Natural Heritage Evaluation

2052 York Road

Niagara-on-the-Lake, Ontario

Submitted to:
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1. Introduction

GEI Consultants Canada Ltd. (GEI) was retained to prepare a Natural Heritage Evaluation (NHE) on behalf of Newcastle Communities for the proposed development of the lands at 2052 York Road, in the Town of Niagara-on-the-Lake (NOTL) (herein referred to as the Subject Lands). These lands are also referred to as Part Lot 6, CP PL 1 Niagara, as in RO313248, NOTL (**Figure 1, Appendix A**). The Subject Lands fall within the Niagara Escarpment Plan (NEP) Area and are located within the Queenston Minor Urban Centre. The Subject Lands are generally west of the Niagara River and north of the Sir Adam Beck Hydroelectric Station reservoir. North and west of the Subject Lands are agricultural and rural residential lands, respectively.

1.1 Study Objectives

This NHE is being prepared to support a combined Minor Variance and Consent application for a proposed severance to create one new lot for future detached dwelling. The Subject Lands are located within the urban boundary and contain an existing dwelling, gardens, and a Significant Woodland feature north of the existing dwelling, at the bottom of a slope. The Subject Lands are located within the Queenston Secondary Plan and are designated Low Density Residential, according to Schedule E of the Town of NOTL Official Plan (OP; 2017).

This NHE will provide a natural heritage assessment of the Study Area (the Subject Property plus 120 m) to identify natural features and their functions and determine anticipated impact of the proposed development. The proposed development is located within 120 m of Key Natural Heritage Features (KNHFs) of the Provincial Natural Heritage System (PNHS), triggering the need for an NHE in accordance with NEP Policy 2.7.6.

The primary objectives of this NHE are to evaluate the existing conditions of the Subject Lands, characterize the environmental features, establish constraints to development, and provide an assessment of environmental impacts anticipated based on the proposed site plan. Any requirements for mitigation or monitoring, and opportunities for enhancement will be recommended with the aim of maintaining ecological functions of the natural heritage features and preserving the integrity of the environmental corridors.

1.2 Location of Proposed Development

The Subject Lands are located in the Town of NOTL, within the Niagara Region and is a 0.25 ha rectangular lot with approximately 36.6 m of frontage on York Road, and 68.6 m lot depth. The site has a municipal address of 2501 York Road and is bound to the south by York Road, with residential lots to the east and west. There is a woodland along the north side of the property, with both active and fallow agricultural lands beyond that. The woodland is designated as Significant Woodland in the Region of Niagara' Natural Environment System (NES) mapping, and is considered a KNHF in the NEP. The site is located within the NEP area but is outside of the NEC area of Development Control.

Currently, the Subject Lands contain a residential dwelling fronting on York Road that will be maintained within the retained Residential lot. The remainder of the Subject Lands contain a driveway, maintained gardens, manicured lawn, and woodland. South of York Road, residential dwellings back onto steep escarpment slopes that are associated with the Queenston Escarpment Life Science ANSI, and the Niagara River Bedrock Gorge Earth Scient ANSI. Schedule E of the NOTL OP (2017) designates the ANSIs as Escarpment Natural Area, and the agricultural areas north of the Subject Lands as Escarpment Rural Area. The location of the Subject Property is shown in **Figure 1, Appendix A**.

1.3 Pre-consultation and Study Scope

The Subject Lands contain Significant Woodland and are within 120 m of both a Provincially significant Earth Science ANSI and regionally significant Life Science ANSI. Within the NEP PNHS, Significant Woodlands and ANSIs are considered KNHFs. While Woodlands and ANSIs are components of the Niagara NES, Niagara Official Plan (NOP; 2022) Policy 3.1.8.1 states that development and site alteration within and adjacent to KNHFs within the NEP Area are subject to the policies of the NEP (2017).

Through pre-consultation (April 17, 2025), Niagara Escarpment Commission (NEC) staff have identified the need for an NHE that demonstrates that the woodlands at the rear of the property will not be negatively impacted by the proposed development. Accordingly, this NHE provides an ecological characterization of the natural features within and adjacent to the proposed development footprint and assesses their significance in accordance with the policies of the Provincial Planning Statement (PPS; MMAH 2024), the NEP (2017), the NOP (2022), and the Town of NOTL OP (2017). The study components include the following:

- A review of natural heritage background information, policies, and legislation applicable to the Subject Lands in its regional context;
- A field review of the natural features on the Subject Lands through the completion of ecological surveys and inventories;
- An evaluation of the significance and sensitivity of the natural features and associated functions on the Subject Lands; and
- A description of the proposed development.

