**													
	Circaea lutetiana ssp. *canadensis*	yellowish enchanter's nightshade	G5T5	S5					X						
	CORNACEAE	**DOGWOOD FAMILY**													
	Cornus alternifolia	alternate-leaved dogwood	G5	S5					X						
	Cornus rugosa	round-leaved dogwood	G5	S5					X						
	Cornus sericea ssp. *sericea*	red-osier dogwood	G5	S5							X			X	
	RHAMNACEAE	**BUCKTHORN FAMILY**													
*	*Rhamnus cathartica*	common buckthorn	G?	SE5				X	X					X	X
	VITACEAE	**GRAPE FAMILY**													
	Parthenocissus vitacea	inserted Virginia-creeper	G5	S5					X						X
	Vitis riparia	riverbank grape	G5	S5				X	X		X				X
	ACERACEAE	**MAPLE FAMILY**													
	Acer negundo	Manitoba maple	G5	S5					X						
	Acer saccharinum	silver maple	G5	S5										X	
	Acer saccharum var. *saccharum*	sugar maple	G5T?	S5				X							

Appendix B
Vascular Plant List

	Scientific Name	Common Name	GRank	SRank	MNR	COSEWIC	CUM1-1	CUW1	FOM7-2	H	MAM4-1	MAM2-10	SWC1-1	SWD2-2	SWM4-1
	ANACARDIACEAE	**SUMAC FAMILY**													
	Toxicodendron radicans ssp. *negundo*	poison-ivy	G5T	S5			X		X						X
	GERANIACEAE	**GERANIUM FAMILY**													
*	*Geranium robertianum*	herb-robert	G5	SE5					X						
	BALSAMINACEAE	**TOUCH-ME-NOT FAMILY**													
	Impatiens capensis	spotted touch-me-not	G5	S5					X			X	X	X	X
	APIACEAE	**PARSLEY FAMILY**										X			
*	*Daucus carota*	wild carrot	G?	SE5			X								
	APOCYNACEAE	**DOGBANE FAMILY**													
*	*Vinca minor*	periwinkle	G?	SE5					X						X
	ASCLEPIADACEAE	**MILKWEED FAMILY**													
	Asclepias syriaca	common milkweed	G5	S5			X	X				X			
*	*Cynanchum rossicum*	swallow-wort	G?	SE5			X								
	SOLANACEAE	**POTATO FAMILY**													
*	*Solanum dulcamara*	bitter nightshade	G?	SE5										X	
	CONVOLVULACEAE	**MORNING-GLORY FAMILY**													
*	*Convolvulus arvensis*	field bindweed	G?	SE5			X								
	BORAGINACEAE	**BORAGE FAMILY**													
*	*Echium vulgare*	blueweed	G?	SE5			X								
	LAMIACEAE	**MINT FAMILY**													
*	*Prunella vulgaris* ssp. *vulgaris*	common heal-all	G5T?	SE3			X							X	
	Lycopus uniflorus	northern water-horehound	G5	S5							X		X	X	
	PLANTAGINACEAE	**PLANTAIN FAMILY**													
*	*Plantago major*	common plantain	G5	SE5			X								
*	*Plantago lanceolata*	ribgrass	G5	SE5			X	X							
	OLEACEAE	**OLIVE FAMILY**													
	Fraxinus nigra	black ash	G5	S5										X	
	Fraxinus pennsylvanica	red ash	G5	S5			X	X	X				X	X	X
	Fraxinus americana	white ash	G5	S5					X					X	
	SCROPHULARIACEAE	**FIGWORT FAMILY**													
*	*Veronica anagallis-aquatica*	water speedwell	G5	SE5										X	
	LENTIBULARIACEAE	**BLADDERWORT FAMILY**													
	Utricularia macrorhiza	greater bladderwort	G5	S5										X	
	RUBIACEAE	**MADDER FAMILY**													
	Galium sp.	bedstraw												X	

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Vascular Plant List

	Scientific Name	Common Name	GRank	SRank	MNR	COSEWIC	CUM1-1	CUW1	FOM7-2	H	MAM4-1	MAM2-10	SWC1-1	SWD2-2	SWM4-1
	CAPRIFOLIACEAE	**HONEYSUCKLE FAMILY**													
*	*Viburnum opulus*	guelder rose	G5	SE4					X					X	
*	*Lonicera tatarica*	tartarian honeysuckle	G?	SE5					X						
	ASTERACEAE	**ASTER FAMILY**													
	Aster sp.	aster							X			X			
*	*Cirsium vulgare*	bull thistle	G5	SE5					X						
*	*Cirsium arvense*	Canada thistle	G?	SE5			X								
*	*Cichorium intybus*	chicory	G?	SE5			X								
*	*Tussilago farfara*	coltsfoot	G?	SE5									X	X	
*	*Arctium minus*	common burdock	G?T?	SE5			X								
*	*Taraxacum officinale*	common dandelion	G5	SE5			X	X				X			
	Ambrosia artemisiifolia	common ragweed	G5	S5			X	X							
	Erigeron annuus	daisy fleabane	G5	S5			X								
*	*Sonchus arvensis* ssp. *arvensis*	field sow-thistle	G?T?	SE5					X						
	Euthamia graminifolia	flat-topped bushy goldenrod	G5	S5			X	X							
	Solidago sp.	goldenrod					X	X				X			
*	*Leucanthemum vulgare*	ox-eye daisy	G?	SE5			X								
	Erigeron philadelphicus var. *philadelphicus*	Philadelphia fleabane	G5T?	S5			X								
*	*Matricaria maritima* ssp. *maritima*	seaside camomile	G5T?	SE?			X								
	ALISMATACEAE	**WATER-PLANTAIN FAMILY**													
	Alisma plantago-aquatica	common water-plantain	G5	S5									X	X	
	LEMNACEAE	**DUCKWEED FAMILY**													
	Lemna minor	lesser duckweed	G5	S5									X	X	
	JUNCACEAE	**RUSH FAMILY**													
	Juncus tenuis	path rush	G5	S5										X	
	Juncus effusus ssp. *solutus*	soft rush	G5T?	S5							X				
	CYPERACEAE	**SEDGE FAMILY**													
	Carex stipata	awl-fruited sedge	G5	S5									X	X	
	Carex bebbii	Bebb's sedge	G5	S5							X			X	
	Schoenoplectus pungens var. *pungens*	common three-square	G5	S5							X				
	Scirpus atrovirens	dark-green bulrush	G5?	S5										X	
	Carex crinita	fringed sedge	G5	S5										X	
	Carex gracillima	graceful sedge	G5	S5										X	
	Carex lacustris	lake-bank sedge	G5	S5										X	
	Carex flava	yellow sedge	G5	S5							X	X			

Appendix B
Vascular Plant List

	Scientific Name	Common Name	GRank	SRank	MNR	COSEWIC	CUM1-1	CUW1	FOM7-2	H	MAM4-1	MAM2-10	SWC1-1	SWD2-2	SWM4-1
	Carex stricta	tussock sedge	G5	S5										X	
	Eleocharis sp.	spike-rush											X		
	POACEAE	**GRASS FAMILY**													
	Calamagrostis canadensis	Canada blue joint	G5	S5							X	X			
*	*Bromus inermis* ssp. *Inermis*	awnless brome	G4G5T?	SE5			X								
*	*Phragmites australis*	common reed	G5	S5			X								
	Glyceria striata	fowl manna grass	G5	S5									X	X	
	Poa palustris	fowl meadow grass	G5	S5							X		X		
	Poa pratensis ssp. *pratensis*	Kentucky bluegrass	G5T	S5			X	X						X	
*	*Digitaria sanguinalis*	large crabgrass	G5	SE5			X								
*	*Dactylis glomerata*	orchard grass	G?	SE5					X						
	Phalaris arundinacea	reed canary grass	G5	S5										X	
*	*Phleum pratense*	timothy	G?	SE5			X								
	SPARGANIACEAE	**BUR-REED FAMILY**													
	Sparganium eurycarpum	broad-fruited bur-reed	G5	S5										X	
	TYPHACEAE	**CATTAIL FAMILY**													
	Typha latifolia	broad-leaved cattail	G5	S5							X				
	Typha sp.	cattail											X	X	
	Typha angustifolia	narrow-leaved cattail	G5	S5							X	X			
	LILIACEAE	**LILY FAMILY**													
*	*Narcissus pseudonarcissus*	daffodil	G?	SE2				X							
	Maianthemum racemosum ssp. *racemosum*	false Solomon's seal	G5T	S5					X						
	IRIDACEAE	**IRIS FAMILY**													
	Iris sp.	iris												X	
	ORCHIDACEAE	**ORCHID FAMILY**													
*	*Epipactis helleborine*	common helleborine	G?	SE5					X						

