



BURNSIDE

**Wooden Sticks Environmental Impact
Study**

**Wooden Sticks Golf Club
40 Elgin Park Drive
Township of Uxbridge**



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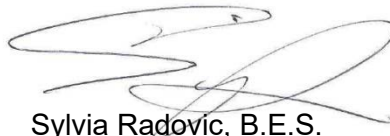
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Executive Summary

R.J. Burnside & Associates Limited (Burnside) was retained by Wooden Sticks Golf Club (the Client) to undertake an Environmental Impact Assessment (EIS) for a proposed extension of the existing clubhouse that is located at 40 Elgin Park Drive, in the Township of Uxbridge.

The study area is approximately 0.16 ha in size and is bound by forest and residential development construction to the west, cultural meadow and parking area to the north, golf club building structures to the east and golf course lands to the south. The proposed development, (expansion of the existing clubhouse), will be comprised of a hotel and other facilities, as well as a new parking lot. The EIS focuses solely on the expansion of the existing clubhouse, as the proposed area of the new parking lot is absent of any natural heritage features.

There are no significant wetlands, valleyland, woodlands or Areas of Scientific Interest (ANSI) within, or immediately adjacent to the study area. The woodland that will be impacted does not meet the requirement to be designated a significant woodland because it is <4 ha and is disconnected by more than 20 m from other woodland communities.

Based on a background review, 11 Species at Risk (SAR) and 7 Species of Conservation Concern (SCC) have the potential to use the study area. Based on a detailed screening and field investigations, no SAR are using habitat provided by the golf course.

Three vegetation communities were recorded within the study area. None were designated as rare, and no community included any at risk or rare species. The plantation community was staked with LSRCA on July 15, 2020. A total of 0.15 ha is proposed for removal, including 0.13 ha of plantation (FOCM6-3) and 0.02 ha of successional forest (FOMM5). The proposed removal does not meet the requirements for offsetting.

Significant Wildlife Habitat on site is present for Monarch, as the Habitat of a Species of Special Concern, in the meadows containing Milkweed plants. The loss of habitat for Monarch will be adequately compensated for, with the addition of Milkweed and native nectar-producing wildflowers in seed mixes, used on site in naturalized areas and landscape plantings.

Mitigation measures for environmental impacts (direct or indirect) include avoiding vegetation removal during the bird and bat window (April 1 to October 31), Milkweed sp. should be included in restoration seed mixes, and exclusion/ESC fencing should be installed and monitored to avoid impacts to wildlife life and control sediment and erosion on site.

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The proposed development expansion is small in scale; impacts to surrounding lands will be minimized and mitigated. In general, the proposed clubhouse expansion is in agreement with applicable natural heritage legislation and policies.

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1.0 Introduction

1.1 Background and Purpose

R.J. Burnside & Associates Limited (Burnside) has been retained by Wooden Sticks Golf Club to conduct an Environmental Impact Study (EIS) for a proposed expansion located at 40 Elgin Park Drive in the Township of Uxbridge, Ontario. The proposed development includes the expansion of the existing clubhouse to include a hotel and other facilities, as well as a new parking lot. The EIS focuses solely on the expansion of the existing clubhouse, as the proposed area of the new parking lot is absent of any natural heritage features. The location and limits of the EIS study area (herein referred to as the study area) are shown in Figure 1. The EIS includes a desktop assessment, summarizes ecological surveys undertaken as outlined in the approved Terms of Reference (TOR) (Appendix A) and their results, ecological constraint mapping, as well as the conceptual design, and an assessment of potential impacts and recommended mitigation measures, based on fieldwork results and the proposed development.

The study area is approximately 0.16 ha in size and falls within the jurisdiction of the Aurora District Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNR) and the Lake Simcoe Region Conservation Authority (LSRCA). The study area consists of a small, forested area. The adjacent lands outside of the proposed development area contain the Natural Heritage System (NHS) for the Growth Plan for the Greater Golden Horseshoe (MMAH, 2020), located approximately 200 m or greater to the southwest and southeast, as delineated on NHIC mapping. The study area is bound by forest and residential development construction to the west, cultural meadow and parking area to the north, golf club building structures to the east and golf course lands to the south.

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Figure 1: Site Location, Ecological Land Classification (ELC), Avian & Bat Surveys

1.2 Scope of Work

This document was prepared following LSRCA's approved TOR and related correspondence (Appendix A), Section 2.1 (Natural Heritage) of the Provincial Policy Statement (PPS; MMAH, 2020), the Natural Heritage Reference Manual for Natural Heritage Policies of the PPS, 2005 (MNR, 2010) and the Significant Wildlife Habitat Technical Guide (SWHTG; MNR, 2000). As such, the EIS includes:

- A review of applicable environmental policies and regulations affecting the study area.
- A review of existing secondary source data to identify any known natural features.
- Pre-submission consultation with agencies to identify additional features and to confirm field study methodologies.
- A summary of detailed field assessments.
- A description of the proposed development.
- Identification of environmental constraints.
- An assessment of potential impacts resulting from the proposed development.
- Recommended mitigating measures that will allow development to proceed in a manner that is consistent with local, regional, provincial, and federal policies and regulations.

The EIS is organized according to this approach. Each of the report sections corresponds with the above objectives.

2.0 Planning and Environmental Policy Considerations

The following policies, Acts and regulations apply to features present on the study area.

2.1 Species at Risk Act, 2002

The *Species at Risk Act, 2002* (SARA) provides protection for Species at Risk (SAR) and their habitat. Schedule 1 of SARA is considered the official list of wildlife species at risk that receive legal protection under the Act and includes species that have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COESWIC) as Extirpated, Endangered, Threatened or Special Concern (Government of Canada, 2017).

To ensure the protection of SAR, Section 32(1) and (2) of the SARA states,

- 1) *No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species, or a threatened species*
- 2) *No person shall possess, collect, buy, sell or trade an individual of a wildlife species that is listed as an extirpated species, an*

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endangered species or a threatened species, or any part or derivative of such an individual

And Section 33 of the SARA states,

No person shall damage or destroy the residence of one or more individuals of a wildlife species that is listed as an endangered or threatened species, or that is listed as an extirpated species if a recovery strategy has recommended reintroduction of the species into the wild in Canada

SARA prohibitions pertaining to private lands include:

- Migratory birds listed in the *Migratory Birds Convention Act, 1994* (MBCA) and also listed on Schedule 1 as Endangered, Threatened or Extirpated may apply through an order, to other species listed on Schedule 1 (i.e., not an aquatic or migratory bird species) as Endangered, Threatened or Extirpated, if provincial/territorial legislation or voluntary measures do not adequately protect the species and its habitat.

Although Environment and Climate Change Canada (ECCC) is the overall administrator of SARA, responsibility for implementation of the Act is shared by ECCC and the Canadian Wildlife Service and Parks Canada. On private lands, ECCC oversees matters related to migratory birds. In most cases pertaining to non-aquatic species on private lands, provincial laws (e.g., the *Endangered Species Act, 2007*) provide protection for critical habitat (i.e., habitat that is necessary for the survival or recovery of a listed endangered, threatened or extirpated species). Alternatively, SARA prohibitions can be applied by an order, as described above, or through federal legislation (including SARA).

2.2 Migratory Birds Convention Act, 1994

The MBCA and the Migratory Bird Regulations (MBR) are federal legislative requirements that are binding on members of the public and all levels of government, including federal and provincial governments. The legislation protects certain species¹, controls the harvest of others and prohibits the commercial sale of all species.

One key responsibility under the MBCA is described in Section 6 of the associated MBR:

¹ *Bird species not regulated under the Act include: Rock Dove, American Crow, Brown-headed Cowbird, Common Grackle, House Sparrow, Red-winged Blackbird, and European Starling. In addition, raptors are not regulated under the MBCA. However, they are protected under provincial legislation which restricts and regulates the taking or possession of eggs and nests. Furthermore, if the species identified is protected under Ontario's ESA or the federal SARA, additional restrictions may apply.*

Subject to subsection 5(9), no person shall disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird, or have in his possession a live migratory bird, or a carcass, skin, nest or egg of a migratory bird except under authority of a permit therefor.

The “incidental take” of migratory birds and the disturbance, destruction or taking of the nest of a migratory bird is prohibited. “Incidental take” is the killing or harming of migratory birds due to actions, such as economic development, which are not primarily focused on taking migratory birds.

No permit can be issued for the incidental take of migratory birds, or their nest or eggs as a result of economic activities. These prohibitions apply throughout the year.

2.3 Provincial Policy Statement, 2020

The PPS (MMAH, 2020) provides general policies on land use patterns, resources, and public health and safety that guide development across Ontario. This report will address Section 2.1 of the PPS (Natural Heritage).

Eight types of natural heritage features are identified in Sections 2.1.4 and 2.1.5 of the PPS, where development and site alteration are not permitted unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions:

- 1) *Significant Wetlands in Ecoregions 5E, 6E and 7E;*
- 2) *Significant Coastal Wetlands;*
- 3) *Significant Wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;*
- 4) *Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
- 5) *Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and St. Marys River);*
- 6) *Significant Wildlife Habitat (SWH);*
- 7) *Significant Areas of Natural and Scientific Interest (ANSIs); and*
- 8) *Coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b).*

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Sections 2.1.6, 2.1.7, and 2.1.8 identify three additional development and site alteration prohibitions and exemptions, as follows:

- 1) *Fish habitat except in accordance with provincial and federal requirements;*
- 2) *Habitat of Endangered and Threatened species, except in accordance with provincial and federal requirements; and*
- 3) *On adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features, or their ecological functions.*

The presence, or potential presence, of these features as well as the policy and planning implications of these features for development, are discussed in detail in this report.

2.4 Provincial Endangered Species Act, 2007

The *Endangered Species Act, 2007* (ESA) provides protection for SAR and their habitat. The ESA is administered by the Ministry of the Environment, Conservation and Parks (MECP) and provides policies for the protection of Extirpated, Endangered and Threatened species, as well as species of Special Concern. These four categories of species form the Species at Risk in Ontario (SARO) List, which are classified by the Committee on the Status of Species at Risk in Ontario (COSSARO). COSSARO is also responsible for maintaining criteria for assessing and classifying SAR.

The ESA helps protect species (Section 9) and their habitat (Section 10). Section 9(1)(a) of the ESA states,

no person shall kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species.

Section 10(1)(a) of the ESA states,

no person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species.

The ESA includes general habitat regulations, as well as species-specific habitat regulations. Species uplisted to Endangered or Threatened automatically receive general habitat protection under the ESA.

As of April 1, 2019, MECP assumed responsibility for the ESA, including SAR in Ontario. It is no longer the responsibility of MNRF. The SARO List is updated from time to time, therefore, it is the proponent's responsibility to practice due diligence to ensure that the ESA and its regulations are not violated. It is the proponent's responsibility to be apprised of any amendments to the Act that may come into force for the duration of this project.

2.5 Greater Golden Horseshoe (GGH) Plan

The GGH contains many of Ontario's most significant ecological and hydrologic natural environments and scenic landscapes which include the Oak Ridges Moraine, the Niagara Escarpment and the Greenbelt Area.

A Place to Grow is the Ontario government's initiative to plan for growth and development and includes protecting the environment. As provided in the Places to Grow Act, 2005, where there is a conflict between the Greenbelt, Oak Ridges Moraine Conservation, or Niagara Escarpment Plans and this Plan regarding the natural environment, the direction that provides more protection to the natural environment takes precedence.

The study is wholly within the GGH and falls within the Greenbelt Area (no designation) and Oak Ridges Moraine (designated as Countryside).

2.6 Greenbelt

The Greenbelt was introduced in 2005 to assist with the future growth GGH area. The Greenbelt Plan includes not only lands within, but also builds upon the ecological protection provided by the Niagara Escarpment Plan (NEP) and Oak Ridges Moraine Conservation Plan (ORMPC). Within the Greenbelt Area, there may be other provincial, federal or agency plans, regulations or standards that also apply. Where plans, regulations or standards are more restrictive than this Plan, the more restrictive provision shall prevail.

The study area is wholly within the Greenbelt Area Boundary but not designated; it is neither designated as Protected Countryside nor Urban River Valley.

2.7 Oak Ridges Moraine Conservation Plan (ORMCP)

In November 2001, the Province released a comprehensive strategy for the Oak Ridges Moraine, which included the Oak Ridges Moraine Conservation Act, 2001 and the regulations of the Oak Ridges Moraine Conservation Plan (MMAH 2002).

The ORMCP was established to provide land use and resource management direction for the ORM. It identifies key natural heritage features (e.g., wetlands, woodlands, fish habitat, and significant wildlife habitat) and hydrologically sensitive features (e.g., kettle

lakes and springs). Decisions regarding land use planning that affect the ORM, whether made at the provincial or municipal level, must conform to the specific provisions of the Plan. The ORMCP takes precedence over municipal Official Plans.

The Plan classifies the Moraine into four land use designations:

- Natural Core Areas
- Natural Linkage Areas
- Countryside Areas
- Settlement Areas

The study area falls wholly within the Countryside Area designation.

2.8 Lake Simcoe Region Conservation Authority, Ontario Regulation 179/06

The PPS (2020), described in Section 2.4 of this report, also outlines policies for managing development within, or adjacent to, natural hazard-prone lands. These policies are generally enacted through the *Development, Interference with Wetlands and Alternations to Shorelines and Watercourses* regulations, administered by Conservation Authorities.

No watercourses are present in the study area and the proposed design limits are outside of LSRCA's Regulation Limits (Uxbridge Brook).

2.9 Lake Simcoe Protection Plan (LSPP)

Lake Simcoe Protection Plan (LSPP) policies for areas outside of the Urban Settlement Areas apply to watercourses (policies 6.8-DP to 6.11-DP) and Significant Groundwater Recharge Areas (policies 6.39-DP and 6.40-DP). No watercourses are present on the study area; however, it is entirely within significant Groundwater Recharge Area and Highly Vulnerable Aquifer designated areas.

As such, an EIS is required, demonstrating that the quality and quantity of groundwater in these areas and the function of the recharge areas will be protected, improved or restored.

2.10 Durham Region Official Plan (OP)

The Durham Regional Official Plan (OP) (2020) was consulted to determine Regional land use designations and locations of natural heritage features. According to Schedule A – Map A2 (Regional Structure), the study area is designated as Oak Ridges Moraine Area. Schedule B – Map B1b (Greenbelt Natural Heritage System and Key Natural Heritage and Hydrologic Features) shows the study area as neither within the

Greenbelt Natural Heritage System, nor containing Key Natural Heritage and Hydrologic Features.

2.11 Township of Uxbridge Official Plan (OP)

The Township of Uxbridge OP (January 2014) reflects the community vision for the future and outlines the land use and development guidelines for the Township of Uxbridge. The OP is implemented through the Zoning By-law. In the rural areas of Uxbridge, the Durham Region OP guides land use policies. The study area is located within several land use policies outlined in the OP Maps and Schedules as follows:

- Map 1 – Oak Ridges Moraine Conservation Plan Area.
- Schedule A – located just outside of the Urban Area Boundary within Policy Area 2.1.6.7 Approved Major Recreational Use and must conform with the provisions of the Oak Ridges Moraine Plan (ORMCP) and Durham Region OP.
- Schedule B – located outside of the NHS and outside of significant heritage features of the ORMCP Area, including wetlands and Significant Woodlands.
- Schedules B1 and B2 – located within an area of high aquifer vulnerability of the Oak Ridges Moraine Conservation Plan Area and Landform Conservation Area Category 1 where planning, design and construction practices must be in conformity with the policies for the applicable Landform Conservation Area Category that will keep disturbance of the landform character to a minimum.
- Schedule H – located within the Oak Ridges Moraine Conservation Plan Area Land Use Plan Policy Area 1.9.9.2 Approved Major Recreational Use (see Section 2.11).

2.12 Oak Ridges Moraine (ORM) Land Use Designation

The study area is located in an area zoned Countryside Area within the ORMCP (MMAH, 2017). Major Recreational Uses are permitted within the Countryside Area (Part II, Section 13) and are subject to land use policies described in Part IV Section 38 (i.e., which includes golf courses).

Section 38, subsections 4 and 5 require that applications to establish or expand a major recreational use shall demonstrate that the activities will be compatible with the natural character of the surrounding area and will have no adverse impacts on surrounding agricultural operations. This is addressed further in Section 9.0 of this report.

Additionally, any application for development or site alteration in the Minimum Area of Influence as defined by the plan (typically 120 m) shall be accompanied by a natural heritage evaluation. This EIS serves to meet the requirements of an NHE, as laid out in the ORMCP.

The proposed development expansion is small in scale; impacts to surrounding lands will be minimized and mitigated.

3.0 Background Records Review and Agency Consultation

The following resources were reviewed in support of the EIS:

- Aerial photographic imaging and 1:10,000 Ontario Base Mapping (OBM).
- Ontario Hydrology Network (OHN) mapping.
- Ministry of Natural Resources and Forestry (MNRF) Make a Map: Natural Heritage Areas mapping for designated natural features.
- Natural Heritage Information Centre (NHIC) database to identify records of rare wildlife species on, and in the vicinity of, the study area (1 x1 km² Square 17PJ5084).
- The Ontario Breeding Bird Atlas (OBBA) for records of birds breeding in the area (10 x10 km² Square 17PJ58).
- Ontario Reptile and Amphibian Atlas (ORAA) (10 x10 km² Square 17PJ58).
- The Butterfly Atlas (17PJ58).
- MNRF Land Information Ontario (LIO) database.
- Lake Simcoe Region Conservation Authority (LSRCA) regulated features and mapping.
- Durham Regional Official Plan (May 26, 2020).
- Township of Uxbridge Official Plan (January 2014).
- A Place to Grow: Growth Plan for the Greater Golden Horseshoe (MMAH, 2020).
- Oak Ridges Moraine Conservation Plan (ORMCP) (2017).
- Oak Ridge Moraine Technical Papers: Identification of Key Natural Heritage Features on the Oak Ridges Moraine (OMNR, 2004).
- Greenbelt Plan (2017).
- Lake Simcoe Protection Plan (MMAH, 2009).
- Provincial Policy Statement (PPS) (2020).
- Provincial *Endangered Species Act* (2007).
- Federal *Species at Risk Act* (2002).
- *Federal Migratory Birds Convention Act, 1994* (MBCA) and the *Migratory Bird Regulations* (MBR).

3.1 Identification of Provincially Significant Natural Features

Provincially significant natural features are natural areas that have been identified by NDMNRF as being valuable. Some of these areas are determined by established ranking systems, and others are determined by the wildlife they support. The following is a summary of the provincially significant natural features that were identified through the review of existing records for the study area. These are discussed in detail in Section 6.0.

Significant Wetlands

No wetlands are located on the study area, or within 120 m.

Significant Valleylands

No significant valleylands (as defined by the Natural Heritage Reference Manual, MNR, 2010) are present on the study area, or within the immediate vicinity.

Significant Woodlands

Significant woodland are (key) natural heritage features that are afforded protection under the PPS. The woodland within the study area would not be considered significant based on provincial criteria (as defined by the Natural Heritage Reference Manual, MNR, 2010) because the size of the woodland is less than 4 ha and disconnected from other woodlands. The criteria in the ORMCP Technical Paper 7 – Identification and Protection of Significant Woodlands denotes that a connection to other woodlands must have an opening of 20 m or less. There are no trees within 20 m of the study area woodlands. Tree removal associated with an adjacent land development project has created an opening of more than 20 m from other woodlands. See 'Trees Removed' on Figure 1.

Significant Areas of Natural and Scientific Interest (ANSI)

No ANSIs are present on the study area, or within 120 m.

Significant Wildlife Habitat

One candidate SWH was identified:

- Special Concern and Rare Wildlife Species

The Special Concern and Rare Wildlife Species SWH was confirmed and is discussed further in Section 6.5.

Fish Habitat

No fish habitat is located on the study area, or within 120 m.

Habitat of Endangered and Threatened Species

Burnside's background database review revealed the potential for SAR on the study area and the greater study area. These are all listed in Section 3.2 and the SAR Screening Table, in Appendix B.

No habitat for Endangered or Threatened Species was found on the study area.

3.2 Species at Risk and Species of Conservation Concern

Species at Risk (SAR) are species that are identified on the Species at Risk Ontario (SARO) List or are listed on Schedule 1 to the Species at Risk Act (2002).

The term “Species of Conservation Concern” (SCC) is defined under the Natural Heritage Reference Manual (NHRM; MNR, 2010) as follows:

- Species that are rare or are substantially declining, or have a high percentage of their global population in Ontario;
- Special Concern species identified on the SARO List that were formally referred to as “vulnerable” in the Significant Wildlife Habitat Technical Guide (SWHTG; MNR, 2000); and/or
- Species identified as nationally Endangered or Threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which are not protected in regulation under Ontario’s ESA.

As part of this EIS, Burnside examined publicly available secondary source information and published reports of the study area and vicinity regarding Species at Risk (SAR) that may be present in, or adjacent to the study area. Species that are listed as SCC or SAR that were recorded from Burnside’s background records review and field investigations are included in the detailed SAR and SCC Screening Table, in Appendix B of this report, and also discussed in Section 6.6.