This information is used to assess the potential impacts of the proposed development on the natural features and provide information on specific mitigation measures for the Subject Lands. This NHE has been prepared to demonstrate that the proposed development has considered the applicable natural heritage policies and complies with the policies of the NEP (2017).

Given that development is proposed within the existing residential footprint of the property, field studies to characterize existing conditions were scoped to include the following:

- Single season botanical inventory;
- Ecological Land Classification (ELC);
- Breeding bird surveys; and
- General wildlife habitat assessment.

A Significant Wildlife Habitat (SWH) and species at risk (SAR) screening has been completed and is included in **Appendix B**.

2. Natural Heritage Planning Considerations

A review of the applicable natural heritage policies has been completed to determine the constraints associated with the natural heritage features present on site and to ensure that the proposed development complies with legislation at the federal, provincial, and municipal level.

2.1 Species at Risk Act (2002)

The *Species at Risk Act* (SARA) applies principally on federally regulated lands, however there are general prohibitions in the SARA against killing an individual of a protected aquatic or migratory bird species, or destroying their residence, which apply to all lands, and with respect to critical habitat for aquatic SAR identified in Schedule 1 of SARA. SARA is administered by Fisheries and Oceans Canada for aquatic species. Where SAR are listed on Schedule 1 of the Federal SARA and are also listed on the Species at Risk in Ontario (SARO) list as Threatened or Endangered, they are offered provincial protection under the Endangered Species Act (ESA; 2007).

While there are no federally regulated lands within the Study Area, it should be noted that federal orders can be issued on non-federally owned land under SARA, if statutory conditions are met. These conditions are detailed in Section 80 of the SARA and must be directly related to concerns of imminent threats to survival or recovery of a species. No such orders presently exist for the Study Area.

2.2 Migratory Bird Convention Act (1994)

The *Migratory Bird Convention Act* (MBCA) and Migratory Birds Regulations (MBR) prevent the capture, kill, take, injure, or harassment of migratory birds. The MBR also protects the nests of migratory birds from destruction, including incidental take (i.e. the unintentional destruction of a nest), as well as from disturbance. MBCA also prohibits the deposition of deleterious substances into waterways frequented by migratory birds. Currently, 700 migratory bird species are protected under this Act, including songbirds, woodland birds, waterfowl, shorebirds, and seabirds. Appropriate timing constraints on potentially disruptive activities such as vegetation clearing (e.g., tree removal) where migratory birds may be nesting are required to avoid contravention of this Act.

2.3 Provincial Planning Statement (2024)

The Provincial Planning Statement (PPS; MMAH, 2024) under the Planning Act (1990) provides direction on matters of provincial interest related to land use planning and development. It "…supports a comprehensive, integrated and long-term approach to planning…" The PPS is to be read in its entirety and land use planners and decision-makers need to consider all relevant policies and how they work together.

Section 4.1.4 prohibits development and site alteration in significant wetlands and significant coastal wetlands. Section 4.1.5 identifies additional natural heritage features within southern Ontario that are to be protected:

- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat;
- Significant areas of natural and scientific interest; and
- Coastal wetlands.

The PPS permits development within the above natural heritage features where an Environmental Impact Study (EIS), or in this case an NHE, is completed that demonstrates no negative impact on the natural features or their ecological functions.

Sections 4.1.6 and 4.1.7 prohibit development in fish habitat and the habitat of endangered and threatened species, except where it is done in accordance with provincial and/or federal requirements.

2.4 Endangered Species Act (2007)

The Province of Ontario is actively pursuing changes to SAR legislation through Bill 5, Protect Ontario by Unleashing our *Economy Act*, 2025, which received Royal Assent as of June 5th, 2025. Bill 5 includes changes to the *Endangered Species Act* (ESA), the *Environmental Protection Act*, Ontario Heritage *Act, Ontario Energy Board Act, Mining Act, Electricity Act,* and *Rebuilding Ontario Place Act*. It also introduces the *Species Conservation Act* (SCA).