X-indicates presence/*-indicates non-native

Appendix C
Definitions of Acronyms and Species Ranks

Appendix C Status Legend

G-Rank Global Rank

Global ranks are assigned by a consensus of the network of Conservation Data Centres, scientific experts, and the Nature Conservatory to designate a rarity rank based on the range-wide status of a species, subspecies or variety.

The most important factors considered in assigning global ranks are the total number of known, extant sites world-wide, and the degree to which they are potentially or actively threatened with destruction. Other criteria the number of known populations considered to be securely protected, the size of the various populations, and the ability of the taxon to persist at its known sites. The taxonomic distinctness of each taxon has also been considered. Hybrids, introduced species, and taxonomically dubious species, subspecies and varieties have not been included.

G1= Extremely rare; usually 5 or fewer occurrences in the overall range or very few remaining individuals; or because of some factor(s) making it especially vulnerable to extinction.

G2 = Very rare; usually between 5 and 20 occurrences in the overall range or with many individuals in fewer occurrences; or because of some factor(s) making it vulnerable to extinction.

G3 = Rare to uncommon; usually between 20 and 100 occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances.

G4 = Common; usually more than 100 occurrences; usually not susceptible to immediate threats.

G5 = Very common; demonstrably secure under present conditions.

GH = Historic, no records in the past 20 years.

GU = Status uncertain, often because of low search effort or cryptic nature of the species; more data needed.

GX = Globally extinct. No recent records despite specific searches.

? = Denotes inexact numeric rank (i.e. G4?).

G" " = A "G" (or "T") followed by a blank space means that the NHIC has not yet obtained the Global Rank from The Nature Conservancy.

G? = Unranked, or, if following a ranking, rank tentatively assigned (e.g. G3?).

Q = Denotes that the taxonomic status of the species, subspecies, or variety is questionable.

T = Denotes that the rank applies to a subspecies or variety.

S-Rank Provincial Rank

Provincial (or Sub-national) ranks are used by the Ontario Ministry of Natural Resources Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for the global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated list at least annually.

S1 = Critically imperiled in Ontario because of extreme rarity (often 5 or fewer occurrences) or because of some factor (s) such as very steep declines making it especially vulnerable to extirpation.

S2 = Imperiled in Ontario because of rarity due to very restricted range, very few populations (often 20 or fewer occurrences) steep declines or other factors making it very vulnerable to extirpation.

S3 = Vulnerable in Ontario due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 = Apparently secure - uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 = Secure - common, widespread, and abundant in Ontario.

SX = Presumed Extirpated - specie or community is believed to be extirpated from Ontario.

SNR = Unranked - conservation status in Ontario not yet assessed.

SU = Unrankable - currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

SNA = Not applicable - a conservation status rank is not applicable because the species is not a suitable target for conservation activities.

S#S# = Range rank - a numeric range rank (e.g. S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g. SU is used rather that S1S4).

COSSARO/OMNR Committee On The Status Of Species At Risk In Ontario/Ontario Ministry Of Natural Resources

The Committee on the Status of Species at Risk in Ontario (COSSARO)/Ontario Ministry of Natural Resources (OMNR) assess the provincial status of wild species that are considered to be at risk in Ontario.

EXT = Extinct A species that no longer exists anywhere.

EXP = Extirpated A species that no longer exist in the wild in Ontario but still occurs elsewhere.

END-R = Endangered (Regulated) A species facing imminent extinction or extirpation in Ontario which has been regulated under Ontario's Endangered Species Act.

END = Endangered A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's Endangered Species Act.

THR = Threatened A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

SC = Special Concern A species with characteristics that make it sensitive to human activities or natural events.

NAR = Not at Risk A species that has been evaluated and found to be not at risk.

DD = Data Deficient A species for which there is insufficient information for a provincial status recommendations.

COSEWIC Committee on the Status Of Endangered Wildlife in Canada

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the national status of wild species that are considered to be at risk in Canada.

X = Extinct A wildlife species that no longer exists.

XT = Extirpated A wildlife species no longer existing in the wild in Canada, but occurring elsewhere. E = Endangered A wildlife species facing imminent extirpation or extinction.

T = Threatened A wildlife species likely to become endangered if limiting factors are not reversed.

SC = Special Concern A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

NAR = Not at Risk A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.

DD = Data Deficient A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

Appendix D
Breeding Bird Evidence (LGL)

Wildlife Survey of Study Area by LGL Limited (2021)

Station	Scientific Name	Common Name	Breeding Bird Evidence
1	*Zenaida macroura*	Mourning Dove	T
	Dryocopus pileatus	Pileated Woodpecker	T
	Myiarchus crintus	Great Crested Flycatcher	T
	Vireo olivaceus	Red-eyed Vireo	T
	Cyanocitta cristata	Bluejay	T
	Crovus brachyrhynchos	American Crow	T
	Poecile atricapillus	Black-capped Chickadee	T
	Sitta carolinensis	White-breasted Nuthatch	S
	Troglodytes aedon	House Wren	T
	Turdus migraorius	American Robin	H
	Bombycilla cedrorum	Cedar Waxwing	T
	Passer domesticus	House Sparrow	H
	Haemorhous mexicanus	House Finch	S
	Spinus tristis	American Goldfinch	T
	Mniotilta varia	Black–and-white Warbler	T
	Setophaga ruticilla	American Redstart	S
	Setophaga petechial	Yellow Warbler	T, A
	Setophaga virens	Black-throated Green Warbler	H
	Melospiza melodia	Song Sparrow	T, A
	Cardinalis cardinalis	Northern Cardinal	T
	Agelaius phoeniceus	Red-winged Blackbird	T, A
	Quiscalus quiscula	Common Grackle	T

Legend
Breeding Bird Evidence (BBE)
Observed:
X Species observed in its breeding season (no evidence of breeding).
Possible Breeding:
H Species observed in its breeding season in suitable nesting habitat.
S Singing male present in its breeding season in suitable nesting habitat.
Probable Breeding:
A Agitated behavior or alarm calls of an adult in suitable nesting habitat during the species' breeding season.

T Permanent territory presumed through registration of territorial song on at least two days, a week apart, at the same place.
P Pair observed in their breeding season in suitable nesting habitat.
N Nest building

Confirmed Breeding:

FY Fledged young or downy young, including young incapable of sustained flight.
NY Nest with young seen or heard

Appendix E
MECP Correspondence (LGL)

From: Martin O"Halloran
To: daniel.williams2@ontario.ca
Subject: FW: MECP SARB Review:- Bat Habitat Screening & Assessment | 11476 Highway 26, Collingwood ON
Date: June 12, 2025 9:48:00 AM
Attachments: image002.png
image003.png
image004.png
image006.png

Hi Dan,
Thanks again for taking my telephone call this morning.