In summary, the following provincially listed SAR have been identified as potentially present in, or adjacent to the study area:

Birds

- Bank Swallow (*Riparia riparia*) (THR – ESA and SARA)
- Barn Swallow (*Hirundo rustica*) (THR – ESA and SARA)
- Bobolink (*Dolichonyx oryzivorus*) (THR – ESA and SARA)
- Chimney Swift (*Chaetura pelagica*) (THR – ESA and SARA)
- Common Nighthawk (*Chordeiles minor*) (SC – ESA, THR – SARA)
- Eastern Meadowlark (*Sturnella magna*) (THR – ESA and SARA)
- Eastern Wood-pewee (*Contopus virens*) (SC – ESA and SARA)
- Grasshopper Sparrow (*Ammodramus savannarum pratensis*) (SC – ESA and SARA)
- Wood Thrush (*Hylocichla mustelina*) (SC – ESA, THR – SARA)

Insects

- Monarch (*Danaus plexippus*) (SC – ESA and SARA)

Mammals

- Little Brown Myotis (*Myotis lucifugus*) (END – ESA and SARA)
- Eastern Small-footed Myotis (*Myotis leibii*) (END – ESA and SARA)
- Northern Myotis (*Myotis septentrionalis*) (END – ESA and SARA)
- Tri-colored Bat (*Perimyotis subflavus*) (END – ESA and SARA)

Plants

- Butternut (*Juglans cinerea*) (END – ESA and SARA)

Reptiles and Amphibians

- Blanding's Turtle (*Emydoidea blandingii*) (THR – ESA and SARA)
- Midland Painted Turtle (*Chrysemys picta*) (SC – SARA)
- Snapping Turtle (*Chelydra serpentina*) (SC – ESA and SARA)

3.3 Vegetation & Ecological Land Classification (ELC)

LSRCA's Ecological Land Classification and Existing Land Use (2005) map show the majority of the study area's existing land use as Manicured Open Space. Cultural Woodland runs along the western and southern perimeters. The northern portion of the study area is classified as Manicured Open Space. LSRCA's ELC and Existing Land Use (2005) map shows a Coniferous Forest on the western adjacent lands, abutting the study area. Figure 1 provides an updated aerial view of woodlands on adjacent lands to the study area; the adjacent woodland has been removed for development by adjacent developers.

3.4 Avifauna

No site-specific information for the subject lands was available from previously completed studies but the OBBA was referenced for potential avian species that covers a broad area and includes the study area. Dawn breeding bird surveys were conducted as part of this EIS and discussed in Section 4.2 of this report.

4.0 Methodology**4.1 Vegetation Communities and Species**

The study limits for characterization of vegetation communities and species included the study area plus approximately 50 m beyond, where accessible. Three-season vegetation survey for ELC and plant inventory were undertaken on July 15, 2020, May 4, 2021 and October 6, 2021.

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The locations of any provincially rare species encountered were recorded, using GPS, and included on the figures (excepting those classified as Restricted Species). Locally rare species were recorded in the ELC unit in which they were found.

All species herein are described according to nomenclature and S-ranks provided by the NHIC, current to June 28, 2018. Species rarity is based on:

- Species' status, as listed on the SARO list (updated November 9, 2020) under the ESA.
- Species status, as determined by COSEWIC and listed under the Species at Risk Act, 2002.
- Species' S-rank as provided on the NHIC database.
- A rarity for the Lake Simcoe Watershed, as listed in "The State of the Lake Simcoe Watershed" Appendix 5.3 (LSRCA, 2003).
- Rarity for Durham Region in "The Distribution and Status of the Vascular Plants of Central Region" (Riley et al., 1989) and in "The Distribution and Status of the Vascular Plants of the Greater Toronto Area" (Varga et al. 2000).

ELC communities were described according to the Ecological Land Classification for Southern Ontario: First Approximation and Its Application (Lee et al. 1998) with reference to 2008 ELC codes (Lee, 2008), as depicted in Figure 1.

4.2 Avifauna

Standard breeding bird surveys were completed by an Avian Biologist and were conducted according to the *Ontario Breeding Bird Atlas (OBBA) Guide for Participants* (Bird Studies Canada March 2001), tailored to the needs of this project. Surveys were undertaken between May 24 and July 15, between dawn and 10 a.m., (Survey #1 conducted May 25; survey #2 conducted June 9) within the recommended date range for surveys according to the OBBA (2001). Surveys were completed at a total of three point-count locations, as depicted in Figure 1.

- Surveys were conducted under the following weather condition requirements: counts were not completed if it was raining, there was thick fog, or if winds were greater than 19 km per hour (i.e., >3 on the Beaufort scale). Generally, weather conditions were conducive for auditory and visual surveys, with winds less than 19 km/hr and no precipitation.
- Surveying at each point count station lasted for 10 minutes and all species of birds were recorded. Standard breeding bird surveys were conducted at the designated point count locations. All birds observed and heard were recorded at each habitat unit location, including the level of breeding evidence. Field data were collected using a mobile data collection application (Fulcrum), on an iOS device.

4.3 Mammals

As stated in Section 3.0, suitable habitat for SAR bats was identified within the study area. No other SAR mammals were identified during the desktop review. Observations of other mammals and their potential habitat were recorded as incidental observations and are discussed in Section 5.8.

4.3.1 Bats

There are eight bat species in Ontario. These are listed below in Table 1.

Table 1: Bat Species in Ontario

Species		Status	
Common Name	Scientific Name	Species at Risk in Canada (SARA)	Species at Risk in Ontario (SARO)
Big Brown Bat	<i>Eptesicus fuscus</i>	-	-
Eastern Red Bat	<i>Lasiurus borealis</i>	-	-
Eastern Small-footed Myotis	<i>Myotis leibii</i>	Endangered	Endangered
Hoary Bat	<i>Lasiurus cinereus</i>	-	-
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	Endangered
Northern Myotis	<i>Myotis septentrionalis</i>	Endangered	Endangered
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	-	-
Tri-colored Bat	<i>Perimyotis subflavus</i>	Endangered	Endangered

Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis and Tri-colored Bat are designated as Endangered, under the ESA and receive species and general habitat protection. Throughout eastern North America, a disease known as white-nose syndrome (WNS), which is caused by a fungus, has been the primary reason for the decline of *Myotis* bat populations.

Maternal summer roosting habitat for Little Brown Myotis and Northern Myotis is often associated with the cavities and crevices of large-diameter trees (25 to 44 cm Diameter at Breast Height (DBH); COSEWIC 2013) exhibiting early stages of decay (Class 1-3; Watt and Caceres, 1999) in deciduous or mixed mature forest and wetland habitat types (Environment Canada, 2015). Additionally, Little Brown Myotis is also known to form maternity roosting colonies in abandoned or derelict structures such as barns, old buildings and residential dwellings.

Tri-colored Bats have been found roosting in various “substrates” such as lichen, moss, leaves and pine needles within or below the canopy, and have shown a preference for live or dead leaf foliage of Oak trees (*Quercus* spp.), and to a lesser extent Maple (*Acer* spp.) and Hickory trees (*Carya* spp.) (MNR, 2017).

4.3.1.1 Bat Habitat Surveys

In April 2017, MNRF Guelph District released the *Survey Protocol for Species at Risk Bats within Treed Habitats* for three of Ontario's four Endangered bat species (Little Brown Myotis, Northern Myotis and Tri-colored Bat). This protocol outlines the methodology for performing Leaf-off and Leaf-on surveys to determine potential SAR Bat maternity roosting habitat.

Leaf-Off Survey

A leaf-off survey was conducted on April 26, 2021, to survey candidate maternity roosting habitats for Northern Myotis and Little Brown Myotis. The following criteria were considered when identifying a candidate maternity roosting tree during this survey:

- Decay class
- DBH
- Species
- Percent canopy cover
- Presence of habitat characteristics
- Peeling bark
- Within 10 m of another tree and/or snag
- Cavity height

For each candidate tree, the details of the criteria discussed above were collected using ArcGIS Collector and marked with a GPS waypoint.

Leaf-On Survey

Tri-colored Bat shows a strong preference for roosting in the foliage of oak and maple trees, especially those that feature dead or dying clusters of leaves. This survey protocol targets these genera specifically. Leaf-on surveys were completed on June 7, 2021. The following trees were documented:

- Oaks \geq 10 cm DBH
- Maples \geq 10 cm DBH with dead/dying needle clusters
- Maples \geq 25 cm DBH
- White Pine trees \geq 10 cm DBH with dead/dying needle clusters

All candidate trees were assessed based on the following criteria:

- Decay class
- DBH
- Species
- Percent canopy cover
- Dead and dying leaf clusters (or snapped branch)

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As with leaf-off surveys, each tree identified as a candidate maternity roosting tree was recorded with a GPS waypoint.

4.3.1.2 Bat Acoustic Surveys

Acoustic surveys are used to confirm the presence or absence of bat species in candidate maternity habitats. Appropriate recording station locations, shown in Figure 1, are determined through the criteria for leaf-off and leaf-on surveys. For each criterion, a score was assigned, then the total score was calculated to determine which trees had the highest likelihood of supporting Little Brown and Northern Myotis (leaf-off) and Tri-colored Bat (leaf-on) maternity roosts. This method allows for an unbiased and replicable assessment of the quality of candidate roost trees and guides the selection of the best locations for acoustic monitoring stations.

Using methods described in MNRF Guelph District's *Use of Buildings and Isolated Trees by Species at Risk Bats: Survey Methodology* (October 2014), acoustic surveys were completed by experienced biologists, using handheld bat detectors (heterodynes) set to 40-45 kHz and at least one assistant. Two exit surveys were completed during June, under appropriate conditions: temperature above 10°C, no rain, and low wind (3 and less on the Beaufort scale) (see Table 2). Viewing stations with a clear view of the candidate trees and surrounding features were chosen. Monitoring occurred from 30 minutes before sunset, until 60 minutes after sunset. Observers noted the number of bats seen exiting.

Table 2: Summary of Acoustic Bat Survey Conditions

Acoustic Bat Survey Date	Observers	Start Time (24 hr)	Weather Conditions		
			Sky Code ¹	Air Temp. (°C)	Wind (Beaufort Scale) ²
June 7, 2021	Sylvia Radovic Meredith Meeker	20:28 – 21:58	2	25-22	0
June 21, 2021	Sylvia Radovic Jori Enstrom	20:33 – 22:03	2	15-14	3

¹NAAMP/ Beaufort Sky Codes

0 = clear (no cloud cover)
1 = partly cloudy (scattered or broken) or variable
2 = cloudy or overcast
3 = sandstorm, dust storm or blowing snow
4 = fog, smoke, thick dust, or haze
5 = drizzle or light rain
6 = rain
7 = snow or snow/rain mix
8 = showers
9 = thunderstorms

²Beaufort Wind Scale

0 = calm, smoke rises vertically (0-2km/hr)
1 = Light air movement, smoke drifts (3-5)
2 = Slight breeze, wind felt on face; leaves rustle (6-11)
3 = Gentle breeze, leaves & twigs in constant motion (12-19)
4 = Moderate breeze, small branches moving, raises dust & loose paper (20-30);
5 = Fresh breeze, small trees begin to sway (31-39)
6 = Strong breeze, large branches in motion (40-50)

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Burnside ecologists used the automatic identification feature of Wildlife Acoustics Kaleidoscope Pro v. 4.3.2 software to analyze all ultrasonic recordings. The analysis applied classifiers for the eight bat species present in Ontario (See Table 1), including the four SAR bat species.

4.4 Wildlife Habitat

On all site visits, visual observations of animals, tracks or scat were documented. Features that may be considered wildlife habitats were specifically sought out. These features include:

- Dens
- Reptile hibernacula
- Structures
- Uncapped chimneys
- Foundations

Observations were made for the entire property, areas of intrusion into the NHS and 50 m onto adjacent lands, where possible.

5.0 Existing Conditions

5.1 Physiography and Topography

The study areas are located entirely within the Oak Ridges Moraine Physiographic Region (Chapman and Putnam, 1984 and 2007). This is one of the most distinctive physiographic units of Southern Ontario, extending from the Niagara Escarpment to the Trent River, forming the height of land that divides the streams of the Lake Ontario drainage basin from those flowing into Georgian Bay and the Trent River. Its total area is more than 130,000 ha. The surface is hilly, with a knob-and-basin relief typical of an end moraine. These hills are composed, for the most part, of sandy and gravelly materials. In general, the upland areas are to be regarded as the source area for many streams which drain the till plains on either side of the moraine. The original vegetation of the area was a mixed forest of pine and hardwoods, although very few mature trees are left. The characteristic soils are droughty and unstable under cultivation and pasture and are subject to blowing. Plantations of pine reforestation are common throughout the moraine, in an effort to fix the blowing sand. Uxbridge is the only township located completely within the area. The study area is located on a Kame Moraines Physiographic Landform. The study area topography slopes from 297 masl westward to 290 masl.

5.2 Geology

The subject lands are located on the Blue Mountain Formation, which consists of shale, with minor limestone (Armstrong and Dodge, 2007). The surficial geology of the study area is composed of ice-contact stratified deposits of sand and gravel, minor silt, clay and till (OGS, 2010).

5.3 Hydrogeology Conditions

The area of the proposed clubhouse expansion(hotel) has been mapped in a Significant Groundwater Recharge Area (SGRA) and in an area of High Aquifer Vulnerability (HVA). The study area is also mapped in a Wellhead Protection Area for quantity (WHPA-Q).

A hydrogeological study was completed by Burnside and the results of the study are provided in the Hydrogeological Assessment and Water Balance report prepared by Burnside (November 2022).

The Hydrogeological Assessment includes a characterization of the groundwater conditions in the study area, identification of potential construction constraints related to groundwater, and an assessment of potential development impacts on local groundwater quantity and quality.

The results of the Hydrogeological Assessment show that the soils across the study area consist of silty sand deposits, which are interpreted to be part of the Oak Ridges Moraine Aquifer Complex (ORAC), and that the water table is found at a depth of more than 10 m below ground surface with little seasonal variation. Based on regional mapping of the area, groundwater flow in the ORAC is interpreted to be to the north.

Due to the depth of the water table in the study area, construction dewatering is not anticipated for the proposed development. Although private water well users are located in the vicinity of the study area, due to the dry conditions anticipated during the construction of the proposed development, no impacts to these well users are expected.

It is noted that any wells not in use, including the four monitoring wells on site, must be decommissioned in accordance with the Wells Regulation and best management practices.

Due to the location of the study area in an SGRA and WHPA-Q, the recharge at the study area must be maintained post-development. As such, a water balance assessment, which calculates pre- and post-development infiltration volumes, as well as an evaluation of low impact development (LID) measures to promote infiltration were included in the Hydrogeological Assessment and are discussed below in Section 8.4.1. The LID measures proposed for use on-site include infiltration practices and open channel flow.

5.4 Vegetation Communities and Species

5.4.1 Ecological Land Classification

Dry-Fresh Scots Pine Naturalized Coniferous Plantation Type (FOCM6-3)



This ecosite is dominated by a dense canopy of Scots Pine (*Pinus sylvestris*) with occasional Manitoba Maple (*Acer negundo*) and Paper Birch (*Betula papyrifera*), with sparse White Willow (*Salix alba*), Green Ash (*Fraxinus pennsylvanica*), Norway Spruce (*Picea abies*), Balsam Fir (*Abies balsamea*), Black Cherry (*Prunus serotina*), Freeman's Maple (*Acer xfreemanii*) and White Elm (*Ulmus americana*). The shrub layer contained occasional Choke Cherry (*Prunus virginiana*), European Buckthorn (*Rhamnus cathartica*), Autumn-Olive (*Elaeagnus umbellata*), Staghorn Sumac (*Rhus typhica*), (*Clematis virginiana*) North American Red Raspberry (*Rubus idaeus* subsp. *strigosus*), Eastern Prickly Gooseberry (*Ribes cynosbati*), Tartarian Honeysuckle (*Lonicera tatarica*), Wild Cucumber (*Echinocystis lobata*) and River-bank Grape (*Vitis riparia*). Groundcover was dominated by highly invasive European Swallowwort (*Vincetoxicum rossicum*) and Garlic Mustard (*Alliaria petiolata*). Groundcover also included Common Dandelion (*Taraxacum officinale*), Violets (*Viola* sp.), and occasional Common Milkweed (*Asclepias syriaca*), Large False Solomon-Seal (*Maianthemum racemosum*), New

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England Aster, (*Symphyotrichum Noave-angliae*), Blue Cohosh (*Caulophyllum thalictroides*) and mosses. Drainage features contributed to water-tolerant species in this community, including Virgin's Bower and Wild-cucumber. Disturbances included evidence of debris (empty drinking bottles). The dripline of the woodland area was staked and surveyed by LSRCA and Burnside ecologists on July 15, 2020 (see Figure 1).

Dry-Fresh Mixed Meadow Ecosite (MEMM3)



This ecosite is located north of the forested area. Sparse trees found within this unit include Scots Pine and Manitoba Maple. Sparse shrubs include European Buckthorn. The ground layer was abundant with Smooth Brome (*Bromus inermis*), Timothy (*Phleum pratense*), and Kentucky Bluegrass (*Poa pratensis*), and contained many common meadow species such as Wild Carrot (*Daucus carota*), Common St. John's-wort (*Hypericum perforatum*), Common Ragweed (*Ambrosia artemisiifolia*), Viper's bugloss (*Echium vulgare*), Tall Goldenrod (*Solidago altissima*), Canada goldenrod (*Solidago canadensis*), Bladder Champion (*Silene vulgaris*), Common Buttercup (*Ranunculus acris*), White Clover (*Trifolium repens*), Common Milkweed (*Asclepias syriaca*), Ox-eye daisy (*Leucanthemum vulgare*), Common Fleabane (*Erigeron philadelphicus*), Wild Strawberry (*Fragaria virginiana*) and Common Dandelion.

Dry-Fresh White Birch-Poplar-Conifer Mixed Forest Ecosite (FOMM5)

This ecosite is located north of the golf club. Trembling Aspen (*Populus tremuloides*) and Scots Pine dominate this mixed forest's canopy. Basswood (*Tilia americana*) and White Elm were also observed in the canopy. Sparse sub-canopy and shrub layer of the same species of the canopy were observed. The groundcover was noted to be maintained at its edges and was dominated by European Swallowwort.

5.4.2 Botanical Inventories

A detailed list of plants identified on the study area can be found in Appendix D. The following summarizes the flora observed on the study area during field surveys:

- 77 plant taxa were observed. Of those, 71 were identified to species or subspecies level. Of those species, 30 (42%) were native and 41 (58%) were non-native to Ontario.
- All native species were secure – common or apparently secure – uncommon (S5 or S4) in Ontario.
- No SAR flora were observed on the study area.
- No species were observed that are considered rare (R) or uncommon (U) to Durham Region (D) (Varga et al. 2000 or Durham Region (D) (Riley et al. 1989).

5.5 Avifauna

A total of 20 resident bird species, exhibiting some level of breeding evidence (possible, probable or confirmed), were observed on the study area during targeted breeding bird surveys in 2021.

One bird species was observed on the study area during the breeding bird window with no breeding evidence (i.e., suitable breeding habitat or breeding behavior) recorded: Barn Swallow (*Hirundo rustica*). See Appendix E.

According to NDMNRF's Significant Wildlife Habitat Technical Guide (MNR, 2000), "area-sensitive" species are defined as species that require large areas of suitable habitat for long-term population survival. Fragmentation of essential habitats can result in overall declines in populations. One "area-sensitive" bird species, as defined by the NDMNRF, was observed in suitable breeding habitat on the study area during the breeding bird surveys: Ovenbird (*Seiurus aurocapillus*). This species generally prefers undisturbed, open, mature deciduous or mixed forest with a closed canopy, little ground vegetation, and lots of fallen leaves, logs or rocks; forested ravines or well-drained riverbanks; nests in a depression of dead leaves at the base of tree or log; area sensitive species, requiring >70 ha of continuous forest" (SWH Guide, Appendix G). The on-site forest habitat is a coniferous forest ecosite that is disturbed and lacks the mature closed-canopy preferred by Ovenbirds. Larger tracts of mixed forest habitat which provide more ideal habitat are present off-site, in the greater area.

One bird species, listed as both provincially and federally significant, was observed on the study area during breeding bird surveys: Barn Swallow (Threatened). A SAR Screening Table for the study area is included in Appendix B. One Barn Swallow was observed flying over the study area and did not exhibit signs of breeding evidence. Barn Swallow build their nests in structures. Existing golf club buildings in the vicinity were surveyed for nests and no nests were found; therefore, breeding habitat is considered absent. Given the absence of breeding habitat in the study area, this species is not discussed further in the report.

5.6 Mammals

5.6.1 Bat Habitat Surveys

Appendix F and Appendix G summarize the characteristics of the leaf-off and leaf-on candidate maternity roosting trees in the study area. A total of 5 leaf-off snags were identified during the leaf-off survey. Each snag was assessed according to the criteria laid out in Section 4.3.1.1. One candidate maternity roosting tree was identified during the leaf-on survey. Among these, one was a Sugar Maple (*Acer saccharum*), two were Basswood, two were Green Ash and one was a Paper Birch. No Oak (*Quercus* spp.)

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trees, the preferred tree type for roosting Tri-colored Bat, were identified during the survey (MNRF, Guelph District, April 2017).

One candidate tree had dead or dying leaves. The presence of leaf clusters is inconsistent between years, or even weather events such as storms, which may create or destroy leaf clusters. Due to the unpredictable nature of this roosting habitat, leaf clusters have the potential to be present on any of the identified trees in any given year.

5.6.2 Bat Acoustic Surveys

Acoustic surveys were conducted to assess the presence of SAR bats that may be utilizing the forest on the study area. Observations taken during the time of the surveys are recorded in Table 3. The purpose of the acoustic surveys is to identify the species of bat present, while the visual observations is used to identify how the bats are using the study area (i.e., roosting or foraging).

Table 3: Bat Survey Observations

Date	Station	Species Observations	Species Identified with the Echo Meter Touch 2 Pro
June 7, 2021	1	No bats observed	Hoary Bat
June 7, 2021	2	No bats observed	Hoary Bat
June 21, 2021	1	No bats observed	Big Brown, Eastern Red, Hoary, Silver-Haired, Eastern Pipistrelle
June 21, 2021	2	No bats observed	None detected

No bats were directly observed. No observations indicated that the bats were flying out of, or into the forest. This implies that most of the recorded bats may have been foraging in fields on the study area, or adjacent lands.