The ESA was developed to identify SAR based upon best available science, including information obtained from community and indigenous traditional ecological knowledge, and to provide protection and conservation of SAR while taking into account social and economic considerations including the need for sustainable economic growth in Ontario.

The ESA protects all Endangered, Threatened, and Extirpated species listed on the SARO list (*O. Reg. 230/08: Species at Risk in Ontario List*; Government of Ontario 2007b). These species are legally protected from harm. In addition, the habitat of Endangered and Threatened species is also legally protected from damage or destruction, as defined under the ESA.

Bill 5 included updates to the ESA, specifically relating to an updated habitat definition, and removal of various programs including the Species Conservation Charges. A general 'habitat' definition for SAR is provided in the updated Section 2(1). Wildlife habitat is defined as a dwelling-place (i.e. den, nest, or similar) that is occupied (presently or habitually) by a species for the purposes of breeding, rearing, staging, wintering or hibernating, and the area immediately around it. Habitat for vascular plants is defined as the critical root zone. These updated definitions replace the previous species recovery strategies and O. Reg. 832/21: Habitat.

2.5 Species Conservation Act, 2025 (DRAFT)

As part of Bill 5, the SCA received Royal Assent and will be enacted on a date yet to be determined. Upon its enactment, the ESA and its associated regulations will be repealed (Section 70 of the SCA). The SCA has the goal of streamlining project approvals while maintaining species protection and balancing environmental and economic needs.

Notable items from the SCA include:

- Launch of a new online registration system;
- Change to a registration-first approach (high-risk activities may still require a permit); and
- Remove authorization duplication for species already protected under SARA (migratory birds and aquatic species).

As the SCA includes the same definition of habitat, it is anticipated that there will be no change in what is protected once the SCA comes into force.

2.6 Niagara Escarpment Plan (2017)

The NEP (2017) builds on the PPS to establish a land use planning framework that supports a thriving economy, a clean and healthy environment, and social equity. The NEP aims to protect the Niagara Escarpment and surrounding lands as a continuous natural environment and landform. The NEP Area identifies seven land use designations:

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

Escarpment Protection Areas are identified for their visual prominence and environmental significance. They include escarpment slopes and related landforms, areas in close proximity to escarpment slopes, Areas of Natural and Scientific Interest (ANSIs), and other environmentally significant areas identified by municipalities.

Minor Urban Centres include rural settlements, villages and hamlets within the NEP Area. Permitted uses within Minor Urban Centres are subject to those identified in an approved Official Plan, and are subject to the development criteria in Section 2 of the NEP.

As defined in Section 2.7, where development within 120m of a KNHF may result in negative impacts to the feature or its functions, a natural heritage evaluation must:

- Demonstrate the development will protect the KNHF and its functions;
- Identify planning, design, and construction practices that will minimize impacts, protect and where possible, enhance the KNHF;

- Identify a minimum Vegetation Protection Zone (VPZ) to protect and, where possible, enhance the feature; and
- Demonstrate connectivity between KNHFs and KHFs within 240 m of each other will be maintained and, where possible, enhanced.

2.7 Niagara Peninsula Conservation Authority

2.7.1 Conservation Authorities Act (2024)

The *Conservation Authorities Act* (1990, Amended 2024) provides for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in watersheds across Ontario. Part VI of this Act provides the framework for the jurisdiction of conservation authorities, the areas in which they regulate, and the process for issuing permits.

Section 28(1) of this Act states that: "No person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority:

1. *Activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland.*
2. *Development activities in areas that are within the authority's area of jurisdiction and are,*
    - i. *hazardous lands,*
    - ii. *wetlands,*
    - iii. *river or stream valleys the limits of which shall be determined in accordance with the regulations,*
    - iv. *areas that are adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to an inland lake and that may be affected by flooding, erosion or dynamic beach hazards, such areas to be further determined or specified in accordance with the regulations, or*
    - v. *other areas in which development should be prohibited or regulated, as may be determined by the regulations*."