To summarize our discussion, my understanding is:

- Under the Ontario's Endangered Species Act (ESA), proponents of activities that may impact endangered or threatened species and their habitat have a responsibility to take steps to avoid adverse effects, and if such effects cannot be avoided, to apply for permits. Proponents also have the responsibility to ensure compliance with any conditions of a permit issued under the ESA.
- LGL Limited has prepared and Environmental Impact Study for a proposed redevelopment parcel. Wetland and treed swamp habitats are also situated on the Subject Lands but have been identified for protection with a 30m buffer - the boundary of the wetland has been endorsed by NVCA.
- Species at Risk were considered for the habitat evaluation and impact assessment aspects of the EIS. The previous EIS submission considered ESA-listed bats (at that time) as part of the assessment and mitigation plan. The revised EIS (June 2025) considers bat species that were uplisted January 2025 and a revised timing window for vegetation removal has been designed in the proposed development plan.
- Vegetation removals are not to be conducted between April 1 and November 30 to mitigate impacts to Myotis sp., Tricolored bat, Eastern Red Bat, Hoary Bat, and Silver-haired Bat.

Could you please confirm this is an accurate description of our discussion or provide additional detail as you see fit?
Regards
Marty

From: Martin O'Halloran
Sent: June 11, 2025 10:26 AM
To: Eplett, Megan (MECP) <Megan.Eplett@ontario.ca>
Subject: RE: MECP SARB Review:- Bat Habitat Screening & Assessment | 11476 Highway 26, Collingwood ON

Hi Megan,

Would you have time to give me a quick call regarding this project and the mitigation/acceptance below?

Marty

Martin O'Halloran
Senior Fish and Wildlife Technologist,
ISA Certified Arborist #1088-A, Butternut Health Assessor #708
519-622-3300 x28
www.lgl.com

From: Eplett, Megan (MECP) <Megan.Eplett@ontario.ca>
Sent: October 4, 2022 9:49 AM
To: Martin O'Halloran <mohalloran@lgl.com>
Cc: Constance Agnew <cagnew@lgl.com>
Subject: RE: MECP SARB Review:- Bat Habitat Screening & Assessment | 11476 Highway 26, Collingwood ON

Hello Martin,

Thank you for the updated information on this file and additional figures. I've had a chance to review the past information on the file as well as your responses to Shamus's comments. Please find below MECP's comment regarding this proposed development.

The Ministry of the Environment, Conservation and Parks (MECP) has reviewed the information provided submitted by LGL Consulting submitted on September 28th and October 3rd of 2022 to assess the potential impacts of the proposal on Little Brown Myotis, Northern Myotis and Eastern Small-footed Myotis which are protected under the *Endangered Species Act, 2007* (ESA).

It is understood that the development proposed on site will be located entirely out of the provincially significant wetland and

its 30m buffer and that planned tree removals will be within the cultural woodland habitat on site. It is also noted that vegetation removals on site will occur after September 30th and prior to April 1st of any given year.

Based on our review of the project documentation and information that has been provided, the conclusions that LGL Limited has made that neither sections 9 nor 10 of the ESA will be contravened for species identified above, appear reasonable and valid and therefore authorization is not required.

Should any of the project activities change, please notify MECP immediately to obtain advice on whether the changes require authorization under the ESA. Failure to carry out these projects as described could potentially result in contravention of the ESA. Further it is recommended, LGL Limited continue to monitor for species at risk activity during the course of site development to document changes, in the event that there should be any. You remain responsible for ensuring compliance with the ESA and may be subject to prosecution or other enforcement action if your activities result in any harm to an at-risk species or habitat.

Our position here is based on the information that has been provided by LGL Limited and its project team. Should information not have been made available and considered in our review or new information come to light that changes the conclusions made, or if on-site conditions and circumstances change so as to alter the basis for these conclusions, please contact the Species at Risk Branch as soon as possible to discuss next steps.

We also note that while it does not appear that an ESA permit will be required, the proposed activities may be subject to other approvals, such as those issued by local municipalities and conservation authorities. Please be advised that it is the responsibility of the proponent to be aware of and comply with all other relevant provincial or federal requirements, municipal by-laws or required approvals from other agencies. It is also the responsibility of the proponent to ensure that all required approvals are obtained and relevant policies adhered to.

Should you have any further questions or concerns please feel free to contact me.

Thank you,

Megan

Megan Eplett | Management Biologist | Landscape Species Recovery Section | Species at Risk Branch
Ministry of the Environment, Conservation and Parks | Phone: 289-221-1794 | Email: megan.eplett@ontario.ca

---

From: Martin O'Halloran <mohalloran@lgl.com>
Sent: Monday, October 3, 2022 9:59 AM
To: Eplett, Megan (MECP) <Megan.Eplett@ontario.ca>
Cc: Constance Agnew <cagnew@lgl.com>
Subject: RE: MECP SARB Review:- Bat Habitat Screening & Assessment | 11476 Highway 26, Collingwood ON

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Hi Megan,
We've since prepared an additional figure that might help with your review. The attached figure, illustrated on an air photo, shows that the proposed development is outside of the 30m PSW setback and vegetation removals are limited to CUW. Please call if you have any questions.
Cheers,
Marty

From: Martin O'Halloran
Sent: September 28, 2022 4:27 PM
To: 'megan.eplett@ontario.ca' <megan.eplett@ontario.ca>
Cc: Constance Agnew <cagnew@lgl.com>
Subject: RE: MECP SARB Review:- Bat Habitat Screening & Assessment | 11476 Highway 26, Collingwood ON

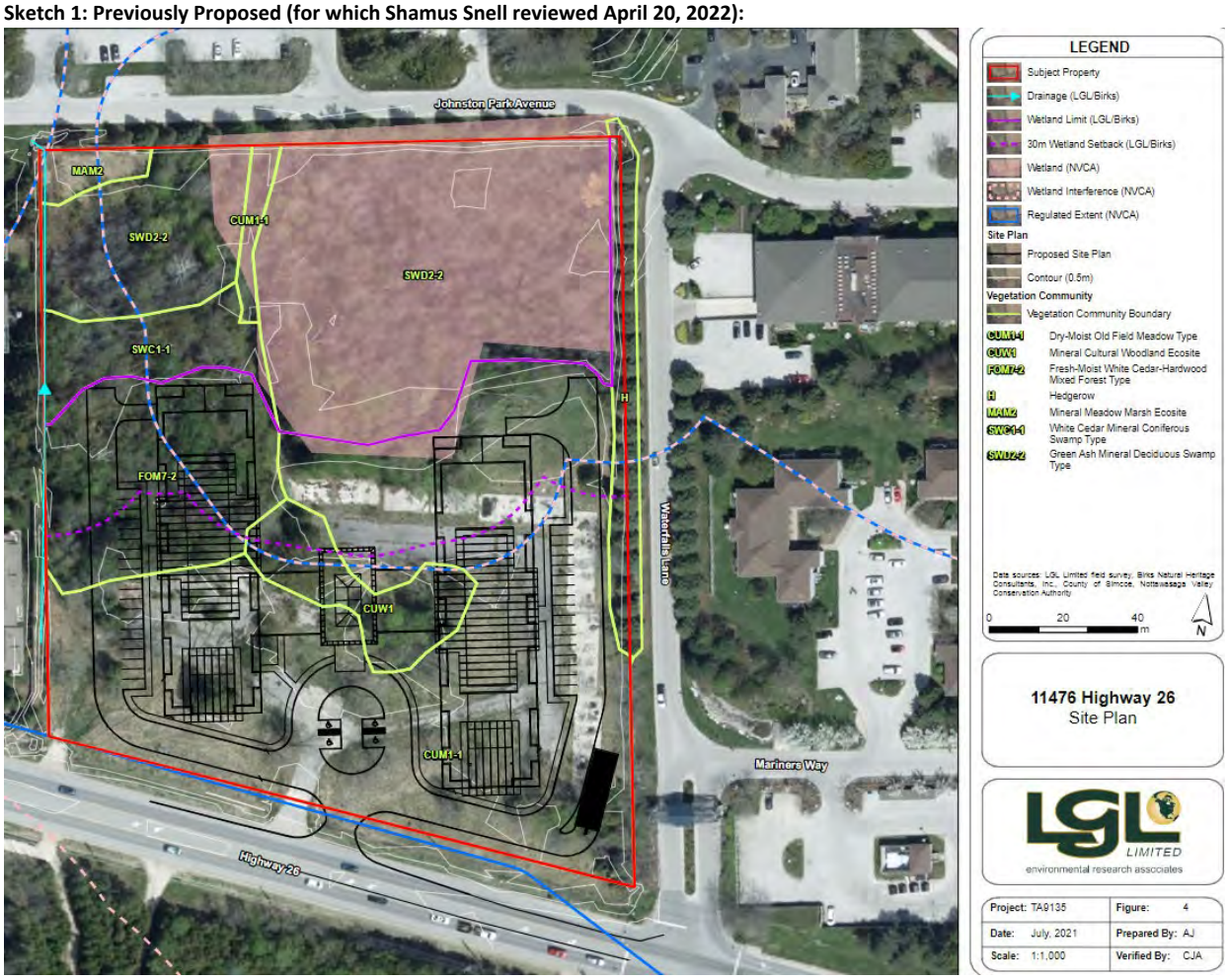
Hi Megan,
Aurora passed your contact info over to me as I understand Shamus is back at MNRF. Shamus provided review comments for an EIS prepared for 11476 Highway 26, Collingwood. Please find our responses in the comment matrix table below, in addition to a few sketches that should help illustrate the issues/solutions. Can you confirm whether me have addressed MECP concerns? I'm happy to discuss over the phone (905 928 6676) or Teams meeting.
Cheers!
Marty