Recordings from Echo Meter Touch 2 Pro Bat Call Detectors were verified using the more accurate Wildlife Acoustics Kaleidoscope Pro v. 4.3.2 software. Table 4 shows which bat species were detected by the Echo Meter heterodynes, how many events were recorded, and the level of confidence in the accuracy of the species identification, as verified by Kaleidoscope Pro software.

Table 4: Recorded Bat Calls

Station Information		Number of Recorded Events ¹							
Date	Station	Big Brown Bat	Eastern Red Bat	Silver-haired Bat	Hoary Bat	Eastern Small-footed Myotis	Little Brown Myotis	Northern Myotis	Tri-colored Bat
June 7, 2021	1	0	0	0	7	0	0	0	0
June 7, 2021	2	0	0	0	6	0	0	0	0
June 21, 2021	1	0	0	0	2	0	0	0	1
June 21, 2021	2	0	0	0	0	0	0	0	0
Total Recorded Events per Species		0	0	0	15	0	0	0	1

¹Cells shaded green indicated a high probability that the species is present ($p < 0.05$).

Cells shaded orange indicated a moderated probability that the species is present ($p < 0.1$).

Cells shaded red indicated a high probability of a false positive ($p > 0.1$).

Two species of bat were detected by the Echo Meter Touch 2 Pro heterodynes: Hoary Bat (*Lasiurus cinereus*) and Tri-colored Bat. Recordings were analyzed using Kaleidoscope Pro software. This analysis showed that only the Hoary Bat was recorded with high confidence. The single Tri-colored Bat recording was analyzed to have a p-value of 0.1008784, where a p-value greater than 0.1 indicates a high probability of a false positive. Based on these results, only the presence of Hoary Bat can be confirmed on the study area.

As such, no SAR Bats were detected on the study area.

5.7 Anthropogenic Features

During field surveys, all anthropogenic features were noted. The only man-made feature found on the study area were drainage features and monitoring wells within the woodlands. It is possible for the collection of ephemeral water to provide temporary habitat for wildlife, however, the sloped topography suggests no ephemeral water is present and no ephemeral water features were observed at the time of the field surveys.

5.8 Incidental Wildlife Observations

It is anticipated that on-site features would support common wildlife, such as a variety of small mammals (e.g., Mice, Voles, Squirrels), Raccoon, Fox, Coyote, Skunk, Eastern White-Tailed Deer and Eastern Cottontail. Monarch butterflies have the potential to forage in the cultural meadow habitat adjacent to the site, which contained the Milkweed (*Asclepias* spp.) plants required for their reproduction and are the host plant for the larval stage.

Incidental observations of wildlife were collected during field investigations. Observations were documented to provide a general characterization of the habitat functions of the site. Examples include tree nests, burrows, live sightings, etc.

Provincial ranks (i.e., S1 to S5) are used to set protection priorities for rare species and natural communities. Except for Monarch butterfly (discussed further in Sections 6.5, and 9.0), the remaining species observed are not listed as provincially and/or federally significant and are listed as secure or apparently secure in Southern Ontario (in other words, they are ranked as S5 or S4, which is defined by the MNRF as species that are common, widespread and abundant in the province or uncommon, but not rare). Refer to Table 5 for a summary of incidental observations to date.

Table 5: Summary of Incidental Wildlife Observations

Common Name	Scientific Name	S-Rank
Mammals		
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	S5
Voles (burrows)	<i>Microtus sp.</i>	
Insects		
Cabbage White	<i>Pieris rapae</i>	SNA (abundant in much of its range, threats and current trends unknown)
Common Ringlet	<i>Coenonympha tulia</i>	S5
Fireflies	<i>Lampyridae sp.</i>	
Monarch	<i>Danaus plexippus</i>	S2N, S4B (Imperiled)
Birds		
Common Raven	<i>Corvus corax</i>	S5

6.0 Identification of Provincially Significant Features

6.1 Provincially Significant Wetlands

The PPS (MMAH 2014) Section 6.0 defines significant wetlands as “*an area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time.*”

Provincially Significant Wetlands (PSW) are not present on the study area.

6.2 Significant Valleylands

The Natural Heritage Reference Manual (NHRM) (MNR 2010) provides criteria for identifying Significant Valleylands, including a variety of landform-related functions and attributes, as well as ecological features and functions.

No valleylands are present for the study area and broader study area.

6.3 Significant Woodlands

Significant Woodlands are typically identified by the local municipality. According to the PPS (MMAH 2014), significant woodland is defined as:

“an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history.”

According to guidelines recommended in the NHRM and the Ontario Nature - Federation of Ontario Naturalists, Suggested Conservation Guidelines for the Identification of Significant Woodlands in Southern Ontario (August 2004), in planning areas with a forest cover of between 15-30%, the minimum patch size for significant woodlands is 20 ha.

The woodland (FOCM6-3) community that will be impacted by the proposed development totals 0.16 ha, as identified on the study area through ELC mapping and described in Section 5.4 of this report. According to these criteria, the woodland is not considered Significant Woodlands.

6.4 Significant Areas of Natural and Scientific Interest

The PPS (MMAH 2014) Section 6.0 defines areas of natural and scientific interest (ANSIs) as:

“areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.”

According to the NHRM (MNR 2010), provincially significant ANSI's include some of the most significant and best examples of these features in the province.

No ANSI's are mapped by the LIO within the study area and wider area.

6.5 Significant Wildlife Habitat

Determination of SWH is generally categorized and described in the NHRM (MNR 2010). NDMNRF's SWHTG (MNR 2000) and SWH Criteria Schedule for Ecoregion 6E (MNR 2015) provides supplemental documents intended to assist in identifying SWH. The four categories of SWH are identified as:

1. *Habitats of seasonal concentrations of animals.*
2. *Rare vegetation communities, or specialized habitat for wildlife.*
3. *Habitat of species of conservation concern.*
4. *Animal movement corridors.*

Appendix C includes a screening of the various categories of SWH for the study area based on background records review, the findings of the field investigations in 2021, agency records and aerial photo interpretation.

6.5.1 Candidate Significant Wildlife Habitat in the Study Area

Significant Wildlife Habitat features potentially present within 120 m of the study area are not expected to be directly impacted by the development. No candidate SWH were identified in the background review.

6.5.2 Confirmed Significant Wildlife Habitat in the Study Area

Special Concern and Rare Wildlife Species: Based on observations of Milkweed and Monarch butterflies on-site, the MEMM3 ecosite is a confirmed habitat for Monarch butterfly.

Mitigation measures Monarch butterfly are discussed in Section 9.0. See the SAR Screening Table in Appendix B for further details.

6.6 Habitat of Endangered and Threatened Species

Burnside's background database review revealed the potential for SAR on the study area and the greater study area. These are all listed in the SAR Screening Table, in Appendix B.

Detailed field investigations determined that no Threatened or Endangered species habitat are utilizing habitats present within the study area.

7.0 Delineation of Environmental Constraints

Environmental constraints were staked and surveyed with LSRCA on-site on July 15, 2020. A small woodland was delineated within the study area. Based on LSRCA's Ecological Offsetting Policy (EOP), this woodland can be removed.

Ecological offsetting will not be required for woodlands that are within municipalities that have tree by-laws with comparable compensation requirements and duplication of tree replacement will also be avoided.

The EOP does not require offsetting for woodlands smaller than 0.5 ha, where the woodland does not provide the following:

- Any woodlands wholly, or partially within 30 m of a key natural heritage / key hydrological or protected feature.
 - This feature is not within 30 m of any key natural heritage / key hydrological or protected feature.
- Any woodland containing a provincially rare, treed vegetation community with an S1, S2 or S3 in its ranking by the Ministry of Natural Resources and Forestry Natural Heritage Information Centre (NHIC).
 - The woodland does not contain a provincially rare, treed vegetation community. The dominant species is Scots Pine, a non-native species.

8.0 Proposed Expansion

The proposed expansion footprint is shown in Figure 2. The following sections provide a summary.

8.1 Concept Plan

The proposed development, as discussed in the Functional Servicing and Stormwater Management Report (FSSR) (GHD 2022), is comprised of two distinct areas of development including a hotel (expansion to the existing clubhouse) and an additional

parking lot. The hotel will include four-stories, 79 hotel units, 100 seat restaurant, meeting facilities and a spa. This expansion will have a development area of approximately 1,250 m². This clubhouse expansion is located immediately west of the existing clubhouse, where there is an existing forest fragment. The proposed parking lot, that was not investigated as part of the EIS, will include an additional 170 spaces and has a development area of approximately 4,570 m². The main entry, off of Elgin Park Drive, will remain in its existing condition.

8.2 Preliminary Grading

The slopes on this site are quite steep, ranging from 4:1 to 10:1 in the area of development. Under existing conditions, the study area topography slopes from 297 masl westward to 290 masl. The grading of the expansion has been proposed to match into the adjacent development designs.

8.3 Servicing

8.3.1 Water and Wastewater Servicing

The proposed development will be serviced by the existing 300 mm diameter watermain on Elgin Park Drive. A domestic 100 mm PVC watermain and a 150 mm PVC firemain have been proposed to satisfy the water distribution requirements for the site. (GHD, 2022).

There are existing watermains within the study area. Accuracy of water and wastewater servicing should be reviewed by a civil engineer, prior to submission.

8.3.2 Sanitary Servicing

The overall proposed development can be serviced utilizing the existing 200 mm diameter sanitary sewer on Elgin Park Drive, located east of the site. The hotel will be serviced by a proposed 200 mm diameter PVC sanitary sewer that will connect to the existing sanitary manhole located in the south boulevard of Elgin Park Drive (west of the site boundary). (GHD, 2022)

8.4 Storm Drainage

There is existing stormwater drainage within the study area, however additional drainage will occur on site due to the proposed hotel and parking lot. Stormwater runoff associated with the proposed hotel will be directed towards a swale in the open area to the north. The sides of the swale will be grass lined and the base will include stone to act as an infiltration trench. Stormwater runoff from the proposed parking lot will be directed to a swale that will be located adjacent to the eastern edge of the parking lot. The sides and base of the swale will be grass lined. This swale has been designed to control the 10-year event that is greater than what is required for quality control.

8.4.1 Water Balance

A water balance assessment was completed for the proposed development and is included in the Hydrogeological Assessment and Water Balance (Burnside, 2022). The water balance calculations show that the pre-development infiltration rate for the study area was calculated to be 6,000m³ per year. The post-development water balance calculations show that, assuming no mitigation techniques in place (i.e., all runoff from the new parking lot and hotel roof will be directed to a storm sewer), the development has the potential to reduce infiltration by about 1,300 m³ per year. The water balance exercise was completed again accounting for the LID measures proposed in the FSSR (GHD, 2022), which includes directing runoff from the new parking lot area and hotel roof to infiltration swales designed to infiltrate the 25 mm storm event. This results in a potential increase of infiltration of 40% (2,400 m³ per year) and no change in the overall runoff from pre- to post-development conditions.

Overall, with the implementation of the proposed LID measures, recharge in the study area can be maintained.

8.4.2 Phosphorus Removal

A phosphorus budget was completed by GHD and is presented in the FSSR (2022). Review of the analysis completed by GHD shows that the pre-development phosphorus export for the 0.58 ha site is 0.012kg/year. Based on the proposed development the post development phosphorus export was calculated to be 0.45 kg/year, which is an increase of 0.438 kg/ year (GHD, 2022). Filtration practices and open channel phosphorus removal measures is proposed to be used on site.

A total of 0.092 kg/year will remain untreated after infiltration processes on-site, which is an increase from pre-development phosphorus export levels. It is proposed that the client will agree to pay a Phosphorus Offsetting fee to the LSRCA for the 0.08 kg not able to be mitigated.

Figure 2: Proposed Development – Hotel Expansion Plan

9.0 Evaluation of Potential Impacts and Recommended Mitigation Measures

Potential impacts to species, natural heritage features and their functions and the associated mitigation measures are detailed in Table 6.

Table 6: Potential Impacts and Recommend Mitigation Measures

Environmental Component	Potential Environmental Effects	Avoidance, Mitigation and/or Restoration Measures	Net Effects	Recommended Monitoring Activities
Vegetation Communities	<p>Direct effects of construction activities will include clearing and loss/injury of both herbaceous and woody vegetation within the study area. Specifically, the following area will be removed from these vegetated ecosites:</p> <ul style="list-style-type: none"> • FOCM6-3 (plantation forest): 0.13 ha • FOMM5 (successional forest): 0.02 ha <p>Potential indirect effects include the spread of invasive plant material, offsite soil compaction, equipment laydown and spills.</p>	<p>General Mitigation</p> <p>Vegetation loss should be minimized, where possible. The potential for establishing native species of plants, which support pollinator foraging, should also be included when establishing planting plans/edge management plans in consultation with the LSRCA for naturalized areas and erosion and sediment control planting.</p> <p>Construction Mitigation</p> <p>The limits of the construction area should be delineated with silt fencing and double-layer heavy-duty silt fencing should be placed at the limit of construction at the western boundary of the construction area, adjacent to the residential development area.</p>	Permanent loss of 0.15 ha of vegetation communities on the study area.	Fencing shall be inspected regularly to ensure damage is repaired in a timely manner, and that sediment transport offsite minimized.

Environmental Component	Potential Environmental Effects	Avoidance, Mitigation and/or Restoration Measures	Net Effects	Recommended Monitoring Activities
<p>Wildlife and General Wildlife Habitat</p>	<p>Temporary displacement of, and disturbance to, wildlife and wildlife habitat during the construction phase (i.e., vegetation removals, noise, light trespass). Development may limit wildlife movement and reduce useable habitat. The development will permanently remove woodlands that some common rural wildlife species are known to use for foraging and movement.</p> <p>Potential for disturbance, or destruction of migratory breeding birds and their habitat (prohibitions under the <i>Migratory Birds Convention Act, 1994</i>) during construction, including area-sensitive species.</p>	<p>Construction Mitigation</p> <p>If an animal or nesting bird is encountered during construction and does not move from the construction zone, the Contract Administrator shall be notified. If the construction activities are such that continuing construction in the area would result in harm to wildlife, construction activities in that location shall temporarily stop and the Project Ecologist, MNRF or MECP shall be contacted for direction.</p> <p>All works shall stop immediately in the area and MECP contacted should a SAR be encountered within construction, or operational areas, to ensure compliance with the ESA.</p> <p>Avoid vegetation clearing or disturbance during sensitive times of the year for local wildlife (i.e., when many animals bear their young or migrate between wintering and summer habitats). The specific timing of works should be determined, in consultation with the appropriate Agency. Generally, the following avoidance windows apply if working within any of these habitats:</p>	<p>A small area of woodland habitat exists. Provided that wildlife are allowed to relocate, and move as needed, no net effect is anticipated to wildlife habitat.</p>	<p>A Biologist may be required on-site, as needed, if wildlife is trapped within the construction zone and requires removal and relocation to land outside of the construction zone or should a species that is protected under the <i>ESA</i> be identified within, or adjacent to the construction site. The Biologist may be required to confirm the presence and identification of a species before contacting MECP for further advice.</p>

Environmental Component	Potential Environmental Effects	Avoidance, Mitigation and/or Restoration Measures	Net Effects	Recommended Monitoring Activities
		<ul style="list-style-type: none"> • Breeding birds and/or birds protected under the MBCA, 1994 (trees/shrubs/vegetation): April 1 to August 31. • SAR Bats (trees/structures): April 1 to October 31. <p>The area to be removed should be fenced off with exclusion fencing. The excluded area shall be searched immediately following fencing installation for any wildlife that may have become trapped. Any wildlife shall be safely relocated, or permitted to escape, to a suitable habitat no more than 200 m away from the work zone. Wildlife shall be released no more than 200 m away from the work zone, in a similar ecosystem type (woodlands).</p>		<p>Fencing should be monitored regularly to ensure there is no damage that may result in a decrease in function, or opportunities for injury or death to wildlife species.</p>
<p>Avifauna and Area-Sensitive Species</p>	<p>Potential for disturbance or destruction of migratory breeding birds and their habitat (prohibitions under the <i>Migratory Birds Convention Act, 1994</i>) during construction.</p>	<p>General Mitigation</p> <p>To reduce the risk of contravening the <i>Migratory Birds Convention Act, 1994</i>, timing constraints shall be applied to avoid any limited vegetation clearing (including grubbing) and/or structure works (construction, maintenance) during the breeding bird period – broadly from April 1 to</p>	<p>Permanent removal of avifauna habitat.</p>	<p>An Avian Biologist may be required on-site, as needed, should a nesting migratory bird (or SAR protected under <i>ESA</i>) be identified within, or adjacent to the construction site.</p>

Environmental Component	Potential Environmental Effects	Avoidance, Mitigation and/or Restoration Measures	Net Effects	Recommended Monitoring Activities
		<p>August 31 for most species (regardless of the calendar year).</p> <p>Active nests (i.e., nests with eggs or young birds) of protected migratory birds, including SAR protected under the <i>Endangered Species Act (ESA), 2007</i>, cannot be destroyed at any time of the year. The destruction of inactive nests for some species may also be prohibited.</p> <p>Construction Mitigation</p> <p>If a nesting migratory bird (or SAR protected under <i>ESA</i>) is identified within, or adjacent to the construction Site (or during operations and maintenance activities), and the activities are such that continuing works in that area would result in a contravention of the <i>Migratory Birds Convention Act, 1994</i> or <i>ESA</i>, all activities will stop and the Contract Administrator (with assistance from an Avian Biologist) shall discuss mitigation measures with the Township. Should SAR be identified, all activities will stop and MECP will be contacted immediately to ensure compliance with the <i>ESA</i>. The Contract Administrator shall instruct the Contractor on how to proceed, based on the mitigation measures established through discussions</p>		<p>The Avian Biologist may be required to confirm the presence and identification of an active nest and/or breeding bird before contacting MECP for further advice.</p>

Environmental Component	Potential Environmental Effects	Avoidance, Mitigation and/or Restoration Measures	Net Effects	Recommended Monitoring Activities
		with the Township, MECP and/or Environment Canada.		
Significant Wildlife Habitat	Direct impacts to the following categories of SWH within the development limits: <ul style="list-style-type: none"> • Confirmed habitat for Special Concern and Rare Wildlife Species: Monarch butterfly. 	General Mitigation For Confirmed habitats within the development limits: Monarch: <ul style="list-style-type: none"> • Milkweed species should be included in all seed mixes used to revegetate post-construction, to provide host plant for larval Monarch. • A variety of spring, summer and fall flowering native species should be included in the seed mix to provide nectar for adult butterflies and other pollinators. 	Monarch: The proposed mitigation measures will adequately compensate for any loss, or disturbance, to the current Monarch breeding habitat.	See Wildlife and General Wildlife Habitat.
Habitat of Endangered and Threatened Species	No habitat of provincially protected Endangered or Threatened species exists on the study area.	See Wildlife and General Wildlife Habitat. See Significant Wildlife Habitat.	See Wildlife and General Wildlife Habitat. See Significant Wildlife Habitat.	See Wildlife and General Wildlife Habitat.

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Environmental Component	Potential Environmental Effects	Avoidance, Mitigation and/or Restoration Measures	Net Effects	Recommended Monitoring Activities
Groundwater Quantity – SGRA and WHPA-Q	Reduction in recharge due to introduction of impervious surfaces.	Water balance assessment will be completed as part of the Hydrogeological Assessment to assess the potential magnitude of reduction of recharge, and LID measures implemented, as necessary, to maintain pre-development recharge volumes.	Provided the LID measures are implemented, no net negative effects are anticipated.	None required.
Groundwater Quality – Highly Vulnerable Aquifers	Application of road salt in parking areas has the potential to introduce chloride to the groundwater. No other prescribed threats will be introduced.	Best management practices to be used for the application of road salt in parking area, as per the LSRCA Parking Lot Design Guidelines to Promote Salt Reduction.	Best management practices will adequately minimize negative impacts.	None required.

10.0 Conclusions

The existing land use within the study area is dominated by woodland, with limited natural features.

Significant Wildlife Habitat on-site is present for a special concern species, Monarch.

The loss of habitat for Monarch will be adequately compensated for, with the addition of milkweed and wildflowers in seed mixes used on-site in naturalized areas and landscape plantings.

The proposed development expansion is small in scale; impacts to surrounding lands will be minimized and mitigated.

An evaluation of potential environmental impacts and recommended mitigation measures has been completed in consideration of the proposed development activities. In general, the proposed hotel expansion is in agreement with applicable natural heritage legislation and policies.

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Appendix A

LSRCA Correspondence & Terms of Reference



April 23, 2021

Via: Email

Chris Currie
Environmental Regulations Analyst
Lake Simcoe Region Conservation Authority
120 Bayview Parkway
Newmarket ON L3Y 3W3

Dear Chris Currie:

**Re: Environmental Impact Study, Terms of Reference
Wooden Sticks Golf Club
Project No.: 300050985.0001**

R.J. Burnside & Associates Limited (Burnside) has been retained by Wooden Sticks Golf Club to conduct an Environmental Impact Study (EIS) for a proposed expansion to the current Wooden Sticks Golf Club clubhouse, within the subject lands located at 40 Elgin Park Drive in the Township of Uxbridge. Wooden Sticks Golf Club is located southwest of the intersection of Elgin Park Drive and Confederation Drive in Uxbridge. See Figure 1.

This letter provides the proposed Terms of Reference (TOR) for the (EIS). At this time, we are seeking your input and would appreciate any comments on our approach, as well as any additional information you may have that is relevant to our study.

Part I: Background Secondary Source Information and Desktop Assessment

Burnside has reviewed the following existing data sources:

- Aerial photographic imaging and 1:10,000 Ontario Base Mapping (OBM).
- Ontario Hydrology Network (OHN) mapping.
- Natural Heritage Information Centre (NHIC) database for significant species and designated natural features.
- Ontario Breeding Bird Atlas (OBBA) database for avian species records within the general area.
- Ontario Reptile and Amphibian Atlas (ORAA) database for herpetofauna species records within the general area.
- MNR Land Information Ontario (LIO) database.
- MNR Natural Heritage Areas Mapping (2020).