2.7.2 Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits

The NPCA is responsible for administering O. Reg. 41/24, which allows them to implement Section 28 of the *Conservation Authorities Act*. A review of the NPCA Regulation Mapping (2025) was completed to understand whether NPCA regulated areas are found within, or adjacent to the Subject Property. NPCA regulated features, generally associated with slope hazards along the Niagara Escarpment, are located south of York Road.

Within the NEP Area, the Niagara Escarpment Commission (NEC) regulates development, while the NPCA is responsible for reviewing and providing comment on NEP amendments or development permit applications. The NPCA regulations continue to apply within the NEP Area, but the NPCA cannot issue a Section 28.1 Permit unless the proposal is exempt from the NEP regulations, or an NEP Development permit has been issued.

2.8 Niagara Official Plan (2022)

The NOP (2022) is a long-range planning document that aims to create sustainable and thriving communities while managing projected growth in the region. It was adopted by Regional Council in June 2022; however, Bill 23 changed Niagara Region's role in land use planning. As of March 31, 2025, the NOP is no longer a Regional Plan and should be considered an official plan of the 12 municipalities within the region.

The NOP Schedules identify the property as Urban Area within a Highly Vulnerable Aquifer (HVA) area on Schedule C3, which is considered key hydrologic feature.

Natural Heritage:

Schedule C2 identifies Significant Woodlands and the Subject Lands, and Significant Woodlands and ANSIs south of the site, across York Road. There are no wetlands identified on or adjacent to the Subject Lands.

The Subject Lands are located in an urban area within the NEP Area. Policy 3.1.8.1 of the NOP states that development and site alteration proposed within and adjacent to KNHFs and KHFs within the NEP Area is subject to the policies of the NEP (2017). Woodlands within the NEP Area that do not satisfy criteria for significance but meet the NOP definition of Other Woodlands will be subject to Section 3.1.11 of the NOP (2022).

2.9 Town of Niagara on the Lake Official Plan (2017)

The NOTL OP (2017) provides direction for the Town's growth and development over the planning horizon. The Subject Lands are identified as low density residential, overlaying Escarpment Protection Area designation. Escarpment Rural Areas are located north of the property, and Escarpment Natural Areas are located south of the property. For lands within the Queenston Minor Urban Centre, the NEP policies are to be implemented by the municipality during the appropriate planning process to ensure development within these areas is consistent with the NEP.

3. Data Collection Approach and Methodology

For the purposes of this NHE, GEI studied the Subject Lands to assess the significance and sensitivity of the natural heritage features and associated functions through a combination of background information review and field investigations.

3.1 Background Information Reviewed

GEI reviewed existing background information to gather data on the Study Area's existing natural heritage features and associated functions, including the following:

- Region of Niagara NES mapping;
- Geospatial Ontario mapping;
- Natural Heritage Information Centre (NHIC) database;
- Ontario Breeding Bird Atlas;
- Ontario Butterfly and Moth Atlases;
- Ontario Reptile and Amphibian Atlas; and
- Citizen science databases (e.g. eBird, iNaturalist).

3.1.1 Niagara Natural Environment System Mapping

The Niagara NES mapping identifies Significant Woodlands within the north portion of the Subject Lands. No other features are identified on the Subject Lands. South of York Road, the Life Science ANSI and Earth Science ANSI along the escarpment are also associated with Significant Woodlands, and other non-provincially significant wetlands, east of the residential properties.

No other natural features are identified on the Subject Property. **Figure 2** (**Appendix A**) shows the existing natural heritage features present within the Study Area.

3.1.2 Geospatial Ontario Natural Heritage Areas

The Geospatial Ontario natural heritage mapping was reviewed to identify existing natural heritage features on the site and the surrounding 120 m. Significant Woodland is the only natural heritage feature identified on the Subject Lands. South of York Road, the following features are associated with the escarpment slope:

- Significant Woodland;
- Earth Science ANSI;
- Life Science ANSI; and
- Deer Wintering Area (Stratum 2).