Martin O'Halloran
Senior Fish and Wildlife Technologist,
ISA Certified Arborist #1088-A, Butternut Health Assessor #708
LGL Limited
environmental research associates
445 Thompson Drive, Unit 2
Cambridge Ontario N1T 2K7
Tel: 519-622-3300 x28 Fax: 519-622-3310
Visit us on the web at www.lgl.com

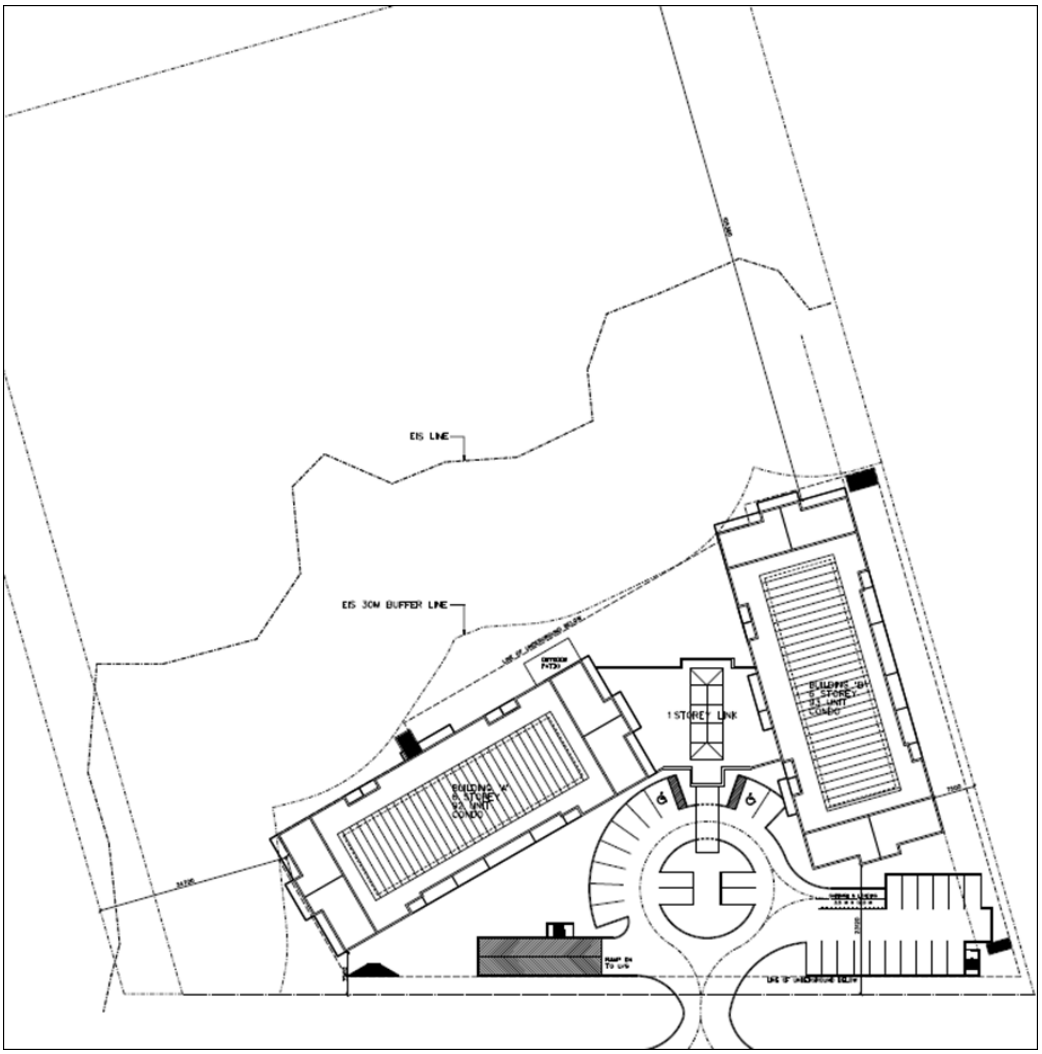
MECP Comment April 20, 2022 email	LGL Response
Please be aware that the use of the Ministry of Natural Resource and Forestry (MNRF) Guelph District "Survey Protocol for Species at Risk Bats within Treed Habitat" guideline (2017) was discontinued at the transition of the Endangered Species Act (ESA) to MECP in 2019 as it was never formally approved and endorsed by MNRF at the ministry level. Since then MECP has released the Bat Survey Standards Note 2021 to supplement the existing protocols and close some information gaps. The Bat Survey Standards Note 2021 and related protocols have been attached for your reference and use. Future surveys must utilize this survey note and protocols.	Noted. The Bat Survey Standards Note 2021 has been reviewed in preparation of this comment response document and to guide the latest site design.
Page 7 of the submitted Arborist Report states "Tree clearing shall ensure compliance of the Migratory Bird Convention Act (MBCA). The study area is within Environment and Climate Change Canada's Nesting Zone C2 (Nesting Period: April 1-August 31). This timing restriction will avoid the destruction or disturbance of bird species using the available habitat in the study area. Should this not be possible, a nesting bird survey will be undertaken by a qualified avian biologist within 24 hours before any vegetation clearing" This statement suggests that tree can be removed during the bat roosting period so long as clearance surveys are performed. There are no SARB endorsed clearance surveys for Species at Risk Bats. The removal of trees during the roosting period would be considered a contravention of Section 9 (species protection) of the Endangered Species Act and would require a permit under section 17(2)(c)(Overall Benefit) for the removal of tree during that period.	Noted. The proposed site design has been revised to respect the significant wetland and the 30m setback assigned for its protection. Tree removals are no longer proposed in the wetland or buffer. In addition, recommendations for Conditions of Approval have been added to the EIS and Arborist Report to ensure compliance with timing windows. This would result in vegetation clearing being conducted outside of sensitive spring and summer periods for both birds and bats. Vegetation removals are recommended after September 30 and prior to April 1.
No statements have been made or conclusions drawn regarding if the removal of suitable maternity roost habitat in this area will impair or eliminate the function of the Species at Risk (SAR) bat habitat. One aspect that is generally considered is if the habitat available is limited in this area based on the surrounding landscape. If habitat is considered limiting in this area then the removal of SAR Bat habitat is likely to impacts the function of the habitat. When this function is impaired an authorization under of Endangered Species Act may be required.	Two sketches are provided below illustrating the previously proposed site plan (sketch 1) and the current proposed site plan (sketch 2-ELC hasn't yet been overlaid – apologies, we can send subsequent to this email). The result is that tree removals are now minimized and limited to cultural woodland (including 1 cavity tree). Based on the abundance of potential roost habitat remaining within and in proximity to the Subject Lands, it is considered unlikely that the proposed tree removals will significantly impact the function of potential SAR bat habitat.
A consideration for determining when the function of SAR bat habitat is likely to be damaged or destroyed is the distance which female bats can travel while lactating. For example, the foraging areas used by Little Brown Myotis can range from 2-5 km from the day roost but decreases during lactation. This is understood to be limited to an area of 400 meters from the edge of the Ecological Land Classification (ELC) community which the maternity roost resides. If a significant amount of habitat is removed within the maximum distance that lactating female can travel then it will impact the function of the habitat and would be considered damage or destruction of habitat and require an Endangered Species Act	The third sketch, below, provides Subject Lands context (potential foraging habitat) within greater landscape setting. Potential foraging habitat is provided immediately surrounding the site by both the Georgian Bay shore/wetland area and the Silver Creek Swamp PSW south of Highway 26 (within 400 metres of the Subject Lands). Based on the abundance of potential foraging habitat within proximity to the Subject Lands (and in conjunction with the revised site plan), it is considered unlikely that the proposed tree removals will significantly impact the function of potential SAR bat habitat.