- Lake Simcoe Region Conservation Authority (LSRCA) regulated features and mapping.
- Durham Regional Official Plan (May 26, 2020)
- Township of Uxbridge Official Plan Consolidation (July 2020)
- Oak Ridges Moraine Conservation Plan (ORMCP) (2017)
- Oak Ridge Moraine Technical Papers: Identification of Key natural Heritage Features on the Oak Ridges Moraine (OMNR, 2004)
- Lake Simcoe Protection Plan (MMAH, 2009).
- Provincial Policy Statement (PPS) (2020).
- Provincial *Endangered Species Act* (2007).
- Federal *Migratory Birds Convention Act, 1994* (MBCA) and the *Migratory Bird Regulations* (MBR).

Based on this review, we have identified the following information:

The subject lands are within the Oak Ridges Moraine (ORM) Boundary Plan, Countryside Area ORM Land Use Designation. The expansion to the clubhouse is proposed to encroach into the edge of a Woodland (not designated as Significant according to Schedule B – Natural Heritage System and Supported Uses: Uxbridge Urban Area in the Official Plan of the Township of Uxbridge), with the Uxbridge Brook Headwater Provincially Significant Wetland (PSW) Complex located approximately 260 m west of the proposed expansion on the property.

Table 1: Applicable Environmental Policies

Plan/Regulation	Designations
Corporation of the Township of Uxbridge (Schedule A1 and A2)	<ul style="list-style-type: none"> • Recreational Open Space Zone
Schedule A - Land Use and Transportation Plan - Uxbridge Urban Area - OP of the Township of Uxbridge	<ul style="list-style-type: none"> • Policy Area 2.1.6.7 Approved Major Recreation Use
Schedule B - Natural Heritage and Supportive Uses - Uxbridge Urban Area - OP of the Township of Uxbridge	<ul style="list-style-type: none"> • Secondary Plan Area • ORM - Minimum Area of Influence
Corporation of the Township of Uxbridge (Schedule B2) - Oak Ridges Moraine Conservation Plan - Landform Conservation Areas - Uxbridge Urban Area	<ul style="list-style-type: none"> • Landform Conservation Area Category 1
Region of Durham Official Plan (Schedule A - Map A2 - Regional Structure)	<ul style="list-style-type: none"> • Greenland System - Oak Ridges Moraine Area

<p>Region of Durham Official Plan (Schedule B - Map B3 - Oak Ridges Moraine Land Use)</p>	<ul style="list-style-type: none"> • Countryside Area
<p>Region of Durham Official Plan (Schedule B - MapB1b - Greenbelt Natural Heritage System & Key Natural Heritage and Hydrologic Features)</p>	<ul style="list-style-type: none"> • Key Natural Heritage and Hydrologic Features
<p>Lake Simcoe Conservation Authority Regulation (LSRCA) (Ontario 179/06).</p> <p>Lake Simcoe Source Protection Plan Area (LSSPA) Schedule A Map AP1 Wellhead Protection Area Overlay Map - Township of Uxbridge</p>	<ul style="list-style-type: none"> • No watercourses are present on the subject lands and expansion limits are outside of Regulation Limits (Uxbridge Brook). • Entirely within Wellhead Protection Area - Q2 designated area.
<p><i>Endangered Species Act, 2007</i> and Ontario Regulation 242/08</p>	<p>Potential Species at Risk identified in background review from the vicinity of the subject lands:</p> <ul style="list-style-type: none"> • Butternut (<i>Juglans cinerea</i>) • Blanding's Turtle (<i>Emydoidea blandingii</i>) • Barn Swallow (<i>Hirundo rustica</i>) • Bank Swallow (<i>Riparia riparis</i>) • Bobolink (<i>Dolichonyx oryzivorus</i>) • Chimney Swift (<i>Chaetura pelagica</i>) • Eastern Meadowlark (<i>Sturnella magna</i>) • Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) • Eastern Wood Pewee (<i>Contopus virens</i>) • Grasshopper Sparrow (<i>Ammodramus savannarum</i>) • Monarch (<i>Danaus plexippus</i>) • Midland Painted Turtle (<i>Chrysemys picta</i>) • Northern Map Turtle (<i>Graptemys geographica</i>) • Snapping Turtle (<i>Chelydra serpentina</i>) • Wood Thrush (<i>Hylocichla mustelina</i>) • Little Brown Myotis (<i>Myotis lucifugus</i>) • Eastern Small-footed Myotis (<i>Myotis leibii</i>) • Northern Myotis (<i>Myotis septentrionalis</i>) • Tricolored Bat (<i>Perimyotis subflavus</i>)

Part II: Proposed EIS Methodology

Based on the background review and previous consultation with LSRCA (November 20, 2019 J.Chan) the proposed fieldwork methodology for the EIS is listed:

- Comprehensive background information on the site and the surrounding Natural Heritage System (NHS).
- Ecological Land Classification (ELC) surveys.
- 3-season vegetation inventory.
- Two breeding bird surveys.
- Species at Risk (SAR) screening.
- General wildlife survey and habitat function.
- Identification of any Significant Wildlife Habitat (SWH).
- Woodland dripline staking exercise with the LSRCA.
- Identification of all natural heritage features.
- EIS report including appropriate mapping, description of proposed expansion, assessment of impacts, and mitigation measures.

To date the following studies have been completed (July 15, 2020) by Burnside:

- ELC survey.
- 1-season botanical inventory.
- Woodland dripline staking exercise with LSRCA.

Our detailed approach and methodology to complete the remaining outstanding items to support the EIS are summarized in Table 2, below:

Table 2: Summary of existing information, completed and to be fieldwork completed by Burnside in 2021 for Wooden Sticks Golf Club Expansion

Study Component	Existing Data	Fieldwork Requirements	Features/Areas to be Assessed Based on Proposed Expansion	Survey Timing Window
3-season botanical inventory and identification of rare species	The LSRCA information request may provide additional ELC and rare flora data points. Summer season botanical inventory completed (July 15, 2020)	3-season botanical inventory and analysis of flora rarity (provincial, regional, and LSRCA ranking).	Proposed expansion footprint, as well as in areas of intrusion into NHS (e.g., grading) and 50 m adjacent lands.	Spring and Fall, 2021
Butternut Survey	Butternut survey has been recommended per LSRCA correspondence (November 2019).	Survey for the location of Butternut trees throughout subject lands concurrent with botanical inventories. Once all Butternut are located, a Butternut Health Assessment, reporting and permitting may be necessary. A separate scope of work and cost estimate would be provided, as required.	Proposed expansion footprint, as well as in areas of intrusion into NHS (e.g., grading) and 50 m adjacent lands.	Leaf-on period, as defined in MNRF guidelines (May 15 to August 31, 2021).

Study Component	Existing Data	Fieldwork Requirements	Features/Areas to be Assessed Based on Proposed Expansion	Survey Timing Window
Identification and characterization of wildlife habitats and incidental wildlife observations	No known site-specific studies were previously completed.	Recording features present that may be considered wildlife habitat such as: <ul style="list-style-type: none"> • Dens. • Reptile hibernacula. • Structures. • Uncapped chimneys. • Foundations. Observations will be recorded during all site visits.	Proposed expansion footprint, as well as in areas of intrusion into NHS (e.g., grading) and 50 m adjacent lands.	All field surveys 2021.
Breeding Bird Surveys	No known site-specific studies were previously completed.	Two surveys to be completed following the OBBA Guide for Participants (March 2001).	Proposed expansion footprint, as well as in areas of intrusion into NHS (e.g., grading) and 50 m adjacent lands.	Between May 21, 2021, and July 10, 2021. Surveys must be conducted between dawn and 10 a.m.

Study Component	Existing Data	Fieldwork Requirements	Features/Areas to be Assessed Based on Proposed Expansion	Survey Timing Window
SAR Bat Habitat Surveys	SAR Bat habitat surveys have been recommended per LSRCA correspondence (November 2019).	<p>Leaf-off and Leaf-on candidate bat habitat surveys to be completed following the Guelph District MNRF <i>Survey Protocol for Species at Risk Bats within Treed Habitats (April 2017)</i>.</p> <p>Acoustics Survey per MNR protocol for the Use of Buildings and Isolated Trees, MNR Guelph District Office (April 2017)</p>	<p>Leaf-off and leaf-on surveys to be assessed for area of the proposed expansion footprint, as well as in areas of intrusion into NHS (e.g., grading). Acoustic surveys to be completed on Candidate Habitat trees identified in the previous surveys</p>	<p>Leaf-off season (between fall and spring) and Leaf-on period (between spring and fall). Acoustics Survey - June 1 to 30</p>

Criteria for Determining the Significance, Sensitivity and Rarity of Features Found On-site

In accordance with the Natural Heritage Reference Manual (MNR, 2010), habitats of endangered and threatened species are identified and evaluated based on provincial criteria. Burnside will consult with the MECP to ensure that the appropriate criteria are utilized, including species-specific habitat regulations and guidance material.

In the Oak Ridges Moraine Conservation Plan Area, the identification of Key Natural Heritage Features and Key Hydrologic Features are undertaken at the local planning level. The Township of Uxbridge has identified the Natural Heritage System and Supported Uses in Schedule B for the Uxbridge Urban Area within their Official Plan.

Species rarity will be based on:

- Species' status under the *Endangered Species Act, 2007*.
- Species' S-rank as provided on the NHIC database.
- Rarity for Durham Region as listed in *The Distribution and Status of the Vascular Plants of the Greater Toronto Area* (Varga et al., 2000) and *The Distribution and Status of the Vascular Plants of Central Region* (Riley et al., 1989).
- A rarity for the Lake Simcoe Watershed as listed in "The State of the Lake Simcoe Watershed" Appendix 5.3 (LSRCA, 2003).

The locations of all provincially rare species encountered will be recorded using GPS and included on the figures (excepting those classified as Restricted Species). Locally rare species will also be recorded in the ELC unit in which they are found.

Analysis and Recommendations

The EIS will provide an analysis of potential impacts, recommend mitigation measures to minimize impacts, and demonstrate conformity with all applicable natural heritage policies.

Specifically, the EIS will include the following:

- A demonstration that the expansion meets the requirements of the applicable natural heritage policies, including the Township of Uxbridge Official Plan, the Regional Municipality of Durham Official Plan, the Oak Ridges Moraine Conservation Plan, the Lake Simcoe Protection Plan, the Greenbelt Plan, and the Provincial Policy Statement (PPS).
- Identification of the significance of natural features.
- A general description of the proposed expansion.
- Identification of potential impacts to natural heritage features and quantification of impacts resulting from the proposed expansion.
- Identification of mitigation and enhancement measures, where necessary
- An assessment of potential impacts associated with the proposed expansion including: erosion and sediment control, lot grading, stormwater management and servicing.

Reporting

All findings will be summarized in a report, complete with figures.

Part III: Information Requests

We request the following information to assist in our study:

- Any relevant natural heritage or regulation GIS data not available on LSRCA's open data website.
- Any additional records of natural features, flora or fauna in the area.
- A copy of any locally rare species lists, or comment on which locally rare species list is preferred, in order to assist with the assessment of species significance and rarity.

If you have any questions or comments regarding these Terms of Reference, please feel free to contact me or Lorraine Adderley at 705-718-9746 (Lorraine.Adderley@rjburnside.com).

Yours truly,

R.J. Burnside & Associates Limited

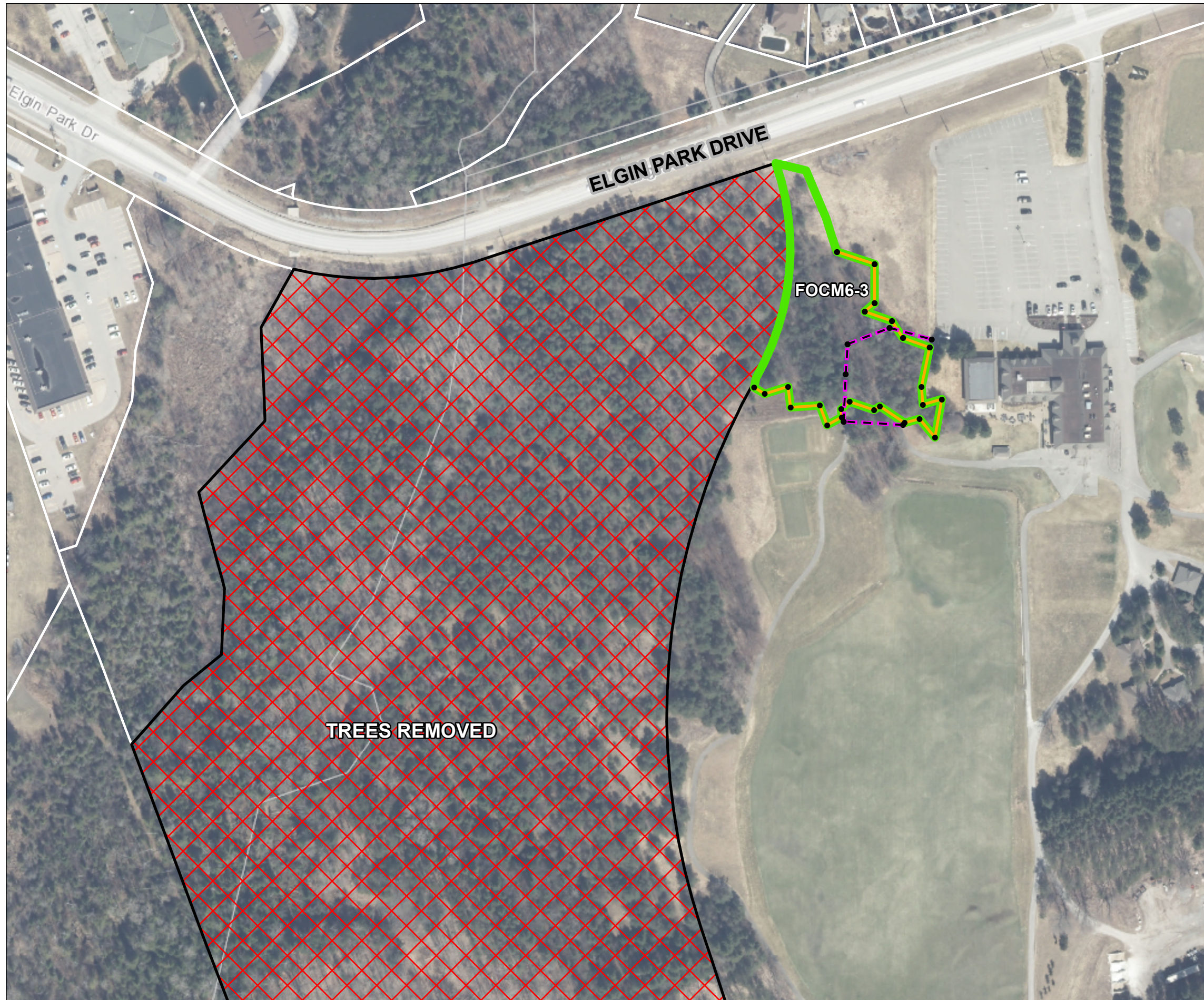


Sylvia Radovic, B.E.S.
Ecologist
SR:sr

Enclosure Figure 1

cc: Lorraine Adderley, R.J. Burnside & Associates Limited (enc.) (Via: Email)
 Jennifer Szczerbak, R.J. Burnside & Associates Limited (enc.) (Via: Email)
 Vito Cirone, R.J. Burnside & Associates Limited (enc.) (Via: Email)
 Greg Seeman, Wooden Sticks Golf Club (enc.) (Via: Email)

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- Wood Stake
- Proposed Expansion Limit
- Limit Marked by Lake Simcoe Region Conservation Authority (Drip Line of Trees)
- FOCM6-3
- ☒ TREES REMOVED

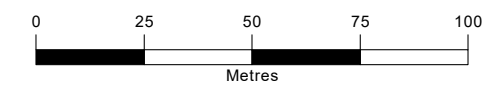
FOCM6-3: Dry - Fresh Scotch Pine Naturalized Coniferous Plantation Type

Sources:
 1. Ministry of Natural Resources and Forestry, © Queen's Printer for Ontario.
 2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.

Disclaimer:
 R.J. Burnside & Associates Limited and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.

This map is the product of a Geographic Information System (GIS). As such, the data represented on this map may be subject to updates and future reproductions may not be identical.

Datum: North American 1983 CSRS		
Coord. System: NAD 1983 CSRS UTM Zone 17N		
Projection: Transverse Mercator		
Central Meridian: 81°0'0.00"W		
False Easting: 500,000m	False Northing: 0m	
Page Orientation: 0°	Scale Factor: 0.99960	



Client
WOODEN STICKS GOLF COURSE

Figure Title
**WOODEN STICKS GOLF COURSE
 EIS
 ECOLOGICAL LAND CLASSIFICATION**

Drawn	Checked	Date	Figure No. 1
HN	SR	2020/08/17	
Scale	Project No.		
H 1:1,750	300050985		

Sylvia Radovic

From: Jessica Chan <J.Chan@lsrca.on.ca>
Sent: Monday, November 01, 2021 2:43 PM
To: Sylvia Radovic; Chris Currie
Cc: Jennifer Szczerbak
Subject: RE: Wooden Sticks Golf Club, Environmental Impact Study, Terms of Reference - 40 Elgin Park Drive, Township of Uxbridge
Attachments: 210423_Wooden Sticks Golf Club TOR.pdf; TOR checklist - PDFfillableform.pdf; 301263 - 40 Elgin Park Dr, Uxbridge (Wooden Sticks)_LSRCA TOR checklist.pdf

Good afternoon Sylvia,

The provided Terms of Reference for the Wooden Sticks Golf Club is acceptable. Please note, the LSRCA has developed a ToR checklist, which should be used for all future TOR submitted to the LSRCA (please see attached). Please also find attached a copy of a filled out ToR checklist for this site based on the information provided in the submitted ToR for your records. I look forward to reviewing your EIS.

Please let me know if you have any questions.

Best,

Jessica Chan, B.Sc.(Env.)

Natural Heritage Ecologist

Lake Simcoe Region Conservation Authority

120 Bayview Parkway

Newmarket, Ontario L3Y 3W3

905-895-1281, ext. 132 | 1-800-465-0437

j.chan@LSRCA.on.ca | www.LSRCA.on.ca

Twitter: @LSRCA

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Please note: The LSRCA Board of Directors approved a change to our Fee Policy. A NEW Preconsultation has come into effect as of April 1st, 2021. Please click [here](#) for the new fee schedule.

The information in this message (including attachments) is directed in confidence solely to the person(s) named above and may not be otherwise distributed, copied or disclosed. The message may contain information that is privileged, confidential and exempt from disclosure under the Municipal Freedom of Information and Protection of Privacy Act and by the Personal Information Protection Electronic Documents Act. If you have received this message in error, please notify the sender immediately and delete the message without making a copy. Thank you.

From: Sylvia Radovic <Sylvia.Radovic@rjburnside.com>

Sent: October 15, 2021 3:40 PM

To: Chris Currie <C.Currie@lsrca.on.ca>

Cc: Jessica Chan <J.Chan@lsrca.on.ca>; Jennifer Szczerbak <Jennifer.Szczerbak@rjburnside.com>

Subject: Wooden Sticks Golf Club, Environmental Impact Study, Terms of Reference - 40 Elgin Park Drive, Township of Uxbridge

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Hello Chris,

I hope this email finds you well.

Please find attached our TOR letter in regards to the EIS of the proposed expansion of the current wooden Sticks Golf Club clubhouse.

Our apologies, but we may have overlooked submitting our TOR earlier this year.

We are currently finalizing the EIS; to confirm, all fieldwork has been completed and trust the TOR meets with your expectations.

Please kindly respond and do not hesitate to contact us if you have any questions.

Sincerely,

Sylvia Radovic

Sylvia Radovic, B.E.S.
Ecologist

R.J. Burnside & Associates Limited | www.rjburnside.com
Office: +1 800-265-9662 Direct: +1 705-797-4367

From: Jessica Chan <J.Chan@lsrca.on.ca>
Sent: Wednesday, November 20, 2019 1:26 PM
To: Jennifer Szczerbak <Jennifer.Szczerbak@rjburnside.com>
Cc: Laura McGinnis <L.McGinnis@lsrca.on.ca>
Subject: RE: Wooden Sticks Golf Club

Hi Jenn,

Laura forwarded me your inquiry below as I would be the Natural Heritage Ecologist reviewing applications in Uxbridge. Based on the conceptual designs of the development, they are proposing removal of significant woodlands for both the hotel & spa, and the additional accommodations.

As such, the following is a list of some of the activities that will be required for the EIS (a more comprehensive list will be provided when a Terms of Reference is submitted):

- Collect background information on the site and the surrounding natural heritage system
- ELC surveys for the property based on the first approximation (1998)
- 3-season vegetation inventory
- 2 breeding bird surveys
- SAR screening based on existing and potential habitat (including butternut and SAR bats)
- Wildlife occurrences and assessment of wildlife habitat function including significant wildlife habitat
- Woodland dripline staking exercise with the LSRCA
- Identify all natural heritage features and their function on the property
- Map the ELC communities, natural heritage features, proposed development and disturbance limits on a current high quality ortho photo
- Description of the proposed development
- Assessment of potential impacts on the natural heritage features
- An appropriate avoidance/mitigation/restoration strategy
- Policy conformity with all applicable policies

Please let me know if you have any questions.

Best,

Jessica Chan, B.Sc.(Env.)

Natural Heritage Ecologist

Lake Simcoe Region Conservation Authority

120 Bayview Parkway

Newmarket, Ontario L3Y 3W3

905-895-1281, ext. 132 | 1-800-465-0437

j.chan@LSRCA.on.ca | www.LSRCA.on.ca

Twitter: @LSRCA

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Please note: the LSRCA Board of Directors approved a change to our Fee Policy. The new fees will take effect on January 1, 2019. Please click [here](#) for the new fee schedule.