3.1.3 Natural Heritage Information Centre

GEI accessed the NHIC database to search for records of SAR, rare species (S1-S3), and rare vegetation communities. The Make-a-Map tool outlines the features within 1 km x 1 km square. NHIC Square 17PH5780 covers the entirety of the site and the surrounding 120 m, and includes records of the following species:

- Tufted Titmouse (*Baeolophus bicolor*; S3);

- Kansas Hawthorn (*Crataegus coccinioides*; S2);
- Purple Giant Hyssop (*Agastache scrophulariifolia*; S1);
- Round-leaved Tick-trefoil (*Desmodium rotundifolium*; S2);
- Deerberry (*Vaccinium stamineum*; Threatened);
- Big-root Morning Glory (*Ipomoea pandurate*; S1);
- Black Snakeroot (*Actaea racemosa*; S2);
- Hairy Green Sedge (*Carex hirsutella*; S3);
- Autumn Coralroot (*Corallorhiza odontorhiza*; S3).
- Slim-flowered Muhly (*Muhlenbergia tenuiflora*; S2);
- Woodland Flax (*Linum virginianum*; S2);
- Pawpaw (Asimina triloba; S3);
- Red Mulberry (*Morus rubra*; Endangered);
- Scarlet Beebalm (*Monarda didyma*; S3);
- Eastern Flowering Dogwood (*Cornus florida*; Endangered);
- Biennial Gaura (*Oenothera gaura*; S3);
- Barn Swallow (*Hirundo rustica*; Special Concern);
- Fern-leaved Yellow False Foxglove (*Aureolaria pedicularia*; Threatened);
- American Chestnut (*Castanea dentata*; Endangered);
- Pignut Hickory (*Carya glabra*; S3);
- American Columbo (*Frasera caroliniensis*; Endangered);
- Black Gum (*Nyssa sylvatica*; S3);
- Broad Beech Fern (*Phegopteris hexagonoptera*; Special Concern);
- Butternut (*Juglans cinerea*; Endangered);
- Swamp Rose-mallow (*Hibiscus moscheutos*; Special Concern);
- White Wood Aster (*Eurybia divaricate*; Threatened);
- Red-headed Woodpecker (*Melanerpes erythrocephalus*; Endangered);
- Wood Thrush (*Hylocichla mustelina*; Special Concern); and
- Eastern Wood-pewee (*Contopus virens*; Special Concern).

A Mixed Wader Nesting Colony Wildlife Concentration Area was also documented within the data square.

3.1.4 Ontario Breeding Bird Atlas

The Ontario Breeding Bird Atlas data summary contains detailed information on the population and distribution status of birds in Ontario. The database provides occurrence data by 10 km x 10 km squares. The Study Area is located in atlas square 17TPH58, which was used to determine the potential bird species in the area. The Study Area is a small component of the overall atlas square, and therefore all the bird species listed may not be found within the Study Area. Habitat type, availability, and size are all contributing factors to bird species presence and use.

The following Endangered or Threatened species were noted within the square:

- Chimney Swift (*Chaetura pelagica*; Threatened);
- Bank Swallow (*Riparia riparia*; Threatened);
- Bobolink (*Dolichonyx oryzivorus*; Threatened); and
- Eastern Meadowlark (*Sturnella magna*; Threatened).

The following rare or Special Concern species were noted within the square:

- Upland Sandpiper (*Bartramia longicauda;* S2);
- Wood Thrush (*Hylocichla mustelina*; Special Concern);
- Eastern Wood-pewee (*Contopus virens*; Special Concern);
- Tufted Titmouse (*Baeolophus bicolor*; S3);
- Fish Crow (*Corvus ossifragus*; S1);
- Purple Martin (*Progne subis*; S3); and
- Barn Swallow (*Hirundo rustica*; Special Concern);

3.1.5 Ontario Reptile and Amphibian Atlas

The Ontario Reptile and Amphibian Atlas contains detailed information on the population and distribution status of reptiles and amphibians in Ontario. The database provides occurrence data by 10 km x 10 km squares. The Study Areas are located within the atlas square 17PH58, which was used to determine a potential reptile and amphibian species list for the area. The Study Area is a small component of the overall atlas square, and therefore all the reptile and amphibian species listed for this atlas square may not be found within the Study Area. Habitat type, availability, and size are all contributing factors to reptile and amphibian species presence and use.

The following species of interest were noted:

- Northern Map Turtle (*Graptemys geographica*; Special Concern); and
- Snapping Turtle (*Chelydra serpentina*; Special Concern).