(ESA) authorization.	

Sketch 1: Previously Proposed (for which Shamus Snell reviewed April 20, 2022):



Sketch 2. Currently Proposed Site Plan (Sept 2022) avoiding forested/wetland habitats and 30m buffer (only cultural woodland outside of 30m wetland buffer to be removed):



Sketch 3. Potential Foraging Habitat Availability. Black line illustrates 400m distance from the Subject Lands.

From: Constance Agnew <cagnew@lgl.com>
Sent: September 28, 2022 3:35 PM
To: Martin O'Halloran <mohalloran@lgl.com>

Subject: FW: MECP SARB Review:- Bat Habitat Screening & Assessment | 11476 Highway 26, Collingwood ON

From: Snell, Shamus (MECP) <Shamus.Snell@ontario.ca>
Sent: April 20, 2022 2:25 PM
To: Constance Agnew <cagnew@lgl.com>
Subject: MECP SARB Review:- Bat Habitat Screening & Assessment | 11476 Highway 26, Collingwood ON

Hi Constance,

The Ministry of Environment, Conservation and Parks (MECP), Species at Risk Branch (SARB) has reviewed Bat Habitat Screening and Assessment for a proposed development at 11476 Highway 26, Collingwood dated March 30th, 2022 and offers the following comments for your consideration.

- Please be aware that the use of the Ministry of Natural Resource and Forestry (MNRF) Guelph District "Survey Protocol for Species at Risk Bats within Treed Habitat" guideline (2017) was discontinued at the transition of the Endangered Species Act (ESA) to MECP in 2019 as it was never formally approved and endorsed by MNRF at the ministry level. Since then MECP has released the Bat Survey Standards Note 2021 to supplement the existing protocols and close some information gaps. The Bat Survey Standards Note 2021 and related protocols have been attached for your reference and use. Future surveys must utilize this survey note and protocols.
- Page 7 of the submitted Arborist Report states "Tree clearing shall ensure compliance of the Migratory Bird Convention Act (MBCA). The study area is within Environment and Climate Change Canada's Nesting Zone C2 (Nesting Period: April 1 –August 31). This timing restriction will avoid the destruction or disturbance of bird species using the available habitat in the study area. Should this not be possible, a nesting bird survey will be undertaken by a qualified avian biologist within 24 hours before any vegetation clearing" This statement suggests that tree can be removed during the bat roosting period so long as clearance surveys are performed. There are no SARB endorsed clearance surveys for Species at Risk Bats. The removal of trees during the roosting period would be considered a contravention of Section 9 (species protection) of the Endangered Species Act and would require a permit under section 17(2)(c)(Overall Benefit) for the removal of tree during that period.
- No statements have been made or conclusions drawn regarding if the removal of suitable maternity roost habitat in this area will impair or eliminate the function of the Species at Risk (SAR) bat habitat. One aspect that is generally considered is if the habitat available is limited in this area based on the surrounding landscape. If habitat is considered limiting in this area then the removal of SAR Bat habitat is likely to impacts the function of the habitat. When this function is impaired an authorization under of Endangered Species Act may be required.
- A consideration for determining when the function of SAR bat habitat is likely to be damaged or destroyed is the distance which female bats can travel while lactating. For example, the foraging areas used by Little Brown Myotis can range from 2-5 km from the day roost but decreases during lactation. This is understood to be limited to an area of 400 meters from the edge of the Ecological Land Classification (ELC) community which the maternity roost resides. If a significant amount of habitat is removed within the maximum distance that lactating female can travel then it will impact the function of the habitat and would be considered damage or destruction of habitat and require an Endangered Species Act (ESA) authorization.

SARB is unable to confirm that the proposed mitigation strategy as currently written is appropriate to demonstrate complete avoidance of Species at Risk Bats and their habitat. If the comments above are addressed and the LGL Limited is able to confirm that no Section 9 (species protection) or Section 10 (habitat protection) contraventions will occur then no additional review will be require by SARB. If it appears that the function of this habitat will be damaged or destroyed or tree removal is planned during the bat roosting period then it is recommended that an Information Gathering Form be submitted so a formal Endangered Species Act review of this project can be completed. This will allow SARB to make a recommendation on if an Endangered Species Act authorization should be sought for the proposed project.

It is SARB preference to review these projects as a whole rather than conducting separate reviews on individual aspects of the project or specific species. This helps ensure everyone's understanding of the project is consistent, information is not misplaced, all potential impacts are considered and ensures SARB has all the information it needs to make the appropriate recommendations.

Regards,

Shamus Snell
A/ Management Biologist
Species at Risk Branch
Ministry of Environment, Conservation and Parks

Email: shamus.snell@ontario.ca

From: Constance Agnew <cagnew@lgl.com>
Sent: March 30, 2022 12:07 PM
To: Species at Risk (MECP) <SAROntario@ontario.ca>
Cc: Constance Agnew <cagnew@lgl.com>
Subject: Request for Review - Bat Habitat Screening & Assessment | 11476 Highway 26, Collingwood ON

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Good morning,

Attached please find a summary of species at risk bat habitat, assessment of impacts and proposed mitigation for the subject property at 11476 Highway 26, Collingwood.

We are requesting a review of the attached and confirmation that the proposed mitigation addresses species at risk concerns.

Please let me know if you require any further information to support your review.

Kind regards,

Constance J. Agnew, B.Sc., rcji
Vice-President, Senior Planning Ecologist
LGL Limited,
environmental research associates
22 Fisher Street, P.O. Box 280
King City, Ontario L7B 1A6
Mobile: 905-717-9482
Office: 905-833-1244
Email: cagnew@lgl.com
Web: www.lgl.com

Appendix F
Photo Appendix (LGL)

PROJECT # TA9135
July 2021

PHOTO APPENDIX

Photo 1: Former parking area within CUM community (facing northwest).

Photo 2: Refuse pile within CUM1-1 community (facing west).

Photo 3: Eastern Gartersnakes (*Thamnophis sirtalis*) found under refuse.

Photo 4: Former parking area within CUM1-1, with hedgerow in background (facing east).

PROJECT # TA9135
July 2021

PHOTO APPENDIX

Photo 5: CUM1-1 community along western limit of study area (facing north).

Photo 6: Recently dried SWC1-1 community (facing northwest).