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From: Jennifer Szczerbak [<mailto:Jennifer.Szczerbak@rjburnside.com>]

Sent: November 12, 2019 3:50 PM

To: Laura McGinnis

Subject: FW: Wooden Sticks Golf Club

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Hi Laura,

Just checking in to see if you made any progress on the below. I'm happy to discuss.

Kind regards,

Jenn

Jennifer Szczerbak, B.Sc., ECPD
Leader, Land Development Ecology

R.J. Burnside & Associates Limited???www.rjburnside.com
Office: +1 800-265-9662 Direct: +1 705-797-4360

Jennifer Szczerbak

Sent: Monday, November 04, 2019 12:10 PM

To: l.mcginnis@lsrca.on.ca

Subject: Wooden Sticks Golf Club

Hi Laura,

Thanks for your time...please see attached, as discussed.

It would be great if you could get back to me about some general requirements for the ecological reporting (i.e. scoped EIS or full 3-season, etc.) and we will follow up with the client. Of course, our next step would be pre-consultation with LSRCA and an approved TOR.

I look forward to hearing back,

Jenn

1. General Information:

Date: _____

Address: _____

Name of consulting firm: _____

Contact information: _____

2. Identify all potential natural heritage and hydrologic features in the study area (check all that apply):

**The LSRCA recognizes that this is a preliminary assessment to determine what studies may be suitable for the property. A site visit may be required to verify the presence/absence of features.*

- | | |
|---|---|
| <input type="checkbox"/> Wetland | <input type="checkbox"/> Drainage feature/watercourse |
| <input type="checkbox"/> Woodland | <input type="checkbox"/> Kettle lake |
| <input type="checkbox"/> Valleyland | <input type="checkbox"/> Seepage area or spring |
| <input type="checkbox"/> Grassland or meadow | <input type="checkbox"/> Lake or pond (and their littoral zone) |
| <input type="checkbox"/> Wildlife habitat | <input type="checkbox"/> Lake Simcoe shoreline |
| <input type="checkbox"/> Area of natural and scientific interest (ANSI) | <input type="checkbox"/> Natural areas abutting Lake Simcoe |
| <input type="checkbox"/> Sand barren, savannah or tallgrass prairie | <input type="checkbox"/> Habitat of endangered and threatened species |
| <input type="checkbox"/> Alvar | <input type="checkbox"/> Fish habitat |

3. Activities to be undertaken and studies required for a complete NHE/EIS submission:**

*** Some activities/studies are pre-selected () as they are a minimum requirement for NHE/EIS submissions.*

- Consult with the appropriate Municipal and Conservation Authority staff, as required, to establish the required scope of study.
- Identify an appropriate study area - generally the area of anticipated disturbance plus 120 m.
- Collect and include applicable background information and current environmental mapping for natural heritage and hydrologic features, and the natural heritage system within and surrounding the study area.
- Identify and provide detailed descriptions of natural heritage and hydrologic features in the study area, their function, and the broader natural heritage system that they are within. Determine the significance of these natural heritage and hydrologic features under applicable policy.
- Evaluate existing vegetation communities using Ecological Land Classification (ELC) for Southern Ontario (Lee et al. 1998. Ecological Land Classification for Southern Ontario: first approximation and its applications. SCSS Field Guide FG-02). Provide a description of ELC communities in the study area and include completed ELC field sheets as an appendix.
- Conduct a _____-season vegetation inventory in the late spring/summer/fall. Include the inventory categorized by ELC community as an appendix and denote any Species at Risk and/or provincially/locally rare species.
- Conduct three (3) breeding amphibian surveys as per the Marsh Monitoring Program protocol (Bird Studies Canada). Observational salamander surveys may be required if potential habitat exists in the study area. Include completed field sheets as an appendix.

- Conduct two (2) dawn breeding bird surveys between May 24 and July 15, under appropriate conditions, with a minimum of 10 days between surveys, and record all occurrences and breeding behaviors. Point counts, wandering transects or a combination of the two must be used according to features present and site conditions. Include completed field sheets as an appendix. A third survey will be required if suitable grassland bird habitat is present.
- Record observations of all wildlife occurrences and behaviours and assess wildlife habitat function.
- Screen for Species at Risk (SAR), listed under the *Endangered Species Act, 2007*, based on existing or potential habitat. Additional species-specific surveys may be required if SAR habitat is present (e.g. butternut health assessments, snag surveys, bat acoustic monitoring surveys, evening whip-poor-will surveys, etc.), please contact the Ministry of Environment, Conservation and Parks (MECP) for further direction. Include any relevant correspondence with the MECP as an appendix
- Assess for Significant Wildlife Habitat (e.g. turtle nesting or wintering area, reptile hibernaculum, woodland raptor nesting habitat, seeps, springs, etc.) as per the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, January 2015).
- Identify any ecological linkages or movement corridors within the study area. Demonstrate how connectivity within and between natural heritage and hydrologic features will be maintained and, where possible, improved or restored to allow for the effective dispersal and movement of plants and animals.
- Provide a general description of the methodology, dates, timing, and locations of completed field surveys.
- Confirm the boundaries of any wetland and/or woodland features on the property through a staking exercise with the LSRCA. Boundary points must be surveyed with a high-accuracy GPS device (accurate to within 10 cm). A professional Ontario Land Surveyor (OLS) may be required to attend. Wetland staking exercises must be completed between June 15 and September 30 (exceptions may apply). Note that a site visit fee may apply.
- Complete an aquatic habitat assessment for all drainage features/watercourses in the study area, including characterization of hydrologic features (i.e. permanent, intermittent, ephemeral, headwater drainage feature) and suitability as fish habitat. Include a description of instream and riparian cover, bank stability, substrate composition, stream morphology, dimensions and gradient, thermal regime indicators, potential barriers, woody debris distribution, aquatic vegetation, groundwater seepage areas, etc.
- Complete a catchment-based water balance for the study area to assess how existing drainage conditions and moisture regimes that support sensitive hydrologic features (e.g. wetland, woodlands, watercourse) may be impacted by the proposed development. Demonstrate how current hydrologic inputs will be maintained post-development. Please note, the water balance assessment may also be a requirement under other provincial policies, therefore the NHE/EIS should coordinate with/summarize the water balance work undertaken by others.
- Recommend the dimensions of an appropriate vegetation protection zone (VPZ)/buffer to natural heritage and hydrologic features required to mitigate impacts from the proposed development. Recommendations for restoration/plantings should be provided for all buffers.
- Provide a detailed description of the proposed development.

- Map the following information separately on current high quality ortho-air photos:
 - 1) ELC vegetation communities, natural heritage and hydrologic features and their associated VPZs, and the proposed development and anticipated limit of disturbance (e.g. grading limits); and,
 - 2) ELC vegetation communities, survey locations, other environmental features (e.g. linkages, wildlife corridors, seeps, springs, stick nests, wildlife habitat, rare species, invasive species, etc.), and existing structures and/or trails.
- Assess the potential direct, indirect, and cumulative impacts of the proposed development on natural heritage and hydrologic features, the natural heritage system, and related ecological and hydrologic functions.
- Develop and provide an appropriate avoidance/mitigation/restoration strategy to address the potential impacts of the proposed development.
- Demonstrate how the proposed development is in conformity with all federal, provincial, regional, and municipal natural heritage policies applicable in the Lake Simcoe watershed.
- Complete one final report for circulation and approval, prepared by qualified professionals, in an electronic format as well as one (1) hard copy.

4. Additional studies or plans that may be required include:

- Landscape/Restoration/Planting Plan
- Edge Management Plan
- Tree Inventory/Arborist Report/Tree Preservation Plan
- Trails Impact Study
- Ecological Offsetting Strategy (please refer to [LSRCA's Ecological Offsetting Policy](#))
- Environmental Monitoring Plan/Report
- Fluvial Geomorphological Assessment
- Natural Channel Design

5. Additional notes and/or requirements:

Please note that changes to the study area, the proposed development, and/or policy changes may require additional information/studies.

Please provide current field survey data in the NHE/EIS submission. Field survey data will be considered valid for five (5) years from the date the survey was conducted, except for Species at Risk screenings, which are valid for one (1) year. If outdated field data is provided, additional surveys may be required.



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Appendix B

SAR Screening Table

**Appendix B: Screening Table - Background Review of Species at Risk and Species of Conservation Concern Potentially Present in the Study Area
Wooden Sticks Golf Club EIS, Uxbridge (300050985.0002)**

Common Name	Scientific Name	Provincial S-RANK ¹	Provincial SARO Status ²	COSEWIC ³	Federal SARA Status ³	Federal SARA Schedule ⁴	Habitat Description	Habitat Present in Study Area?	Species Observed In Study Area During Site Assessment?
BIRDS									
Bank Swallow (Source: OBBA)	<i>Riparia riparia</i>	S4B	THR	THR	THR	1	In Ontario, Bank Swallows typically nest in exposed vertical earthen banks, created by erosion, along watercourses and lakeshores. It has also adapted to nesting in these banks in sand and gravel pits, along roadsides and in stockpiles of soil and other materials. The largest populations are supported by the shorelines of the lower Great Lakes and they can also be found throughout southern Ontario in the Carolinian and Lake Simcoe-Rideau regions. ⁷	No. No exposed, or eroded riverbanks present on site.	No. Not identified during Breeding Bird Surveys.
Barn Swallow (Source: OBBA)	<i>Hirundo rustica</i>	S4B	THR	THR	THR	1	Barn Swallows usually build mud nests on ledges of walls in, or outside, of a barn or other man-made structures, including building and bridges. Natural nesting locations include caves and cliffs, but they are now rarely used. They often nest in small colonies in areas often associated with other insectivores. Foraging occurs in open areas where insects are present: over water, meadows, marshes, and agricultural fields. They are most abundant south of the Canadian Shield, within agricultural lands in the Carolinian and Lake Simcoe-Rideau regions. ⁵	No. No structures suitable for nesting on site.	Yes. Barn Swallow observed flying overhead but no suitable breeding habitat present on-site.

Common Name	Scientific Name	Provincial S-RANK ¹	Provincial SARO Status ²	COSEWIC ³	Federal SARA Status ³	Federal SARA Schedule ⁴	Habitat Description	Habitat Present in Study Area?	Species Observed In Study Area During Site Assessment?
Bobolink (Source: OBBA)	<i>Dolichonyx oryzivorus</i>	S4B	THR	THR	THR	1	Bobolinks generally prefer open grasslands and hay fields for nesting, typically featuring relatively tall vegetation. Sometimes uses large fields (>50 ha) of winter wheat and rye in southwestern Ontario. Sensitive to vegetation structure and composition, they are positively associated with high grass-to-forb ratios, and moderate litter depth. They tolerate wetter portions of fields and are more likely to nest closer to field centers rather than field margins. They have a lower tolerance to presence of patches of bare ground and appear to prefer larger fields (>10 ha). ^{5,7} This area sensitivity is also heavily influenced by the amount of regional grassland cover.	No. No open grasslands featuring tall vegetation are present on site.	No. Not identified during Breeding Bird Surveys.
Chimney Swift (Source: OBBA)	<i>Chaetura pelagica</i>	S4B,S4N	THR	THR	THR	1	Chimney Swifts have historically nested/roosted in deciduous and coniferous, typically wet, forest types, with a well-developed, dense shrub layer. Currently, most are found in anthropogenic structures, most commonly in uncapped chimneys.	Yes. No chimneys or suitable hollow trees were observed in the Study Area but residential structures beyond the Study Area may have uncapped chimneys; permanent waterbodies provides foraging of preferred flying insects.	No. Not identified during Breeding Bird Surveys.
Common Nighthawk (Source: OBBA)	<i>Chordeiles minor</i>	S4B	SC	SC	THR	1	Prefers open, vegetation-free habitats, including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores, and riverbanks. This species also inhabits mixed and coniferous forests. Can also be found in urban areas (nest on flat roof-tops).	Yes. There is a small grassland pastures which is marginally suitable habitat for this species. There are flat topped roofs in the CGL_1 community adjacent to the study area but not within the study area. There are no both mixed and coniferous forests present; with relatively open understory.	No. Not identified during Breeding Bird Surveys.

Common Name	Scientific Name	Provincial S-RANK ¹	Provincial SARO Status ²	COSEWIC ³	Federal SARA Status ³	Federal SARA Schedule ⁴	Habitat Description	Habitat Present in Study Area?	Species Observed In Study Area During Site Assessment?
Eastern Meadowlark (Source: NHIC, OBBA)	<i>Sturnella magna</i>	S4B	THR	THR	THR	1	Generally, prefers grassy pastures, meadows and hay fields. Prefers moderately tall grass with abundant litter cover, a high proportion of grass cover, moderate forb density, low proportions of shrub and woody vegetation cover, and low percent of bare ground. Prefers to nest in drier sites and frequently nests around field margins. ^{5,7}	No. No field habitat suitable for nesting/foraging (i.e., tall grass pasture and meadows, etc.) is present on site.	No.
Eastern Wood-pewee (Source: OBBA)	<i>Contopus virens</i>	S4B	SC	SC	SC	1	This species is known to inhabit the mid-canopy layer of forest openings and edges of deciduous and mixed forests (MNR 2018). It is most abundant in intermediate-age mature forest stands with little understorey vegetation (MNR 2018). Eastern Wood-pewees generally nest in the interior of deciduous and mixed-wood forested habitats but are often found foraging along woodland edges and in within forest gaps. They do not require large habitats, but occurrences are noted less frequently in woodlots surrounded by development than in those without. Species distribution is throughout southern and northern Ontario, occurring less in the Hudson's Bay Lowlands. ⁵	Yes. The mixed forest (FOMM5) community is present with preferred little understorey vegetation.	No. Not identified during Breeding Bird Surveys.
Grasshopper Sparrow (Source: OBBA)	<i>Ammodramus savannarum</i>	S4B	SC	SC	SC	1	Prefers drier, sparsely vegetated grasslands, particularly rough or unimproved pastures with scattered forb and shrub growth, at least 30 ha in size. It will occasionally also use cultivated hayfields and cereal crops. ⁶	No. Preferred sparsely vegetated grassland breeding habitat not present.	No. Not identified during Breeding Bird Surveys.
Wood Thrush (Source: OBBA)	<i>Hylocichla mustelina</i>	S4B	SC	THR	THR	1	The Wood Thrush breeds in southeastern Canada, from southern Ontario, east to Nova Scotia. Nesting typically occurs in second-growth, mature deciduous and mixed forests. The presence of tall trees and a thick understory are usually prerequisites for site occupancy. ^{6,8} They prefer large forested areas, but they may also nest in small forest fragments. Nest	No. The mixed forest (FOMM5) community present does not possess tall mature deciduous trees; the coniferous forest (FOCM6-3) it is cedar dominated with sparse understory and lacking poplars; preferred Sugar Maples and American	No. Not identified during Breeding Bird Surveys.

Common Name	Scientific Name	Provincial S-RANK ¹	Provincial SARO Status ²	COSEWIC ³	Federal SARA Status ³	Federal SARA Schedule ⁴	Habitat Description	Habitat Present in Study Area?	Species Observed In Study Area During Site Assessment?
							building commonly occurs in Sugar Maples and American Beech saplings, trees or shrubs. ⁸ Wintering occurs in Central America, along the Atlantic and Pacific slopes. ⁶	Beech are not present.	
INSECTS									
Monarch (Source: Ontario Butterfly Atlas, Burnside)	<i>Danaus plexippus</i>	S2N, S4B	SC	END	SC	1	Monarchs can be found in areas that Milkweed (<i>Asclepius sp.</i>) and other wildflowers are present. This includes open spaces (fields), abandoned farmland, and roadsides. Pin-sized green eggs are laid on the underside of Milkweed species (<i>Asclepias spp.</i>), which are the primary food source of the Monarch caterpillar. Adult Monarchs migrate in late summer/early fall. Overwintering occurs along the California coast, and the Oyamel Fir Forest in central Mexico. ^{8\1}	Yes. Potential appropriate foraging and breeding habitat was present in the forest community edges; wildflowers (goldenrods) and the preferred Milkweed species observed.	Yes. Monarch were observed foraging.

Common Name	Scientific Name	Provincial S-RANK ¹	Provincial SARO Status ²	COSEWIC ³	Federal SARA Status ³	Federal SARA Schedule ⁴	Habitat Description	Habitat Present in Study Area?	Species Observed In Study Area During Site Assessment?
MAMMALS									
Little Brown Myotis (Source: MNRF, Burnside)	<i>Myotis lucifugus</i>	S3	END	END	END	1	<p>Population distribution within Canada includes the boreal forest, south of the tree line through to the U.S. border.¹⁰</p> <p>Roosting habitat: mainly considered to be a cavity-roosting species, however, tree foliage and rock crevices may also be used for day and maternity roosting. Communal night roosts are used when temperatures are cool and tend to be in spaces that are warm or can be warmed by an accumulation of bats. Females prefer to roost in maternity colonies, preferring tree cavities, exfoliating bark, cracks and crevices in cliffs and small caves and crevices heated by hot springs. Temperature is the principal criterion for the selection of a maternity roost location. Maternity colonies form just after bats come out of hibernation (late April and early May) and are located within 1 kilometer of water.¹⁰</p> <p>Hibernacula: hibernation typically takes place in caves or abandoned mines, with favorable temperatures and humidity conditions. Migration to hibernation sites can be up to 1,000km, and typically occurs in early September.¹¹ Little Brown Myotis populations in Ontario have declined dramatically in recent years due to White-nose Syndrome, a fungal infection caused by <i>Pseudogymnoascus destructans</i>, which infects bats while in hibernation.¹⁰</p>	<p>Yes</p> <p>Snags were present in preferred forests (FOCM6-3 and FOMM5) adjacent to and within grading limits in the study area; permanent water body sources for foraging are present beyond the forest within the greenlands.</p>	No.
Northern Myotis (Source: MNRF, Burnside)	<i>Myotis septentrionalis</i>	S3	END	END	END	1	<p>Roosting habitat: males and non-breeding females roost alone or in small groups, choosing trees, caves, and buildings. Breeding females roost in tree hollows, cavities, crevices or under loose bark of living or decaying trees, sometimes in groups of up to 60 adults. They often change roosting locations every few days. Prey mainly includes terrestrial insects such as flies, moths, beetles, caddisflies,</p>	<p>Yes</p> <p>Snags were present in preferred forests (FOCM6-3 and FOMM5) adjacent to and within grading limits in the study area; permanent water body sources for foraging are present beyond the forest within the greenlands.</p>	No.

Common Name	Scientific Name	Provincial S-RANK ¹	Provincial SARO Status ²	COSEWIC ³	Federal SARA Status ³	Federal SARA Schedule ⁴	Habitat Description	Habitat Present in Study Area?	Species Observed In Study Area During Site Assessment?
							<p>lacewings and leafhoppers, as well as non-flying species, such as spiders and caterpillars. They tolerate cooler conditions than the Little Brown Myotis and are therefore not usually found near that species.¹⁰</p> <p>Hibernacula: tend to enter hibernation later than other species, around late September to early November, and will emerge from hibernation sometime between March and May. They spend the summer relatively close to their hibernacula (56km between summer and winter sites).¹⁰</p> <p>As with Little Brown Myotis, White-nose Syndrome has cause a dramatic decline in Ontario populations.¹⁰</p>		
Tri-colored Bat (Source: MNRF, Burnside)	<i>Perimyotis subflavus</i>	S3?	END	END	END	1	<p>Roosting habitat: females roost alone, or in small colonies, and have been shown to exhibit fidelity to small roosting areas. Foraging typically occurs in forested riparian areas, over open water and in relatively open areas. Studies have shown that Tri-coloured bats forage in forested areas with the greatest coverage, suggesting that they may avoid agricultural clearings, urban areas and areas where forest harvesting has occurred.¹⁰</p> <p>Hibernacula: tends to hibernate in the deepest parts of caves or abandoned mines, where temperature is least variable and humidity levels are high. They hibernate solitarily and exhibit high fidelity to hibernacula.¹⁰</p>	<p>Yes</p> <p>Snags were present in preferred forests (FOCM6-3 and FOMM5) adjacent to and within grading limits in the study area; permanent water body sources for foraging are present beyond the forest within the greenlands.</p>	No.
PLANTS									
Butternut (Source: NHIC, Burnside)	<i>Juglans cinerea</i>	S2?	END	END	END	1	<p>Butternut grows best in rich, moist and well-drained soils or limestone gravel sites. They are less commonly found in dry, rocky and sterile soils. They generally grow alone or in small groups in deciduous forests that are commonly comprised of Basswood,</p>	<p>Yes.</p> <p>Appropriate habitat present.</p>	<p>No.</p> <p>No Butternut identified during ELC inventory.</p>

Common Name	Scientific Name	Provincial S-RANK ¹	Provincial SARO Status ²	COSEWIC ³	Federal SARA Status ³	Federal SARA Schedule ⁴	Habitat Description	Habitat Present in Study Area?	Species Observed In Study Area During Site Assessment?
							Black Cherry, Beed, Black Walnut, Elm, Hemlock, Hickory, Oak, Red Maple, Sugar Maple, Poplar, White Ash and Yellow Birch. In Ontario, they can be found throughout southern Ontario, south of the Canadian Shield. ⁹		
REPTILES & AMPHIBIANS									
Blanding's Turtle (Source: NHIC)	<i>Emydoidea blandingii</i>	S3	THR	THR	THR	1	Habitat preferences of the Blanding's Turtle include wetlands and shallow vegetated shorelines of lakes and rivers, ¹¹ however they will travel large distances (up to 410 meters) overland in search of nesting habitat (females) or a potential mate (males). ^{8, 10} They will dig their nests in a variety of loose substrates, including sand, organic soil, gravel and cobblestone of dry conifer or mixed hardwood forests. ⁸ Hibernation habitat includes the muddy bottoms of permanent water bodies that average approximately one meter in depth. Not much else is known about their overwintering sites. ^{8, 10} Blanding's Turtles can be found in several areas throughout southern, central and eastern Ontario. ¹⁰	No. No appropriate wetland habitat within Study Area. Preferred nesting habitat is not found in the study area. No hibernation habitat present in the study area. Preferred marsh habitat is potentially found outside of the Study Area in the PSW.	No.
Midland Painted Turtle (Source: NHIC, ORAA)	<i>Chrysemys picta marginata</i>	S4	-	SC	SC	-	Inhabits waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water. The midland painted turtle hibernates on the bottom of waterbodies.	No. No appropriate marsh habitat present within Study Area. No open slow moving water with preferred basking observed within Study Area. Preferred marsh habitat is potentially found outside of the Study Area in the PSW	No.
Snapping Turtle (Source: NHIC, ORAA)	<i>Chelydra serpentina</i>	S3	SC	SC	SC	1	Snapping Turtles generally inhabit shallow waters, where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravelly or sandy areas along streams. They often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits. During nesting season, females travel overland in search of suitable nesting sites. ⁸	No. No appropriate marsh habitat present within Study Area. Preferred shallow water and gravel nesting substrate potentially outside of Study Area.	No.

** Sources: Natural Heritage Information Centre (NHIC) database searched on May 1, 2019 for square 17MK6912; Ontario Reptile and Amphibian Atlas (ORAA) for Square 17MK61, searched online on May 1, 2019; Ontario Breeding Bird Atlas (OBBA) 2001-2005 database for Square 17MK61 searched online on May 1, 2019.

¹S-Ranks (provincial)

Provincial (or Subnational) ranks are used by the 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 global ranks, but consider only those factors within the political boundaries of Ontario (Please refer to: <http://explorer.natureserve.org/nsranks.htm>). S-Ranks obtained from the NHIC updated June 28, 2018.

SX — Presumed Extirpated - Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

SH — Possibly Extirpated (Historical) - Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20–40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.

S1 — Critically Imperiled - Critically imperiled in the province or state 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 from the province.

S2 — Imperiled - Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the province.

S3 — Vulnerable - Vulnerable in the province 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 the province.

SNR — Unranked - Province conservation status 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 than S1S4).

S#? — Inexact or Uncertain - Denotes inexact or uncertain numeric rank.

Breeding Status Qualifiers

B – Breeding Conservation status refers to the breeding population of the species in the nation or state/province.

N – Nonbreeding Conservation status refers to the non-breeding population of the species in the province.

M – Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

²SARO Endangered Species Act, 2007

(Provincial status from <https://www.ontario.ca/page/species-risk-ontario#section-1> updated November 13, 2018)

The provincial review process is implemented by the Committee on the Status of Species at Risk in Ontario (COSSARO).

Extinct - A species that no longer exists anywhere.

Extirpated (EXT) - Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.

Endangered (END) - Lives in the wild in Ontario but is facing imminent extinction or extirpation.

Threatened (THR) - Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Special concern (SC) - Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

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

Data Deficient (DD) - A species for which there is insufficient information for a provincial status recommendation.

³SARA (Federal Species at Risk Act) Status and Schedule (includes COSEWIC Status)

The Act establishes Schedule 1, as the official list of wildlife species at risk. It classifies those species as being either Extirpated, Endangered, Threatened, or Special Concern. Once listed, the measures to protect and recover a listed wildlife species are implemented. Obtained from the Species at Risk Public Registry on December 10, 2018.

Extinct - A wildlife species that no longer exists.

Extirpated (EXT) - A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.

Endangered (END) - A wildlife species facing imminent extirpation or extinction.

Threatened (THR) - A wildlife species that is likely to become an endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

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

Data Deficient (DD) - 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.

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

⁴SARA Schedule

Obtained from the Species at Risk Public Registry on December 10, 2018.

Schedule 1: is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.

Schedule 2: species listed in Schedule 2 are species that had been designated as endangered or threatened, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

Schedule 3: species listed in Schedule 3 are species that had been designated as special concern, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

The Act establishes Schedule 1 as the official list of wildlife species at risk. However, please note that while Schedule 1 lists species that are extirpated, endangered, threatened and of special concern, the prohibitions do not apply to species of special concern.

Species that were designated at risk by COSEWIC prior to October 1999 (Schedule 2 & 3) must be reassessed using revised criteria before they can be considered for addition to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the List of Wildlife Species at Risk.

Sources:

⁵ Cadman, M.D., et al. (eds). 2007. *Atlas of the Breeding Birds of Ontario, 2001-2005*. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706 pp

⁶ Species at Risk Public Registry <http://www.sararegistry.gc.ca>

⁷ McCracken, J.D. et al. 2013. Recovery Strategy for the Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario, viii + 88 pp.

⁸ MNRF SARO List Species Descriptions (<https://www.ontario.ca/page/species-risk-ontario#section-1>)

⁹ COSEWIC Species Assessment Reports

¹⁰ Naughton, Donna. 2012. *The Natural History of Canadian Mammals*. Canadian Museum of Nature and University of Toronto Press, Toronto, + 784 pp

¹¹ Farrar, John Laird, 2017, *Trees in Canada*, Natural Resources Canada | Canada Forest Services, and, Fitzhenry & Whiteside Limited, pp.238 – 239

¹² Significant Wildlife Habitat Technical Guide – Appendix G – Table G-3



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Appendix C

SWH Screening Table

Appendix C: Significant Wildlife Habitat Screening in the Study Area – Ecoregion 6E Criteria (2015)
Wooden Sticks Golf Club EIS, Uxbridge (300050985.0002)

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
Table 1.1: Seasonal Concentration Areas of Animals					
Waterfowl Stopover & Staging Areas (Terrestrial) Rationale: Habitat important to migrating waterfowl.	CUM1 CUT1 - Plus evidence of annual spring flooding from melt water or run-off within these ecosites.	Fields with sheet water during Spring (mid-March to May). <ul style="list-style-type: none"> 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. 	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects." <ul style="list-style-type: none"> Any mixed species aggregations of 100 or more individuals required. The flooded field ecosite habitat plus a 100-300 m radius area, dependent on local site conditions and adjacent land use is the SWH. Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). SWHMiST Index #7 provides development effects and mitigation measures. 	No potential on the subject property. The criteria for Significant Wildlife Habitat is not present. No large aggregations of waterfowl were observed during any of the field investigations that occurred in early spring. Candidate habitat on adjacent lands but not within 120 m. The Uxbridge Brook Headwater PSW complex may provide waterfowl staging areas.
Waterfowl Stopover & Staging Areas (Aquatic) Rationale:	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	<ul style="list-style-type: none"> Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and SWM 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). 	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	Studies carried out & verified presence of: <ul style="list-style-type: none"> Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days. Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. The combined area of the Ecological Land Classification (ELC) ecosites and a 100 m radius area is the SWH. Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are SWH. 	No potential on the subject property. The criteria for Significant Wildlife Habitat is not present. No large aggregations of waterfowl were observed during any of the field investigations that occurred in early spring.

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
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.			Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	<ul style="list-style-type: none"> Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). SWHMiST Index #7 provides development effects and mitigation measures. 	Candidate habitat on adjacent lands but not within 120 m. The Uxbridge Brook Headwater PSW complex may provide waterfowl staging areas.
Shorebird Migratory Stopover Area Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	<ul style="list-style-type: none"> 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. 	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	Studies confirming: <ul style="list-style-type: none"> 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 (<24 hrs.) 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 100 m radius area. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #8 provides development effects and mitigation measures. 	No potential on the subject property. The criteria for Significant Wildlife Habitat is not present. None of these species were observed utilizing the ecosites listed during field investigations on the subject property. Candidate habitat on adjacent lands but not within 120 m. The Uxbridge Brook Headwater PSW complex may provide waterfowl staging areas.
Raptor Wintering Area Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant.	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM,	<ul style="list-style-type: none"> The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites (hawk/owl) need to be > 20 ha, with a combination of forest and upland. 	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl Special Concern: Short-eared Owl Bald Eagle	Studies confirm the use of these habitats by: <ul style="list-style-type: none"> One or more Short-eared Owls or; One or more Bald Eagle or; At least 10 individuals and two of the listed hawk/owl species. To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. 	None of these species was recorded during breeding bird surveys. While the forested ecosites are present, the subject property does not provide sufficient sized idle/fallow or lightly grazed fields/meadows

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
	<p>FOC.</p> <p><u>Upland:</u> CUM; CUT; CUS; CUW.</p> <p><u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).</p>	<ul style="list-style-type: none"> Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. Field area of the habitat is to be wind swept with limited snow depth or accumulation. Eagle sites have open water, large trees and snags available for roosting. 		<ul style="list-style-type: none"> The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects." SWHMiST Index #10 and #11 provides development effects and mitigation measures. 	<p>– however, these are present on neighbouring lands.</p> <p>The subject property lacks large rivers and lakes with open water for Bald Eagle.</p> <p>High potential on adjacent lands based on the mosaic of upland and forested ecosites associated with the Uxbridge Brook Headwater PSW complex</p>
<p>Bat Hibernacula</p> <p><u>Rationale:</u> Bat hibernacula are rare habitats in all Ontario landscapes.</p>	<p>Bat Hibernacula may be found in these ecosites:</p> <p>CCR1 CCR2 CCA1 CCA2</p> <p>(Note: buildings are not considered to be SWH)</p>	<ul style="list-style-type: none"> 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. 	<p>Big Brown Bat Tri-coloured Bat</p>	<ul style="list-style-type: none"> All sites with confirmed hibernating bats are SWH. The habitat area includes a 200 m radius around the entrance of the hibernaculum for most development types and 1000 m for wind farms. Studies are to be conducted during the peak swarming period (August to September). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects". SWHMiST Index #1 provides development effects and mitigation measures. 	<p>No potential on the subject property or adjacent lands.</p> <p>The criteria for Significant Wildlife Habitat is not present on the subject property or adjacent lands (i.e., caves, abandoned mine shafts, karsts, etc. are absent).</p>
<p>Bat Maternity Colonies</p> <p><u>Rationale:</u> Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.</p>	<p>Maternity colonies considered SWH are found in forested ecosites.</p> <p>All ELC ecosites in ELC Community Series:</p> <p>FOD FOM SWD SWM</p>	<ul style="list-style-type: none"> Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Maternity roosts are not found in caves and mines in Ontario. Maternity colonies located in Mature deciduous or mixed forest stands with >10 ha large 	<p>Big Brown Bat Silver-haired Bat</p>	<ul style="list-style-type: none"> Maternity Colonies with confirmed use by: <ul style="list-style-type: none"> >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 	<p>Both Big Brown Bat and Silver-haired Bat are considered absent.</p> <p>Echo Meter Touch 2 Pro Bat Call Detector results (verified using Wildlife Acoustics Kaleidoscope Pro v. 4.3.2 software), indicated that only the presence of Hoary Bat can</p>

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
		<p>diameter (>25 cm dbh) wildlife trees.</p> <ul style="list-style-type: none"> Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. 		<p>outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”.</p> <ul style="list-style-type: none"> SWHMiST Index #12 provides development effects and mitigation measures. 	<p>be confirmed on the subject lands.</p> <p>High potential on adjacent lands based on the presence of forest and wetland ecosites mainly associated with the Uxbridge Brook Headwater PSW complex.</p>
<p>Turtle Wintering Areas</p> <p><u>Rationale:</u> Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p>Snapping and Midland Painted Turtles.</p> <p>ELC Community Classes:</p> <p>SW, MA, OA and SA</p> <p>ELC Community Series:</p> <p>FEO and BOO</p> <p>For Northern Map Turtle: Open water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.</p>	<ul style="list-style-type: none"> For most turtles, wintering areas are in the same general area as their core habitat. Water must be deep enough not to freeze and have soft mud substrates. Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. 	<p>Midland Painted Turtle</p> <p>Special Concern: Northern Map Turtle Snapping Turtle</p>	<ul style="list-style-type: none"> 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 (September–October) or spring (March–May). Congregation of turtles is more common where wintering areas are limited and therefore significant. SWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat. 	<p>Confirmed no overwintering habitat on the subject property.</p> <p>Candidate overwintering habitat assumed present on adjacent lands (Uxbridge Brook Headwater PSW complex.).</p>
<p>Reptile Hibernaculum</p> <p><u>Rationale:</u> Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p>For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats.</p> <p>Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.</p>	<ul style="list-style-type: none"> 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. 	<p>Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake</p> <p>Special Concern: Milksnake Eastern Ribbonsnake</p>	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g., foundation or rocky slope) on sunny warm days in Spring (April/May) and Fall (September/October). 	<p>No potential on the subject property and adjacent lands given the lack of suitable overwintering habitat availability of shelter materials (no barns, outbuildings, foundations, farm debris, wood piles, wetlands, etc.).</p>

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
	For Five-lined Skink, ELC Community Series of FOD and FOM and ecosites: FOC1 and FOC3.	<ul style="list-style-type: none"> • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock groundcover. • Five-lined Skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. 	Lizard: Special Concern: (Southern Shield population): Five-lined Skink	<ul style="list-style-type: none"> • Note: If there are Special Concern Species present, then site is SWH. • Note: Sites for hibernation possess specific habitat parameters (e.g., temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e., strong hibernation site fidelity). Other critical life processes (e.g., mating) often take place near hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH. • SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for Skink is significant. • SWHMiST Index #37 provides development effects and mitigation measures for five-lined Skink wintering habitat. 	
Colonially - Nesting Bird Breeding Habitat (Bank & Cliff) Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	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	<ul style="list-style-type: none"> • 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. 	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Studies confirming: <ul style="list-style-type: none"> • Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50 m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #4 provides development effects and mitigation measures. 	No potential on the subject property. The criteria for Significant Wildlife Habitat is not present. Neither species recorded during breeding bird surveys or any other field surveys completed on the property. Low potential breeding habitat on adjacent lands. No obvious features such as exposed earthen banks or shorelines.

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
<p>Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)</p> <p>Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1</p>	<ul style="list-style-type: none"> 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. 	<p>Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron</p>	<p>Studies confirming:</p> <ul style="list-style-type: none"> 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 300 m radius or extent of the Forest ecosite containing the colony or any island <15.0 ha with a colony is the SWH. Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells. SWHMiST Index #5 provides development effects and mitigation measures. 	<p>No potential on the subject property. None of these species was recorded during breeding bird surveys or any other field surveys completed on the property..</p> <p>Low potential breeding habitat on adjacent lands for Great Blue Heron, Black-crowned Night-heron or Great Egret. No heronries are known from the vicinity of the subject property.</p> <p>High potential breeding habitat for Green Heron on adjacent lands within the (Uxbridge Brook Headwater PSW complex).</p>
<p>Colonially - Nesting Bird Breeding Habitat (Ground)</p> <p>Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map).</p> <p>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird).</p> <p>MAM1 – 6 MAS1 – 3 CUM CUT CUS</p>	<ul style="list-style-type: none"> 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. 	<p>Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird</p>	<p>Studies confirming:</p> <ul style="list-style-type: none"> 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 150 m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0 ha with a colony is the SWH. Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #6 provides development effects and mitigation measures. 	<p>No potential on the subject property or adjacent lands. The criteria for Significant Wildlife Habitat is not present (i.e., no gull or tern colonies are known from the area).</p> <p>Breeding records for Brewer's Blackbird in Ecoregion 6E are only known from the Bruce Peninsula.</p>
<p>Migratory Butterfly Stopover Areas</p>	<p>Combination of ELC Community Series; need to</p>	<ul style="list-style-type: none"> A butterfly stopover area will be a minimum of 10 ha in size with 	<p>Painted Lady Red Admiral</p>	<p>Studies confirm:</p>	<p>No potential on the subject property or adjacent lands.</p>

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
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<p>Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.</p>	<p>have present one Community Series from each land class.</p> <p><u>Field:</u> CUM CUT CUS</p> <p><u>Forest:</u> FOC FOD FOM CUP</p> <p>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.</p>	<p>a combination of field and forest habitat present and will be located within 5 km of Lake Erie or Ontario.</p> <ul style="list-style-type: none"> The habitat is typically a combination of field and forest and provides the butterflies with a location to rest prior to their long migration south. The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. 	<p><u>Special Concern</u> Monarch</p>	<ul style="list-style-type: none"> The presence of Monarch Use Days (MUD) during fall migration (August/October). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. SWHMiST Index #16 provides development effects and mitigation measures. 	<p>The criteria for Significant Wildlife Habitat is not present. The subject property is more than 5 km from Lake Erie or Lake Ontario.</p>
<p>Landbird Migratory Stopover Areas</p> <p>Rationale: Sites with a high diversity of species as well as high numbers are most significant.</p>	<p>All ecosites associated with these ELC Community Series:</p> <p>FOC FOM FOD SWC SWM SWD</p>	<ul style="list-style-type: none"> Woodlots >10 ha in size and within 5 km of Lake Ontario. If woodlands are rare in an area of shoreline, woodland fragments 2-5 ha can be considered for this habitat. If multiple woodlands are located along the shoreline those Woodlands <2 km from Lake Ontario are more significant. Sites have a variety of habitats; forest, grassland and wetland complexes. The largest sites are more significant. Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5 km of Lake Ontario are Candidate SWH. 	<p>All migratory songbirds.</p> <p>Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1</p> <p>All migrant raptors species:</p> <p><i>Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)</i></p>	<p>Studies confirm:</p> <ul style="list-style-type: none"> 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 (April/May) and fall (August/October) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #9 provides development effects and mitigation measures. 	<p>No potential on the subject property or adjacent lands.</p> <p>The criteria for Significant Wildlife Habitat is not present. The subject property is more than 5 km from Lake Erie or Lake Ontario.</p>

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
<p>Deer Yarding Areas</p> <p>Rationale: Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in "yards" to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.</p>	<p>Note: MNRF to determine this habitat.</p> <p>ELC Community Series providing a thermal cover component for a deer yard would include:</p> <p>FOM FOC SWM SWC</p> <p>Or these ELC ecosites:</p> <p>CUP2 CUP3 FOD3 CUT</p>	<ul style="list-style-type: none"> 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%. MNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual". Woodlots with high densities of deer due to artificial feeding are not significant. 	White-tailed Deer	<p>No Studies Required:</p> <ul style="list-style-type: none"> Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40 cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. Deer Yards are mapped by MNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by MNRF will be available at local MNRF offices or via Land Information Ontario (LIO). Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area, then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWHMiST Index #2 provides development effects and mitigation measures. 	

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
<p>Deer Winter Congregation Areas</p> <p>Rationale: Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.</p>	<p>All Forested ecosites with these ELC Community Series:</p> <p>FOC FOM FOD SWC SWM SWD</p> <p>Conifer plantations much smaller than 50 ha may also be used.</p>	<ul style="list-style-type: none"> Woodlots will typically be >100 ha in size. Woodlots <100 ha may be considered as significant based on MNRF studies or assessment. Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. Large woodlots > 100 ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. Woodlots with high densities of deer due to artificial feeding are not significant. 	White-tailed Deer	<p>Studies confirm:</p> <ul style="list-style-type: none"> Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. Studies should be completed during winter (January/February) when >20 cm of snow is on the ground using aerial survey techniques, ground or road surveys, or a pellet count deer density survey. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area, then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWHMIST Index #2 provides development effects and mitigation measures. 	No confirmed deer wintering area (Stratum II) via Land Information Ontario (LIO).
Table 1.2.1: Rare Vegetation Communities					
<p>Cliffs and Talus Slopes</p> <p>Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.</p>	<p>Any ELC ecosite within Community Series:</p> <p>TAO CLO TAS CLS TAT CLT</p>	<ul style="list-style-type: none"> A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris. 		<ul style="list-style-type: none"> Most cliff and talus slopes occur along the Niagara Escarpment. Confirm any ELC Vegetation Type for Cliffs or Talus Slopes. SWHMIST Index #21 provides development effects and mitigation measures. 	<p>No potential on the subject property or adjacent lands.</p> <p>The habitat criteria for Significant Wildlife Habitat is not present.</p>
<p>Sand Barren</p> <p>Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have</p>	<p>ELC ecosites:</p> <p>SBO1 SBS1 SBT1</p>	<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> A sand barren area >0.5 ha in size. Confirm any ELC Vegetation Type for Sand Barrens. Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). 	<p>No potential on the subject property or adjacent lands.</p> <p>The habitat criteria for Significant Wildlife Habitat is not present.</p>

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
been lost due to cottage development and forestry.	Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always \leq 60%.	savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.		<ul style="list-style-type: none"> • SWHMiST Index #20 provides development effects and mitigation measures. 	
Alvar <u>Rationale:</u> Alvars are extremely rare habitats in Ecoregion 6E.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 Five Alvar Indicator Species: <i>Carex crawei</i> <i>Panicum philadelphicum</i> <i>Eleocharis compressa</i> <i>Scutellaria parvula</i> <i>Trichostema brachiatum</i> These indicator species are very specific to Alvars within Ecoregion 6E.	<ul style="list-style-type: none"> • An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover. • Alvar is particularly rare in Ecoregion 6E where the only known sites are found in the western islands of Lake Erie. 		Field studies that identify: <ul style="list-style-type: none"> • An Alvar site > 0.5 ha in size. • Four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. • SWHMiST Index #17 provides development effects and mitigation measures. 	No potential on the subject property or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Old Growth Forest <u>Rationale:</u> Due to historic logging practices and land clearance for agriculture, old growth forest is rare in the Ecoregion 6E.	Forest Community Series: FOD FOC FOM SWD SWC SWM	<ul style="list-style-type: none"> • 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. 		Field Studies will determine: <ul style="list-style-type: none"> • If dominant trees species are >140 years old, then the area containing these trees is SWH. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. 	No potential on the subject property. The habitat criteria for Significant Wildlife Habitat is not present.