Photo 7: CUM1-1 community facing south towards Highway 26.

Photo 8: FOM7-2 community (facing east).

PHOTO APPENDIX

Photo 9: SWD community near central part of study area.

Photo 10: American Robin *(Turdus migratorius*) nest found within SWD community

Appendix G
Significant Wildlife Habitat Screening

Table 1 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		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 [cxlviii]. 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 (eg. EHJV implementation plan) • Field Naturalist Clubs • Ducks Unlimited Canada • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • 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 [cxlviii]. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). SWHMiST[cxlix] Index #7 provides development effects and mitigation measures.	Habitat criteria not met
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) Information Sources • Environment Canada. • Naturalist clubs often are aware of staging/stopover areas. • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (eg. EHJV implementation plan) • Ducks Unlimited projects • Element occurrence specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	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 [cxlix] • The combined area of the ELC ecosites and a 100m radius area is the SWH [cxlviii] • Wetland area and shorelines associated with sites identified within the SWHTG [cxlviii] Appendix K [cxlix] are significant wildlife habitat. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • SWHMiST[cxlix] Index #7 provides development effects • and mitigation measures.	Habitat unlikely to host aggregations of 100 or more of the listed species due to small size and proximity to other larger wetlands in the immediate vicinity. Habitat criteria considered to be not met.

	Brant Canvasback Ruddy Duck				
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 Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH. <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 • Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	Studies confirming: • Presence of 3 or more of listed species and > 1000© shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) Whimbrel stop briefly (<24hrs) during spring migration, any site with >100© Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area [cxlviii] • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMiST[cxlix] Index #8 provides development effects and mitigation measures.	Habitat criteria not met. Listed species not observed.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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	• 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 [cxlviii, cxlix] with a combination of forest and upland.[xvi, xvii, xviii, xix, xx, xxi]. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands [cxlix] 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 [cxlix] <u>Information Sources</u>: • OMNRF Ecologist or Biologist • Field Naturalist Clubs • Natural Heritage Information Center	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) [cxlix] 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"[ccxi] • SWHMiST[cxlix] Index #10 and #11 provides development effects and mitigation measures	Habitat criteria not met.

		areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	(NHIC) Raptor Winter Concentration Area • Data from Bird Studies Canada • Results of Christmas Bird Counts • Reports and other information available from Conservation Authorities.		
Bat Hibernacula **<u>Rationale:</u>** Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH • The locations of bat hibernacula are relatively poorly known. <u>Information Sources</u> • OMNRF for possible locations and contact for local experts • Natural Heritage Information Center (NHIC) Bat Hibernaculum • Ministry of Northern Development and Mines for location of mine shafts. Clubs that explore caves (eg. 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 [cxlviii, ccvii, ©] for most development types and 1000m for wind farms [ccv]. • 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"[ccv]. • SWHMiST[cxlix] Index #1 provides development effects and mitigation measures.	Habitat criteria not met.

Bat Maternity Colonies
 	
<u>Rationale:</u>
Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.
	Big Brown Bat
	Silver-haired Bat
		Maternity colonies considered SWH are found in forested Ecosites.
		
		All ELC Ecosites in ELC Community Series:
		FOD
		FOM
		SWD
		SWM
			• Maternity colonies can be found in tree cavities, vegetation and often in buildlings[xxii, xxv, xxvi, xxvii, xxxi] (buildings are not considered to be SWH).
			• Maternity roosts are not found in caves and mines in Ontario[xxii].
			• Maternity colonies located in Mature deciduous or mixed forest stands[ccix, ccx,ccv] with >10/ha large diameter (>25cm dbh) wildlife trees[ccvii]
			• Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 [ccxiv] or class 1 or 2 [ccxii].
			• 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[ccx,lxiv]
			<u>Information Sources</u>
			• OMNRF for possible locations and contact for local experts
			• University Biology Departments with bat experts.
				• Maternity Colonies with confirmed use by;
				  • >10 Big Brown Bats©
				  • >5 Adult Female Silver- haired Bats©
				• The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies©.
				• Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects"[ccv].
				• SWHMiST[cxlix] Index #12 provides development effects and mitigation measures.
					Candidate Habitat cannot be ruled out on the Subject Lands. MiST Index #12 has been reviewed to recommend mitigation measures.

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 has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen [cix, cx, cxi, cxii] • 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) [cvii]. • Congregation of turtles is more common where wintering areas are limited and therefore significant [cix, cx, cxi, cxii]. • SWHMiST[cxlix] Index #28 provides development effects and mitigation measures for • turtle wintering habitat.	The wetland likely freezes solid in the winter, thus, habitat criteria likely not met. However, a conservative approach suggests Cautionary mitigation should occur. MiST Index #28 has been reviewed to recommend mitigation measures.

Reptile Hibernaculum **<u>Rationale:</u>** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	**<u>Snakes:</u>** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **<u>Special Concern:</u>** Milksnake Eastern Ribbonsnake **<u>Lizard:</u>** **<u>Special Concern</u>** (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[xliv, l, li, lii, cxii]. • 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 [cciii]. <u>Information Sources</u> • 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. <u>or</u>; individuals of two or more snake spp. Congregations of a minimum of five individuals of a snake sp. <u>or</u>; 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)© • <u>Note</u>: If there are Special Concern Species present, then site is SWH • <u>Note</u>: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH© • SWHMiST[cxlix] Index #13 provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for skink is significant. • SWHMiST[cxlix] Index #37 provides development effects and mitigation measures for five- lined skink wintering habitat.	Habitat criteria not met. Much of developable area is covered by remnant pavement.

Wildlife Habitat	**Wildlife Species**	**CANDIDATE SWH**		**CONFIRMED SWH**	**Assessment of SWH Habitat Potential on the Subject Lands**
		ELC Ecosite Codes	**Habitat Criteria and Information Sources**	**Defining Criteria**	

Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) **<u>Rationale:</u>** Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation. <u>Information Sources</u> • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas • Bird Studies Canada; *NatureCounts* http://www.birdscanada.org/bir dmon/ • Field Naturalist Clubs.	Studies confirming: • Presence of 1 or more nesting sites with 8[cxlix] 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[ccvii] • 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"[ccxi] • SWHMiST[cxlix] Index #4 provides development effects and mitigation measures	Habitat criteria not met
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) **<u>Rationale:</u>** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> Ontario Breeding Bird Atlas, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony • Aerial photographs can help identify large heronries. • Reports and other information available from CAs. • MNRF District Offices. • Local naturalist clubs.	Studies confirming: • Presence of 5© or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH [cc, ccvii] • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells SWHMiST[cxlix] Index #5 provides development effects and mitigation measures.	Habitat criteria not met. Nests not observed during BBS.

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 [cc, ccvii] • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMiST[cxlix] Index #6 provides development effects and mitigation measures.	Habitat criteria not met
Migratory Butterfly Stopover Areas **<u>Rationale:</u>** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral <u>Special Concern</u> Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: <u>Field</u>: CUM CUT CUS <u>Forest</u>: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario [cxlix]. • 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 [xxxii, xxxiii, xxxiv, xxxv, xxxvi]. • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat [cxlviii, cxlix]. • 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 [xxxvii, xxxviii, xxxix, xl, xli]. <u>Information Sources</u> • OMNRF (NHIC) Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs • Toronto Entomologists Association • Conservation Authorities	Studies confirm: • The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct)[xliii]. 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[xxxvii], significant variation can occur between years and multiple years of sampling should occur [xl, xlii]. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 **or** >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.© • SWHMiST [cxlix] Index #16 provides development effects and mitigation measures.	Habitat criteria not met

Landbird Migratory Stopover Areas **<u>Rationale:</u>** Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors 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 [iv, v, vi, vii, viii, ix, x, xi, xii, xiii, xiv, xv] of Lake Ontario. • If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant [cxlix] • Sites have a variety of habitats; forest, grassland and wetland complexes [cxlix]. • The largest sites are more significant [cxlix] • Woodlots and forest fragments are important habitats to migrating birds[ccxviii], these features located along the shore and located within 5km of Lake Ontario are Candidate SWH [cxlviii]. <u>Information Sources</u> • Bird Studies Canada • Ontario Nature • Local birders and naturalist club • Ontario Important Bird Areas (IBA) Program	Studies confirm: • Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates©. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMiST [cxlix] Index #9 provides development effects and mitigation measures.	Subject lands do not meet size criteria.
Deer Yarding Areas **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-	White-tailed Deer	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%[cxciv].	No Studies Required: Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. [lvi, lvii, lviii, lix, lx, ©] • 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. [cxcv] • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST[cxlix] Index #2 provides development effects and mitigation measures.	MNR has not mapped Subject lands as Deer Yarding Area. Criteria not met.

15% of an areas summer range.			• OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat • Features: Inventory Manual" [cxcv] • Woodlots with high densities of deer due to artificial feeding are not significant[©].		
Wildlife Habitat	**Wildlife Species**	**CANDIDATE SWH**		**CONFIRMED SWH**	**Assessment of SWH Habitat Potential on the Subject Lands**
		ELC Ecosite Codes	**Habitat Criteria and Information Sources**	**Defining Criteria**	
Deer Winter Congregation Areas **<u>Rationale:</u>** Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions [cxlviii].	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• Woodlots will typically be >100 ha in size[©]. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. • Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands [cxlviii]. • If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha [ccxxiv]. • Woodlots with high densities of deer due to artificial feeding are not significant[©]. <u>Information Sources</u> • MNRF District Offices. • LIO/NRVIS	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF [cxlviii]. • Use of the woodlot by white- tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF [©] • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques[ccxxiv] , ground or road surveys. or a pellet count deer density survey[ccxxv]. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST [cxlix] Index #2 provides development effects and mitigation measures.	Size criteria not met.

Table 2 Rare Vegetation Communities or Specialized Habitat for Wildlife

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
	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 CLO TAS CLS TAT 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 [lxxviii] • SWHMiST[cxlix] Index #21 provides development effects and mitigation measures.	Habitat criteria not met
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 Distircts. • 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 [lxxviii] • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.)©. • SWHMiST[cxlix] Index #20 provides development effects and mitigation measures.	Habitat criteria not met
Alvar **Rationale:** Alvars are extremely rare habitats in Ecosregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Indicator Species:** 1) *Carex crawei* 2) *Panicum philadelphicum* 3) *Eleocharis compressa*	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 periods of inundation and drought. Vegetation cover varies from sparse lichen-moss	An Alvar site > 0.5 ha in size [lxxv]. Information Sources • Alvars of Ontario (2000), Federation of Ontario Naturalists [lxxvi]. • Ontario Nature – Conserving Great Lakes Alvars[ccviii]. Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Feld Naturalist clubs. • Conservation Authorities.	• Field studies that identify four of the five© **Alvar Indicator Species** [lxxv, cxlix] 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 [lxxv] SWHMiST[cxlix] Index #17 provides development effects and mitigation measures.	Habitat criteria not met

	4) *Scutellaria parvula* 5) *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 6E©[cxlix]	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 animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover alternating			
Rare Vegetation Community	**CANDIDATE SWH**			**CONFIRMED SWH**	**Assessment of SWH Habitat Potential on the Subject Lands**
	ELC Ecosite Code	**Habitat Description**	**Detailed Information and Sources**	**Defining Criteria**	
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 Significant Wildlife Habitat [cxlviii] • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities [cxlviii] (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 forest area containing the old growth characteristics [lxxviii] • SWHMiST[cxlix] Index #23 provides development effects and mitigation • measures.	Habitat criteria not met

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Savannah **<u>Rationale:</u>** 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%.[lxxix, lxxx, lxxxi, lxxxii, lxxxiii]	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. <u>Information Sources</u> • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Feld Naturalist clubs. • Conservation Authorities.	Field studies confirm one or more of the Savannah indicator species listed in [cxlix] Appendix N should be present [©]. Note: Savannah plant spp. list from Ecoregion 6E should be used[cxlviii]. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST[cxlix] Index #18 provides development effects and mitigation measures.	Habitat criteria not met
Tallgrass Prairie **<u>Rationale:</u>** 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. [lxxix, lxxx, lxxxi, lxxxii, lxxxiii]	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. <u>Information Sources</u> • 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[cxlix] Appendix N should be present [©]. Note: Prairie plant spp. list from Ecoregion 6E should be used[cxlviii] • Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST[cxlix] Index #19 provides development effects and mitigation • measures.	Habitat criteria not met

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Other Rare Vegetation Communities **<u>Rationale:</u>** Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG[cxlviii] . Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M [cxlviii] The OMNRF/NHIC will have up to date listing for rare vegetation communities. <u>Information Sources</u> • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Feld Naturalist clubs. • Conservation Authorities.	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG[cxlviii] . • Area of the ELC Vegetation Type polygon is the SWH. • SWHMiST [cxlix] Index #37 provides development effects and mitigation measures.	Criteria met by MAM4-1. MiST Index #37 reviewed to design appropriate mitigation.

Table 3 Specialized Habitats of Wildlife considered SWH.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		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 [cxlix] 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 [cxlix]. • 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"[ccxi] • 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 [cxlviii] from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWHMiST[cxlix] Index #25 provides development effects and mitigation measures.	Species not observed on the subject lands. Criteria not met.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	

Bald Eagle and Osprey Nesting, Foraging and Perching Habitat **<u>Rationale:</u>** 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). <u>Information Sources</u> • 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 [ccv] 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[cxlviii] . • 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 [ccvii], maintaining undisturbed shorelines with large trees within this area is important [cxlviii]. For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. [cvi, ccvii] Area of the habitat from 400-800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitat [cvi] • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for <u>≥</u> 3 years or suspected of not being used for >5 years before being considered not significant. [ccvii] • 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"[ccxi] • SWHMiST[cxlix] Index #26 provides development effects • and mitigation measures	ELC criteria met, but nests not observed during BBS. SWH not present.
Specialized Wildlife Habitat	**Wildlife Species**	**CANDIDATE SWH** **ELC Ecosite Codes**	**CANDIDATE SWH** **Habitat Criteria and Information Sources**	**CONFIRMED SWH** **Defining Criteria**	**Assessment of SWH Habitat Potential on the Subject Lands**
Woodland Raptor Nesting Habitat **<u>Rationale:</u>** Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat [lxxxviiii, lxxxix, xc, xci, xciii, xciv, xcv,xcvi, cxxxiii]. Interior habitat determined with a 200m buffer[cxlviii] • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <u>Information Sources</u> • OMNRF Districts. • Check the Ontario Breeding Bird Atlas [ccv] or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from	Studies confirm: • Presence of 1 or more active nests from species list is considered significant[cxlviii]. • Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH [ccvii]. (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) Barred Owl – A 200m radius around the nest is the SWH [ccvii]. • Broad-winged Hawk and Coopers Hawk,– A 100m radius around the nest is the SWH[ccvii]. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH[ccvii]. • Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWHMiST [cxlix] Index #27 provides development effects • and mitigation measures.	Size criteria not met by Subject lands.