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
				<ul style="list-style-type: none"> Determine ELC vegetation types for the forest area containing the old growth characteristics. SWHMiST Index #23 provides development effects and mitigation measures. 	
Savannah <u>Rationale:</u> Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	<ul style="list-style-type: none"> A Savannah is a tallgrass prairie habitat that has tree cover between 25–60%. 		Field studies confirm: <ul style="list-style-type: none"> 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. One or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. Area of the ELC ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). SWHMiST Index #18 provides development effects and mitigation measures. 	No potential on the subject property or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Tallgrass Prairie <u>Rationale:</u> Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	<ul style="list-style-type: none"> No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway Right of Ways (ROW) are not considered to be SWH. A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover. 		Field studies confirm: <ul style="list-style-type: none"> One or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used. Area of the ELC ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). SWHMiST Index #19 provides development effects and mitigation measures. 	No potential on the subject property or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Other Rare Vegetation Communities <u>Rationale:</u> Plant communities that often contain rare species which depend on the habitat for survival.	<ul style="list-style-type: none"> Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH. 	<ul style="list-style-type: none"> Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps. 		<ul style="list-style-type: none"> ELC ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. The MNR/Natural Heritage Information Centre (NHIC) will have up to date listing for rare vegetation communities. Field studies should confirm:	No regionally rare communities are present.

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
				<ul style="list-style-type: none"> If an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. Area of the ELC Vegetation Type polygon is the SWH. SWHMiST Index #37 provides development effects and mitigation measures. 	
Table 1.2.2: Specialized Habitats for Wildlife considered Significant Wildlife Habitat					
Waterfowl Nesting Area <u>Rationale:</u> Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	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 (PSW).	<ul style="list-style-type: none"> A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. Wood Ducks and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites. 	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	Studies confirmed: <ul style="list-style-type: none"> Presence of 3 or more nesting pairs for listed species excluding Mallards, or; Presence of 10 or more nesting pairs for listed species including Mallards. Any active nesting site of an American Black Duck is considered significant. Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. SWHMiST Index #25 provides development effects and mitigation measures. 	No potential on the subject property. None off the wildlife species listed was recorded during the breeding window. Low potential on adjacent lands. Waterfowl nesting not identified as significant in the Uxbridge Brook Headwater PSW complex.
Bald Eagle & Osprey Nesting, Foraging & Perching Habitat <u>Rationale:</u> Nest sites are fairly uncommon in Eco-region 6E and are used annually by	ELC Forest Community Series: FOD FOM FOC SWD SWM and	<ul style="list-style-type: none"> 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 	Osprey Special Concern Bald Eagle	Studies confirm the use of these nests by: <ul style="list-style-type: none"> One or more active Osprey or Bald Eagle nests in an area. Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. 	No potential on the subject property or adjacent lands. Bald Eagle or Osprey were not recorded during breeding bird surveys or any other field investigations.

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	SWC (directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.)	<p>canopy trees in a notch within the tree’s canopy.</p> <ul style="list-style-type: none"> Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms). 		<ul style="list-style-type: none"> For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800 m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat. To be significant a site must be used annually. When found inactive, the site must be known to be inactive for >3 years or suspected of not being used for >5 years before being considered not significant. Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid-March to mid-August. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. SWHMIST Index #26 provides development effects and mitigation measures. 	<p>The habitat criteria for Significant Wildlife Habitat is not present.</p> <p>There are no breeding records for either species in OBBA Square 17PJ58 (2001-2005).</p>
<p>Woodland Raptor Nesting Habitat</p> <p><u>Rationale:</u> Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.</p>	<p>May be found in all forested ELC ecosites.</p> <p>May also be found in: SWC SWM SWD and CUP3</p>	<ul style="list-style-type: none"> All natural or conifer plantation woodland/forest stands >30 ha with >10ha of interior habitat. Interior habitat determined with a 200 m buffer. Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. 	<p>Northern Goshawk Cooper’s Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk</p>	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 1 or more active nests from species list is considered significant. Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha area of habitat is the SWH (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). Barred Owl – A 200 m radius around the nest is the SWH. Broad-winged Hawk and Coopers Hawk– A 100 m radius around the nest is the SWH. Sharp-Shinned Hawk – A 50 m radius around the nest is the SWH. Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the 	<p>No potential on the subject property or adjacent lands. None of these species were recorded during breeding bird surveys or any other field investigations.</p> <p>The habitat criteria for Significant Wildlife Habitat is not present.</p>

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
				discovery of nests by narrowing down the search area. • SWHMiST Index #27 provides development effects and mitigation measures.	
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.	Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	<ul style="list-style-type: none"> 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. 	Midland Painted Turtle <u>Special Concern Species:</u> Northern Map Turtle Snapping Turtle	Studies confirm: <ul style="list-style-type: none"> 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 30-100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100 m area of habitat. Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. SWHMiST Index #28 provides development effects and mitigation measures for turtle nesting habitat. 	Candidate habitat is not present on the subject property.
Seeps and Springs <u>Rationale:</u> Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	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.	<ul style="list-style-type: none"> Any forested area (with <25% meadow/field/ pasture) within the headwaters of a stream or river system. Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. 	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Field Studies confirm: <ul style="list-style-type: none"> 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. SWHMiST Index #30 provides development effects and mitigation measures. 	Candidate habitat is not present on the subject property.
Amphibian Breeding Habitat (Woodland) <u>Rationale:</u>	All ecosites associated with these ELC Community Series: FOC	<ul style="list-style-type: none"> Presence of a wetland, pond or woodland pool (including vernal pools) >500 m² (about 25 m diameter) within or adjacent 	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog	Studies confirm: <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species 	Candidate habitat is not present on-site but it may be present in the greater area

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	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.	(within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. <ul style="list-style-type: none">Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	Spring Peeper Western Chorus Frog Wood Frog	or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. <ul style="list-style-type: none">A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands.The habitat is the wetland area plus a 230 m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat.SWHMIST Index #14 provides development effects and mitigation measures.	based on the presence of ponds and the Uxbridge Brook Headwater PSW complex.
Amphibian Breeding Habitat (Wetlands) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	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.	<ul style="list-style-type: none">Wetlands >500 m² (about 25 m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats.Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.Bullfrogs require permanent water bodies with abundant emergent vegetation.	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	Studies confirm: <ul style="list-style-type: none">Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3 or; Wetland with confirmed breeding Bullfrogs are significant.The ELC ecosite wetland area and the shoreline are the SWH.A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands.If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.SWHMIST Index #15 provides development effects and mitigation measures.	No potential on the subject property. The criteria for Significant Wildlife Habitat is not present. Candidate habitat is present in the greater area based on the presence of ponds and the Uxbridge Brook Headwater PSW complex.
Woodland Area-Sensitive Bird Breeding Habitat	All ecosites associated with these ELC Community Series:	<ul style="list-style-type: none">Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo	Studies confirm: <ul style="list-style-type: none">Presence of nesting or breeding pairs of 3 or more of the listed wildlife species.	Ovenbird (1) was recorded during breeding bird surveys (2021).

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
<p>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.</p>	FOC FOM FOD SWC SWM SWD	<p>old) forest stands or woodlots >30 ha.</p> <ul style="list-style-type: none"> Interior forest habitat is at least 200 m from forest edge habitat. 	<p>Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren</p> <p>Special Concern: Cerulean Warbler Canada Warbler</p>	<ul style="list-style-type: none"> Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. Conduct field investigations in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMIST Index #34 provides development effects and mitigation measures. 	The criteria for Significant Wildlife Habitat is not present.
Table 1.3: Habitat for Species of Conservation Concern considered Significant Wildlife Habitat					
<p>Marsh Breeding Bird Habitat</p> <p>Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.</p>	<p>MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1</p> <p>For Green Heron:</p> <p>All SW, MA and CUM1 sites</p>	<ul style="list-style-type: none"> Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. 	<p>American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan</p> <p>Special Concern: Black Tern Yellow Rail</p>	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes breeding by any combination of 5 or more of the listed species. Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. Area of the ELC ecosite is the SWH. Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMIST Index #35 provides development effects and mitigation measures. 	No potential on the subject property. None of these species were recorded during the 3 breeding bird surveys.
<p>Open Country Bird Breeding Habitat</p> <p>Rationale: This wildlife habitat is declining throughout Ontario and North</p>	CUM1 CUM2	<ul style="list-style-type: none"> 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 	<p>Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow</p> <p>Special Concern</p>	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> 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. 	No potential on the subject property. Large grassland areas are absent from the subject property.

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.		<p>intensive hay or livestock pasturing in the last 5 years).</p> <ul style="list-style-type: none"> 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. 	Short-eared Owl	<ul style="list-style-type: none"> The area of SWH is the contiguous ELC ecosite field areas. Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMIST Index #32 provides development effects and mitigation measures. 	
<p>Shrub/Early Successional Bird Breeding Habitat</p> <p><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.</p>	<p>CUT1 CUT2 CUS1 CUS2 CUW1 CUW2</p> <p>Patches of shrub ecosites can be complexed into a larger habitat for some bird species.</p>	<ul style="list-style-type: none"> Large field areas succeeding to shrub and thicket habitats >10 ha in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row-cropping, haying or live-stock pasturing in the last 5 years). Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. 	<p>Indicator Spp: Brown Thrasher Clay-coloured Sparrow</p> <p>Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher</p> <p>Special Concern: Yellow-breasted Chat Golden-winged Warbler</p>	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> 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 SWH. The area of the SWH is the contiguous ELC ecosite field/thicket area. Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMIST cxlix Index #33 provides development effects and mitigation measures. 	No potential on the subject property. The Criteria for Significant Wildlife Habitat is not present.
<p>Terrestrial Crayfish</p> <p><u>Rationale:</u> Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.</p>	<p>MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM</p>	<ul style="list-style-type: none"> 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 	<p>Chimney or Digger Crayfish (<i>Fallicambarus fodiens</i>)</p> <p>Devil Crayfish or Meadow Crayfish (<i>Cambarus Diogenes</i>)</p>	<p>Studies Confirm:</p> <ul style="list-style-type: none"> Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often 	<p>No potential on the subject property. None observed during any of the field surveys.</p> <p>Moderate potential on adjacent lands associated with the Uxbridge Headwater Brook PSW Complex.</p>

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
	CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	of tunnels. Usually the soil is not too moist so that the tunnel is well formed.		the only indicator of presence, observance or collection of individuals is very difficult. <ul style="list-style-type: none"> • SWHMiST Index #36 provides development effects and mitigation measures. 	
Special Concern and Rare Wildlife Species <u>Rationale:</u> These species are quite rare or have experienced significant population declines in Ontario.	All plant and animal Element Occurrences (EO) within a 1 or 10 km 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.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the NHIC.	Studies Confirm: <ul style="list-style-type: none"> • Assessment/inventory of the site for the identified Special Concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g., specific nesting habitat or foraging habitat. • SWHMiST Index #37 provides development effects and mitigation measures. 	Confirmed on the subject property. <ul style="list-style-type: none"> • Monarch (adult butterflies)
Table 1.4.1: Animal Movement Corridors					
Amphibian Movement Corridors <u>Rationale:</u> Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	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.	<ul style="list-style-type: none"> • Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat–Wetland) of this Schedule. 	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	<ul style="list-style-type: none"> • Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. • Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15 m of vegetation on both sides of waterway or be up to 200 m wide of woodland habitat and with gaps <20 m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • SWHMiST Index #40 provides development effects and mitigation measures. 	No potential on the subject property.

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
<p>Deer Movement Corridors</p> <p>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.</p>	<p>Corridors may be found in all forested ecosites.</p> <p>A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.</p>	<p>Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule.</p> <ul style="list-style-type: none"> A deer wintering habitat identified by the MNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). 	White-tailed Deer	<ul style="list-style-type: none"> 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 200 m wide with gaps <20 m and if following riparian area with at least 15 m of vegetation on both sides of waterway. Shorter corridors are more significant than longer corridors, SWHMiST Index #39 provides development effects and mitigation measures. 	No movement corridor (based on confirmed no deer wintering habitat)
Table 1.5.1: Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 6E					
<p>6E-14 Mast Producing Areas</p> <p>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 bear.</p>	<p>All Forested habitat represented by ELC Community Series:</p> <p>FOM FOD</p>	<ul style="list-style-type: none"> Woodland ecosites >30 ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species. Forested habitats need to be large enough to provide cover and protection for black bears. 	Black Bear	<p>All woodlands >30 ha with a 50% composition of these ELC Vegetation Types are considered significant:</p> <p>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</p> <p>SWHMiST Index #3 provides development effects and mitigation measures.</p>	<p>No potential on the subject property or adjacent lands.</p> <p>The habitat criteria for Significant Wildlife Habitat is not present. Black Bear are not typically found in this part of EcoRegion 6E.</p>

Significant Wildlife Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		Candidate or Confirmed SWH Habitat on the Subject Property and/or Adjacent Lands (Within 120 m)
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	
<p>6E- 17 Lek</p> <p>Rationale: Sharp-tailed grouse only occur on Manitoulin Island in Ecoregion 6E, Leks are an important habitat to maintain their population.</p>	<p>CUM CUS CUT</p>	<ul style="list-style-type: none"> The Lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. Leks are typically a grassy field/meadow >15 ha with adjacent shrublands and >30 ha with adjacent deciduous woodland. Conifer trees within 500 m are not tolerated. Grasslands (field/meadow) are to be >15 ha when adjacent to shrubland and >30 ha when adjacent to deciduous woodland. Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying). Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting. 	<p>Sharp-tailed Grouse</p>	<ul style="list-style-type: none"> 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. 	<p>No potential on the subject property or adjacent lands.</p> <p>The habitat criteria for Significant Wildlife Habitat is not present. Sharp-tailed Grouse only occur on Manitoulin Island in Ecoregion 6E.</p>



BURNSIDE

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Appendix D

Botanical Inventory Plant List

Appendix D: Botanical Inventory Plant List
Wooden Sticks Golf Club EIS, Uxbridge (300050985.0002)

Scientific Name	Common Name	COSEWIC	SARA	ESA	G-Rank	S-Rank	Native/ Introduced	Durham Region (Varga et al. 2000)	Peterborough - Durham -Victoria- Northumberland (Riley et al. 1989)
<i>Abies balsamea</i>	Balsam Fir				G5	S5	N	X	X
<i>Acer negundo</i>	Manitoba Maple				G5	S5	N	X	SR
<i>Acer x freemanii</i>	Freeman's Maple				GNR	SNA	N	X	SR
<i>Acer saccharum</i>	Sugar Maple				G5	S5	N	X	SR
<i>Achillea millefolium</i>	Common Yarrow				G5	SNA	I	X	SR
<i>Agrostis stolonifera</i>	Creeping Bentgrass				G5	SNA	I	X	SR
<i>Alliaria petiolate</i>	Garlic Mustard				GNR	SNA	I	X	
<i>Ambrosia artemisiifolia</i>	Common Ragweed				G5	S5	N	X	SR
<i>Arctium minus</i>	Common Burdock				GNR	SNA	I	X	X
<i>Asclepias syriaca</i>	Common Milkweed				G5	S5	N	X	X
<i>Betula papyrifera</i>	Paper Birch				G5	S5	N	X	X
<i>Bidens frondosa</i>	Devil's Beggarticks				G5	S5	N	X	X
<i>Bromus inermis</i>	Smooth Brome				G5T5	SNA	I	X	X
<i>Campanula rapunculoides</i>	Creeping Bellflower				GNR	SNA	I	X	X
<i>Caulophyllum thalictroides</i>	Blue Cohosh				G5	S5	N	X	X
<i>Cichorium intybus</i>	Wild Chicory				GNR	SNA	I	X	
<i>Cirsium arvense</i>	Canada Thistle				G5	SNA	I	X	X
<i>Cirsium vulgare</i>	Bull Thistle				GNR	SNA	I	X	SR
<i>Convolvulus arvensis</i>	Field Bindweed				GNR	SNA	I	X	X
<i>Daucus carota</i>	Wild Carrot				GNR	SNA	I	X	X
<i>Echinocystis lobata</i>	Wild Cucumber				G5	S5	N	X	X
<i>Echium vulgare</i>	Common Viper's Bugloss				GNR	SNA	I	X	X
<i>Elymus repens</i>	Creeping Wildrye				GNR	SNA	I	X	X
<i>Epilobium sp.</i>	Willowherb								
<i>Equisetum arvense</i>	Field Horsetail				G5	S5	N	X	X
<i>Erigeron annuus</i>	Annual Fleabane				G5	S5	N	X	SR
<i>Erigeron sp.</i>	Fleabane								
<i>Fragaria vesca ssp. vesca</i>	Woodland Strawberry				G5T4T5	SNA	I		X
<i>Fragaria virginiana</i>	Wild Strawberry				G5	S5	N	X	X

<i>Scientific Name</i>	Common Name	COSEWIC	SARA	ESA	G-Rank	S-Rank	Native/ Introduced	Durham Region (Varga et al. 2000)	Peterborough - Durham -Victoria- Northumberland (Riley et al. 1989)
<i>Fraxinus pennsylvanica</i>	Green Ash				G5	S4	N	X	
<i>Hypericum perforatum</i>	Common St. John's-wort				GNR	SNA	I	X	X
<i>Ipomoea purpurea</i>	Common Morning Glory				GNR	SNA	I	X	
<i>Leonurus cardiaca</i>	Common Motherwort				GNR	SNA	I		X
<i>Leucanthemum vulgare</i>	Oxeye Daisy				GNR	SNA	I	X	X
<i>Linaria vulgaris</i>	Butter-and-eggs				GNR	SNA	I	X	X
<i>Lolium arundinaceum</i>	Tall Ryegrass				GNR	SNA	I		SR
<i>Lonicera sp.</i>	Honeysuckle								
<i>Lonicera tatarica</i>	Tartarian Honeysuckle				GNR	SNA	I	X	SR
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil				GNR	SNA	I	X	SR
<i>Oenothera biennis</i>	Common Evening Primrose				G5	S5	N	X	SR
<i>Persicaria maculosa</i>	Spotted Lady's-thumb				G3G5	SNA	I		
<i>Phleum pratense</i>	Common Timothy				GNR	SNA	I	X	X
<i>Picea glauca</i>	White Spruce				G5	S5	N	X	X
<i>Pinus sylvestris</i>	Scots Pine				GNR	SNA	I	X	SR
<i>Plantago major</i>	Common Plantain				G5	SNA	I	X	SR
<i>Poa pratensis</i>	Kentucky Bluegrass				G5	S5	N	X	X
<i>Populus tremuloides</i>	Trembling Aspen				G5	S5	N	X	X
<i>Prunella vulgaris</i>	Common Self-heal				G5	S5	N	X	
<i>Prunus serotina</i>	Black Cherry				G5	S5	N	X	X
<i>Prunus virginiana</i>	Choke Cherry				G5	S5	N	X	X
<i>Ranunculus acris</i>	Tall Buttercup				G5	SNA	I	X	X
<i>Ranunculus repens</i>	Creeping Buttercup				GNR	SNA	I		X
<i>Rhamnus cathartica</i>	European Buckthorn				GNR	SNA	I	X	X
<i>Rhus typhina</i>	Staghorn Sumac				G5	S5	N	X	SR
<i>Ribes cynosbati</i>	Eastern Prickly Gooseberry				G5	S5	N	X	X
<i>Rubus idaeus ssp. strigosus</i>	North American Red Raspberry				G5T5	SNA	I		
<i>Rumex crispus</i>	Curly Dock				GNR	SNA	I	X	X
<i>Salix alba</i>	White Willow				G5	SNA	I	X	
<i>Salix bebbiana</i>	Bebb's Willow				G5	S5	N	X	X
<i>Salix sp.</i>	Willow								
<i>Silene vulgaris</i>	Bladder Companion				GNR	SNR	I	X	X
<i>Solidago altissima</i>	Tall Goldenrod				G5	S5	N	X	
<i>Solidago canadensis</i>	Canada Goldenrod				G5	S5	N	X	
<i>Solidago sp.</i>	Goldenrod								
<i>Sonchus arvensis</i>	Field Sow-thistle				GNR	SNA	I	X	
<i>Symphotrichum novae-angliae</i>	New England Aster				G5	S5	N	X	X

<i>Scientific Name</i>	Common Name	COSEWIC	SARA	ESA	G-Rank	S-Rank	Native/ Introduced	Durham Region (Varga et al. 2000)	Peterborough - Durham -Victoria- Northumberland (Riley et al. 1989)
<i>Taraxacum officinale</i>	Common Dandelion				G5	SNA	I	X	X
<i>Tilia americana</i>	Basswood				G5	S5	N	X	SR
<i>Trifolium pratense</i>	Red Clover				GNR	SNA	I	X	X
<i>Trifolium repens</i>	White Clover				GNR	SNA	I	X	SR
<i>Tussilago farfara</i>	Colt's-foot				GNR	SNA	I	X	X
<i>Ulmus americana</i>	White Elm				G4	S5	N	X	X
<i>Verbascum thapsus</i>	Common Mullein				GNR	SNA	I	X	X
<i>Vicia cracca</i>	Tufted Vetch				GNR	SNA	I	X	X
<i>Vincetoxicum rossicum</i>	European Swallow-wort				GNR	SNA	I	X	X
<i>Viola sp.</i>	Violet								
<i>Vitis riparia</i>	Riverbank Grape				G5	S5	N	X	X

Natural Heritage Information Centre. 2018. Vascular Plant Species List (28 Jun 2018). Downloaded on November 15, 2018.

Varga, S., Leadbeater, D., Webber, J., Kaiser, J., Crins, B., Kamstra, J., Banville, D., Ashley, E., Miller, G., Kingsley, C., Jacobsen, C., Mewa, K., Tebby, L., Mosley, E., and E. Zajc. 2000. Distribution and Status of the Vascular Plants of the Greater Toronto Area. Ontario Ministry of Natural Resources Aurora District. 103 pp.