			Conservation Authorities		
Specialized Wildlife Habitat	**Wildlife Species**	**CANDIDATE SWH**		**CONFIRMED SWH**	**Assessment of SWH Habitat Potential on the Subject Lands**
		ELC Ecosite Codes	**Habitat Criteria and Information Sources**	**Defining Criteria**	
Turtle Nesting Areas **<u>Rationale:</u>** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) [cxlviii] or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle- nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <u>Information Sources</u> • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Center (NHIC) • Field Naturalist clubs	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles© • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH©. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH.[cxlviii] • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat.[cxlix] • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. SWHMiST [cxlix] Index #28 provides development effects and mitigation measures for turtle nesting habitat.	ELC criteria not met.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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 [cxvii, cxlix]. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species [cxix, cxx, cxxi, cxxii, cxiii, cxiv]. <u>Information Sources</u> • Topographical Map. • Thermography. • Hydrological surveys conducted by Conservation Authorities and MOE. • Field Naturalists clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps • and headwater areas mapped.	Field Studies confirm: • Presence of a site with 2 or more© seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat [cxlviii]. • SWHMiST [cxlix] Index #30 provides development effects and mitigation measures	The wetland is situated on a groundwater recharge area (see hydrogeology report and dewatering and monitoring plan). Seeps and springs not present.
Specialized Wildlife Habitat	**Wildlife Species**	**CANDIDATE SWH**		**CONFIRMED SWH**	**Assessment of SWH Habitat Potential on the Subject Lands**
		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) >500m^2 (about 25m diameter) [ccvii] within or adjacent (within 120m) to a woodland (no minimum size).[clxxxii, lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx] 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 [cxlviii] <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) [lxxi] or 2 or more of the listed frog species with Call Level Codes of 3©. • A combination of observational study and call count surveys [cviii] 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[lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx, lxxi]. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWHMiST [cxlix] Index #14 provides development effects and mitigation measures.	ELC and Candidate Habitat criteria met. A 30-metre wetland protection buffer has been applied.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Breeding Habitat (Wetlands) **<u>Rationale;</u>** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	• Wetlands>500m^2 (about 25m diameter) [ccvii]), 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 [clxxxii]. • 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. <u>Information Sources</u> • 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.	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) [lxxi] or 2 or more of the listed frog/toad species with Call Level Codes of 3©. **or;** Wetland with confirmed breeding Bullfrogs are significant©. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys [cviii] will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST [cxlix] Index #15 provides development effects and mitigation measures.	Data inconclusive as targeted breeding salamander were not conducted. A 30 metre wetland protection buffer has been applied.
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Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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:** Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. [cv, cxxxi, cxxxii, cxxxiii, cxxxiv, cxxxv, cxxxvi, cxxxvii, cxxxviii, cxxxix, cxl, cxli, cxlii, cxliii, cxliv, cxlv, cxlvi, cl, cli, clii, cliii, cliv, clv, clvi, clvii, clviii, clix, • Interior forest habitat is at least 200 m from forest edge habitat. [clxiv] <u>Information Sources</u> • Local bird clubs. • Canadian Wildlife Service (CWS) for the location of forest bird monitoring. • Bird Studies Canada conducted a 3- year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. © • Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH.© • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMiST [cxlix] Index #34 provides development effects and mitigation measures.	Size criteria not met.

Table 4 Habitat for Species of Conservation Concern (Excluding Endangered or Threatened Species)

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Wildlife	Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
Marsh Breeding Bird Habitat **Rationale:** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present [cxxiv]. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. Information Sources • OMNRF District and wetland evaluations. • Field Naturalist clubs • Natural Heritage Information Center (NHIC) Records. • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas.	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or **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"[ccxi] • SWHMiST [cxlix] Index #35 provides development effects and mitigation measures	Candidate SWH met small patches of MAM. Listed species not observed during targeted BBS. Confirmed SWH criteria not met.
Open Country Bird Breeding Habitat **Rationale:** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl	CUM1 CUM2	• Large grassland areas (includes natural and cultural fields and meadows) >30 ha • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years) Ⓔ. • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. Ⓔ • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMiST [cxlix] Index #32 provides development effects and mitigation measures	Habitat size criteria not met. Listed species not observed.

			• Ontario Breeding Bird Atlas • Reports and other information available from C0nservation Authorities.		
Wildlife	**Species**	**CANDIDATE SWH**		**CONFIRMED SWH**	**Assessment of SWH Habitat Potential on the Subject Lands**
		ELC Ecosite	**Habitat Criteria and Information Sources**	**Defining Criteria**	
Shrub/Early Successional Bird Breeding Habitat **<u>Rationale:</u>** 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 [cxcix].	<u>Indicator Spp</u>: Brown Thrasher Clay-coloured Sparrow <u>Common Spp.</u> Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats>10ha[clxiv] 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 [clxxiii]. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. <u>Information Sources</u> • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation • Authorities.	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. © • A habitat with breeding Yellow- breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. © • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”[ccxi] • SWHMiST [cxlix] Index #33 provides development effects and mitigation measures.	Size criteria not met

Wildlife	Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
Terrestrial Crayfish **<u>Rationale:</u>** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare. [ccii]	Chimney or Digger Crayfish; (Fallicambarus fodiens) Devil Crayfish or Meadow Crayfish; (Cambarus Diogenes)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. • Both species are a semi- terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> • Information sources from"Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites [cci] • 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 [cci] • SWHMiST [cxlix] Index #36 provides development effects and mitigation measures.	Chimneys not observed during any site visits.

Wildlife	Species	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
Special Concern and Rare Wildlife Species **<u>Rationale:</u>** These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites [lxxviii] <u>Information Sources</u> • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website "Get Information" : http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. • SWHMiST [cxlix] Index #37 provides development effects and mitigation measures.	There are no S1-S3 species confirmed on the Subject Lands.

Table 5 Animal Movement Corridors

Habitat	SPECIES	CANDIDATE SWH		CONFIRMED SWH	Assessment of SWH Habitat Potential on the Subject Lands
		ELC Eco-sites	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Movement Corridors **Rationale:** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. • Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat clxxiv, clxxv, clxxvi, clxxvii, clxxviii, clxxix, clxxx, clxxxi. Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (**Amphibian Breeding Habitat – Wetland)** of this Schedule ©. Information Sources • MNRF District Office. • Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. Field Naturalist Clubs.	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant cxlix • Corridors should have at least 15m of vegetation on both sides of waterway cxlix or be up to 200m wide cxlix of woodland habitat and with gaps <20m cxlix . • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat cxlix. • SWHMiST cxlix Index #40 provides development effects and mitigation measures	Subject Lands isolated by roads, urbanization which create conditions for gaps in vegetation >20m width. Habitat criteria not met.
Deer Movement Corridors **Rationale:** Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	White-tailed Deer	Corridors may be found in all forested ecosites. • A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when **Deer Wintering Habitat** is confirmed as SWH from Table 1.1 of this schedule. Ⓔ 38 • A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion clxxxii, clxxxiii, cxlix, cxciv. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines or ridges). Information Sources • MNRF District Office.	• 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 cxlix with gaps <20m cxlix and if following riparian area with at least 15m of vegetation on both sides of waterway cxlix . Shorter corridors are more significant than longer corridors, cxlix. SWHMiST cxlix Index #39 provides development effects and mitigation measures	MNR has not mapped the Subject Lands as Deer Wintering Habitat

			• Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. Field Naturalist Clubs.,		

Table 6 Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 6E

EcoDistrict	Wildlife Habitat and Species	Candidate SWH			Confirmed SWH	Assessment of SWH Habitat Potential on the Subject Lands
		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. [clxxxvi, ccxvii]	**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. [clxxxv, clxxxvii, clxxxviii, clxxxix, cxc, cxci, cxcii, cxciii, ccxvii • Forested habitats need to be large enough to provide cover and protection for black bears [ccxvii].	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech), <u>Information Sources</u> Important forest habitat for black bears may be identified by OMNRF.	• All woodlands > 30 ha with a 50% composition of these ELC Vegetation© Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST [cxlix] Index #3 provides development effects and mitigation measures.	Habitat criteria not met
6E- 17 **Rationale:** Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population	**Lek** **Sharp-tailed Grouse**	CUM CUS CUT	• The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography[ccxix]. • Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated. • [ccxix]	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland[ccxix]. • 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[ccxix] <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© SWHMiST [cxlix] Index #32 provides development effects and mitigation measures	Habitat criteria not met