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix E

Breeding Bird Tables

Appendix E: Breeding Bird Survey Summary Table - 2021
Wooden Sticks Golf Club EIS, Uxbridge (300050985.0002)
Surveys Conducted By: Meredith Meeker

Common Name	Scientific Name	Provincial SRANK ¹	Provincial SARO (Endangered Species Act, 2007) ²	Federal COSEWIC ³	Federal SARA (Species at Risk Act) ³	Federal SARA Schedule ⁴	Provincial MNRF Area Sensitive Species ⁵	Highest Number Recorded (All Habitat Units Combined)	Highest Recorded Breeding Evidence ⁶	Comments
American Crow	<i>Corvus brachyrhynchos</i>	S5B						3	S	
American Goldfinch	<i>Spinus tristis</i>	S5B						5	S	
American Robin	<i>Turdus migratorius</i>	S5B						5	CF	
Baltimore Oriole	<i>Icterus galbula</i>	S4B						1	S	
Barn Swallow	<i>Hirundo rustica</i>	S4B	THR	THR		THR		1	X Flyover	
Black-capped Chickadee	<i>Poecile atricapillus</i>	S5						3	S	
Blue Jay	<i>Cyanocitta cristata</i>	S5						2	H	
Cedar Waxwing	<i>Bombycilla cedrorum</i>	S5B						2	S	
Chipping Sparrow	<i>Spizella passerina</i>	S5B						3	S	
Common Grackle	<i>Quiscalus quiscula</i>	S5B						5	S	
European Starling	<i>Sturnus vulgaris</i>	SNA						4	S	
Gray Catbird	<i>Dumetella carolinensis</i>	S4B						1	S	
Killdeer	<i>Charadrius vociferus</i>	S5B,S5N						1	S	
Mourning Dove	<i>Zenaidura macroura</i>	S5						3	S	
Northern Cardinal	<i>Cardinalis cardinalis</i>	S5						1	S	
Northern Waterthrush	<i>Parkesia noveboracensis</i>	S5B						1	S	
Ovenbird	<i>Seiurus aurocapilla</i>	S4B						1	S	
Red-eyed Vireo	<i>Vireo olivaceus</i>	S5B						2	S	
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	S4						1	S	
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	S5B						2	H	
Song Sparrow	<i>Melospiza melodia</i>	S5B						4	S	
TOTAL	21 species									

¹S-Ranks (provincial)

Provincial (or Subnational) ranks are used by the 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 global ranks, but consider only those factors within the political boundaries of Ontario (Please refer to: <http://explorer.natureserve.org/nsranks.htm>)

SX — Presumed Extirpated - Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

SH — Possibly Extirpated (Historical) - Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20–40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.

S1 — Critically Imperiled - Critically imperiled in the province or state 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 from the province.

S2 — Imperiled - Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the province.

S3 — Vulnerable - Vulnerable in the province 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 the province.

SNR — Unranked - Province conservation status 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 than S1S4).

S#? — Inexact or Uncertain - Denotes inexact or uncertain numeric rank.

Breeding Status Qualifiers

B – Breeding Conservation status refers to the breeding population of the species in the nation or state/province.

N – Nonbreeding Conservation status refers to the non-breeding population of the species in the province.

M – Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

²SARO *Endangered Species Act, 2007*

(provincial status from <http://www.ontario.ca/environment-and-energy/how-species-risk-are-listed#section-3>)

The provincial review process is implemented by the MNRF's Committee on the Status of Species at Risk in Ontario (COSSARO).

Extinct - A species that no longer exists anywhere.

Extirpated (EXT) - Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.

Endangered (END) - Lives in the wild in Ontario but is facing imminent extinction or extirpation.

Threatened (THR) - Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Special concern (SC) - Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

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

Data Deficient (DD) - A species for which there is insufficient information for a provincial status recommendation.

³SARA (*Federal Species at Risk Act*) Status and Schedule (includes COSEWIC Status)

The Act establishes Schedule 1, as the official list of wildlife species at risk. It classifies those species as being either Extirpated, Endangered, Threatened, or Special Concern. Once listed, the measures to protect and recover a listed wildlife species are implemented.

Extinct - A wildlife species that no longer exists.

Extirpated (EXT) - A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.

Endangered (END) - A wildlife species facing imminent extirpation or extinction.

Threatened (THR) - A wildlife species that is likely to become an endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

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

Data Deficient (DD) - 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.

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

⁴SARA Schedule

Schedule 1: is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.

Schedule 2: species listed in Schedule 2 are species that had been designated as endangered or threatened, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

Schedule 3: species listed in Schedule 3 are species that had been designated as special concern, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

The Act establishes Schedule 1 as the official list of wildlife species at risk. However, please note that while Schedule 1 lists species that are extirpated, endangered, threatened and of special concern, the prohibitions do not apply to species of special concern.

Species that were designated at risk by COSEWIC prior to October 1999 (Schedule 2 & 3) must be reassessed using revised criteria before they can be considered for addition to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the List of Wildlife Species at Risk.

⁵Source: Ontario Ministry of Natural Resources. 2000. *Significant Wildlife Habitat Technical Guide & Appendices*.

⁶Ontario Breeding Bird Atlas - Breeding Evidence Codes

Observed	
X	Species observed in its breeding season (no breeding evidence).

Possible	
H	Species observed in its breeding season in suitable nesting habitat.
S	Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.

Probable	
P	Pair observed in suitable nesting habitat in nesting season.
T	Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more apart, at the same place.
D	Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulation.
V	Visiting probable nest site
A	Agitated behaviour or anxiety calls of an adult.
B	Brood Patch on adult female or cloacal protuberance on adult male.
N	Nest-building or excavation of nest hole.

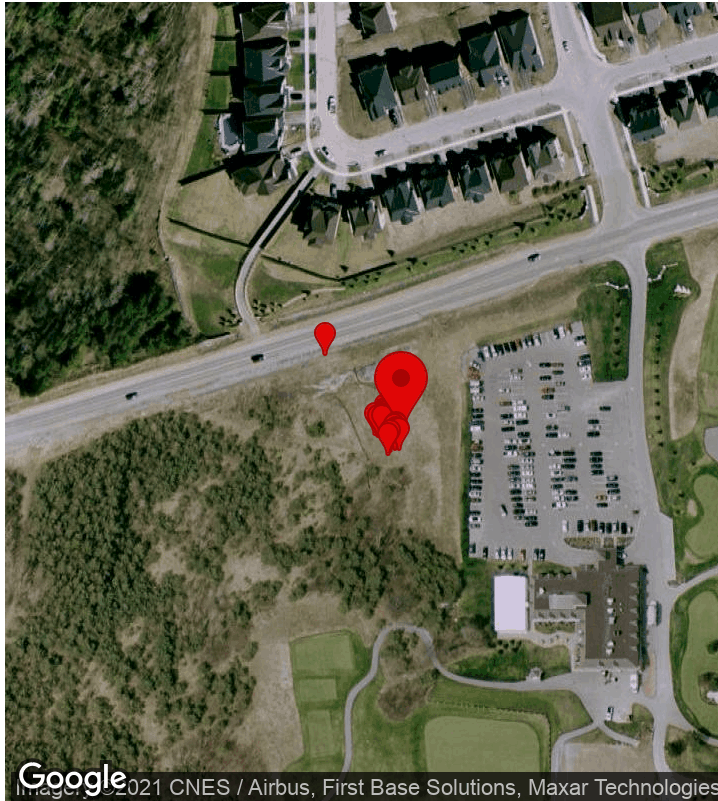
Confirmed	
DD	Distraction display or injury feigning.
NU	Used nest or egg shells found (occupied or laid within the period of the survey).
FY	Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight.
AE	Adult leaving or entering nest sites in circumstances indicating occupied nest.
FS	Adult carrying fecal sac.
CF	Adult carrying food for young.
NE	Nest containing eggs.
NY	Nest with young seen or heard.

EPA Breeding Bird Survey (2021)



300050985: Golf Course 1

8/22/2021, 7:36:25 PM UTC



CREATED

🕒 5/25/2021, 10:52:55 AM UTC

👤 by Meredith Meeker

STATUS

🟢 2 Visits Completed

LOCATION

📍 44.096333, -79.123128

HABITAT UNIT SECTION

Project Number	300050985
Habitat Unit ID	Golf Course 1
Habitat Unit Description	Residential/golf course and woodlot
Comments	300050985

Habitat Unit Photos



VISITS & OBSERVATIONS SECTION

VISIT (2 Items)

1. May 25, 2021

Visit Count	1
Observer Name(s)	Meredith Meeker
Observation Date	May 25, 2021
Start Time	06:54
End Time	07:05
Start Temperature °C	15
End Temperature °C	15
Sky	(1) Partly Cloudy (scattered or broken or variable)
Wind	(2) Slight breeze, wind felt on face; leaves rustle: 6-11km/hr

SPECIES OBSERVATIONS SECTION

SPECIES OBSERVED (8 Items)

1. Chipping Sparrow

Species Observed	Chipping Sparrow
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	2
Species and Related Photos	

2. American Robin

Species Observed	American Robin
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	2
Species and Related Photos	

3. Song Sparrow

Species Observed	Song Sparrow
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	2
Species and Related Photos	

4. Common Grackle

Species Observed	Common Grackle
Breeding Evidence	Observed ► X: Species observed in its breeding season (no breeding evidence).
Tally	3
Species Comment	Flyover
Species and Related Photos	

5. European Starling

Species Observed	European Starling
Breeding Evidence	POSSIBLE ► H: Species observed in its breeding season in suitable nesting habitat.
Tally	3
Species and Related Photos	

6. American Goldfinch

Species Observed	American Goldfinch
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	2
Species and Related Photos	

7. Gray Catbird

Species Observed	Gray Catbird
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

8. Mourning Dove

Species Observed	Mourning Dove
Breeding Evidence	POSSIBLE ► H: Species observed in its breeding season in suitable nesting habitat.
Tally	2
Species and Related Photos	

INCIDENTAL WILDLIFE OBSERVED

2. June 9, 2021

Visit Count	2
Observer Name(s)	Meredith Meeker
Observation Date	June 9, 2021
Start Time	07:51
End Time	08:01
Start Temperature °C	21
End Temperature °C	21
Sky	(0) Clear (no cloud cover)
Wind	(0) Calm, smoke rises vertically: 0-2km/hr

SPECIES OBSERVATIONS SECTION

SPECIES OBSERVED (11 Items)

1. Northern Cardinal

Species Observed	Northern Cardinal
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

2. Song Sparrow

Species Observed	Song Sparrow
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

3. American Robin

Species Observed	American Robin
Breeding Evidence	CONFIRMED ► CF: Adult carrying food for young.
Tally	1
Species and Related Photos	

4. Black-capped Chickadee

Species Observed	Black-capped Chickadee
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Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
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Tally	1
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Species and Related Photos

5. Barn Swallow

Species Observed	Barn Swallow
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Breeding Evidence	Observed ▶ X: Species observed in its breeding season (no breeding evidence).
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Tally	1
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Species and Related Photos

6. Common Grackle

Species Observed	Common Grackle
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Breeding Evidence	Observed ▶ X: Species observed in its breeding season (no breeding evidence).
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Tally	1
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Species Comment	Flyover
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Species and Related Photos

7. Cedar Waxwing

Species Observed	Cedar Waxwing
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Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
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Tally	1
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Species and Related Photos

8. European Starling

Species Observed	European Starling
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Breeding Evidence	Observed ▶ X: Species observed in its breeding season (no breeding evidence).
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Tally	2
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Species Comment	Flyover
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Species and Related Photos

9. No Species Observed

Species Observed	No Species Observed
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Species and Related Photos

10. American Crow

Species Observed	American Crow
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Breeding Evidence	Observed ▶ X: Species observed in its breeding season (no breeding evidence).
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Tally	1
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Species Comment	Flyover
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Species and Related Photos

11. American Goldfinch

Species Observed	American Goldfinch
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

INCIDENTAL WILDLIFE OBSERVED

EPA Breeding Bird Survey (2021)



300050985: Golf Course 2

8/22/2021, 7:36:30 PM UTC



CREATED

5/25/2021, 11:09:16 AM UTC

by Meredith Meeker

STATUS

2 Visits Completed

LOCATION

44.095592, -79.122829

HABITAT UNIT SECTION

Project Number	300050985
Habitat Unit ID	Golf Course 2
Habitat Unit Description	Woodlot, club house, and greens

Habitat Unit Photos



VISITS & OBSERVATIONS SECTION

VISIT (2 Items)

1. May 25, 2021

Visit Count	1
Observer Name(s)	Meredith Meeker
Observation Date	May 25, 2021
Start Time	07:10
End Time	07:21
Start Temperature °C	15
End Temperature °C	15
Sky	(1) Partly Cloudy (scattered or broken or variable)
Wind	(2) Slight breeze, wind felt on face; leaves rustle: 6-11km/hr

SPECIES OBSERVATIONS SECTION

SPECIES OBSERVED (11 Items)

1. American Robin

Species Observed	American Robin
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	2
Species and Related Photos	

2. Ovenbird

Species Observed	Ovenbird
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Comment	Fairly distant
Species and Related Photos	

3. American Goldfinch

Species Observed	American Goldfinch
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

4. Song Sparrow

Species Observed	Song Sparrow
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

5. European Starling

Species Observed	European Starling
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

6. Common Grackle

Species Observed	Common Grackle
Breeding Evidence	Observed ▶ X: Species observed in its breeding season (no breeding evidence).
Tally	1
Species and Related Photos	

7. Chipping Sparrow

Species Observed	Chipping Sparrow
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1

Species and Related Photos

8. Blue Jay

Species Observed	Blue Jay
Breeding Evidence	POSSIBLE ▶ H: Species observed in its breeding season in suitable nesting habitat.
Tally	1

Species and Related Photos

9. Killdeer

Species Observed	Killdeer
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1

Species and Related Photos

10. Cedar Waxwing

Species Observed	Cedar Waxwing
Breeding Evidence	POSSIBLE ▶ H: Species observed in its breeding season in suitable nesting habitat.
Tally	1

Species and Related Photos

11. American Crow

Species Observed	American Crow
Breeding Evidence	Observed ▶ X: Species observed in its breeding season (no breeding evidence).
Tally	1
Species Comment	Observed prior to start in parking lot

Species and Related Photos

INCIDENTAL WILDLIFE OBSERVED (1 Item)

1. Red squirrel

Incidental Wildlife Observed	Red squirrel
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Incidental Wildlife and Related Photos

2. June 9, 2021

Visit Count	2
Observer Name(s)	Meredith Meeker
Observation Date	June 9, 2021
Start Time	08:17
Start Temperature °C	21
End Temperature °C	22
Sky	(0) Clear (no cloud cover)

Wind | (0) Calm, smoke rises vertically: 0-2km/hr

SPECIES OBSERVATIONS SECTION

SPECIES OBSERVED (11 Items)

1. Red-eyed Vireo

Species Observed	Red-eyed Vireo
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

2. American Robin

Species Observed	American Robin
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

3. Song Sparrow

Species Observed	Song Sparrow
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

4. Common Grackle

Species Observed	Common Grackle
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	2
Species and Related Photos	

5. American Crow

Species Observed	American Crow
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

6. Black-capped Chickadee

Species Observed	Black-capped Chickadee
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

7. Baltimore Oriole

Species Observed	Baltimore Oriole
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1

Species and Related Photos

8. No Species Observed

Species Observed	No Species Observed
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Species and Related Photos

9. Northern Waterthrush

Species Observed	Northern Waterthrush
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species Comment	Calling from forest

Species and Related Photos

10. Chipping Sparrow

Species Observed	Chipping Sparrow
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1

Species and Related Photos

11. Ruby-throated Hummingbird

Species Observed	Ruby-throated Hummingbird
Breeding Evidence	POSSIBLE ▶ H: Species observed in its breeding season in suitable nesting habitat.
Tally	1

Species and Related Photos

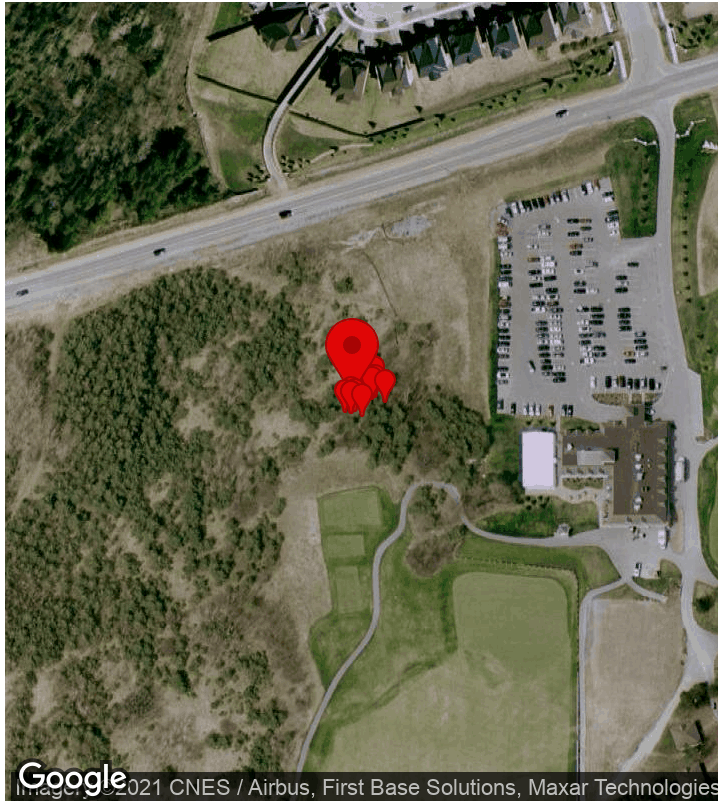
INCIDENTAL WILDLIFE OBSERVED

EPA Breeding Bird Survey (2021)



300050985: Golf Course 3: Woodlot Interior

8/22/2021, 7:36:34 PM UTC



CREATED

🕒 5/25/2021, 11:24:40 AM UTC

👤 by Meredith Meeker

STATUS

🟢 2 Visits Completed

LOCATION

📍 44.095904, -79.123539

HABITAT UNIT SECTION

Project Number | 300050985

Habitat Unit ID | Golf Course 3: Woodlot Interior

Habitat Unit Photos



VISITS & OBSERVATIONS SECTION

VISIT (2 Items)

1. May 25, 2021

Visit Count	1
Observer Name(s)	Meredith Meeker
Observation Date	May 25, 2021
Start Time	07:25
End Time	07:35
Start Temperature °C	15
End Temperature °C	15
Sky	(1) Partly Cloudy (scattered or broken or variable)
Wind	(2) Slight breeze, wind felt on face; leaves rustle: 6-11km/hr

SPECIES OBSERVATIONS SECTION

SPECIES OBSERVED (5 Items)

1. Song Sparrow

Species Observed	Song Sparrow
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

2. Red-winged Blackbird

Species Observed	Red-winged Blackbird
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

3. American Goldfinch

Species Observed	American Goldfinch
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	2
Species and Related Photos	

4. Black-capped Chickadee

Species Observed	Black-capped Chickadee
Breeding Evidence	POSSIBLE ▶ S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

5. Ruby-throated Hummingbird

Species Observed	Ruby-throated Hummingbird
Breeding Evidence	POSSIBLE ▶ H: Species observed in its breeding season in suitable nesting habitat.
Tally	1
Species and Related Photos	

INCIDENTAL WILDLIFE OBSERVED

2. June 9, 2021

Visit Count	2
Observer Name(s)	Meredith Meeker
Observation Date	June 9, 2021
Start Time	08:04
Start Temperature °C	21
End Temperature °C	21
Sky	(0) Clear (no cloud cover)
Wind	(0) Calm, smoke rises vertically: 0-2km/hr

SPECIES OBSERVATIONS SECTION

SPECIES OBSERVED (7 Items)

1. Red-eyed Vireo

Species Observed	Red-eyed Vireo
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

2. American Robin

Species Observed	American Robin
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

3. Song Sparrow

Species Observed	Song Sparrow
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

4. American Goldfinch

Species Observed	American Goldfinch
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

5. Blue Jay

Species Observed	Blue Jay
Breeding Evidence	Observed ► X: Species observed in its breeding season (no breeding evidence).
Tally	1
Species Comment	Flyover
Species and Related Photos	

6. Mourning Dove

Species Observed	Mourning Dove
Breeding Evidence	POSSIBLE ► S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.
Tally	1
Species and Related Photos	

7. American Crow

Species Observed	American Crow
Breeding Evidence	Observed ► X: Species observed in its breeding season (no breeding evidence).
Tally	1
Species Comment	Flyover

Species and Related Photos

INCIDENTAL WILDLIFE OBSERVED



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix F

Leaf-Off Trees

**Appendix F: Leaf-off Candidate Maternity Roost Trees
Wooden Sticks Golf Club EIS, Uxbridge (300050985.0002)**

Feature ID	Tree Height (m)	No. of Cavities	DBH (cm)	No. of Snags Within 10m	Peeling Bark %	No. of Habitat Characteristics	Avg Cavity Height (m)	Tree Species	Canopy Cover %	Decay Class	Significant Features
SNAG-001	15	4	40	0	45	4	8	Basswood	45	1	Peeling bark, cavities
SNAG-002	16	4	54	1	0	5	8	Basswood	5	2	Cavities
SNAG-003	14	3	32	1	40	5	8	White Ash	55	2	Peeling bark, cavities
SNAG-004	13	2	31	1	70	3	9	European Birch	65	2	Peeling bark, cavities
SNAG-005	14	0	40	0	20	0	0	White Ash	0	4	Peeling bark



BURNSIDE

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Appendix G

Leaf-On Trees

Appendix G

Appendix G: Leaf-on Candidate Maternity Roost Trees Wooden Sticks Golf Club EIS, Uxbridge (300050985.0002)

Feature ID	Tree Species	Decay Class	DBH (cm)	Canopy Cover %	No. of Dead or Dying Leaf Clusters	Tree Height (m)
TCB-001	Sugar Maple	1	26	45	0	12