3.1.6 Ontario Butterfly and Moth Atlases

The Ontario Butterfly and Moth Atlases contain detailed information on the population and distribution status of butterflies and moths in Ontario. The database provides occurrence data by 10 km x 10 km squares. The Study Area is located within atlas square 17PH58, which was used to determine a potential butterfly and moth species list for the area. The Study Area is a small component of the overall atlas square, and therefore all the butterfly and moth species listed for the square may not be found within the Study Area. Habitat type, availability, and size are all contributing factors to butterfly and moth presence and use.

A total of twenty-nine species are recorded in the atlas square, of which one species of Special Concern was noted: Monarch (*Danaus Plexippus*).

3.1.7 Citizen Science Databases (eBird and iNaturalist)

Both the eBird and iNaturalist databases are large citizen science-based identification and data collection apps, which allow any citizen to submit observations to be reviewed and identified by other naturalists and scientists to help provide accurate species observations. As observations can be submitted by anyone and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

These online databases were examined to identify observations made within the Study Area that were research grade. No significant species were found in the Study Area on eBird or iNaturalist.

3.2 Technical Methods and Field Studies

GEI completed ecological field studies on the Subject Lands in 2025, including the characterization of the vegetation communities, summer botanical inventory, surveys for breeding birds, and general terrestrial habitat assessment.

Incidental observations of wildlife or evidence of their presence (e.g., tracks, scat, and nests) were recorded during all field surveys.

3.2.1 Vegetation Survey Methods

The Subject Property only contains one natural vegetation community associated with the Significant Woodland. Vegetation assessment of the Subject Property included classification of the woodland community using the Ecological Land Classification for Southern Ontario manual (Lee et al., 1998), and botanical inventory which were both completed July 2, 2025. The dripline of the Significant Woodland was delineated and surveyed using a handheld submeter GPS.

All vascular plants observed on the Subject Property were documented during ELC evaluations. ELC summaries and full botanical inventory can be found in **Appendix C**.

The provincial status of all plant taxa and vegetation communities is based on NHIC (2025). Identification of potentially sensitive native plants is based on their assigned coefficient of conservatism (CC) value, as determined by Oldham et al. (1995). This CC value, ranging from 0 (low) to 10 (high), is based on a species tolerance of disturbance and fidelity to a specific natural habitat. Species with a low CC value tend to have little or no fidelity to pristine or unique natural ecosystems and can be found in a variety of natural or anthropogenic habitats. Species with a CC value of 9 or 10 are potentially sensitive as they tend to have a consistent fidelity to high-quality or unique ecosystems.

3.2.2 Wildlife Surveys

3.2.2.1 Breeding Bird Surveys

GEI conducted breeding bird surveys on the Subject Lands following the protocols of the Atlas of the Breeding Birds of Ontario 2001–2005 (Cadman et al. 2007) and the Ontario Forest Bird Monitoring Program (Cadman et al., 1998). Surveys were conducted during the peak breeding season on June 11 and June 23, 2025. These survey dates were chosen to ensure favourable weather conditions, without precipitation and wind speeds generally below 19 km/h. Surveys were completed between dawn and five hours after dawn. A single point-count station (**Figure 3**, **Appendix A**) was surveyed for 10 minutes for birds within 100 m and beyond 100 m. All species recorded were observed for signs of breeding behaviour. Results are summarized in **Section 4.4.1** below, and a full inventory of species identified is included in **Appendix C**.

3.2.2.2 Wildlife Habitat Assessment

During the site visit, the woodland was assessed for wildlife habitat to identify other species which may be using the Subject Lands. Incidental observations were made to document potential habitat on the Subject Lands . A summary of the assessment is provided in **Section 4.4.2**, below.

4. Biophysical Characterization

4.1 Site History and Physiography

Aerial imagery available on Niagara Region's online mapping tool, Niagara Navigator, was reviewed. The Subject Lands were formerly included in the adjacent agricultural operation, containing orchards prior to 1965. In 1965, farming of the property ceased, and the existing dwelling was constructed. The existing woodland, at the rear of the property was established as a hedgerow, separating newly established residential lots along York Road from the agricultural fields, which continued to be farmed north of the Subject Lands. However, as the farm fields were left fallow, the woodland feature encroached onto the adjacent property and is currently approximately 75 m at its widest point.

Following the establishment of the residential lots within the Queenston Minor Urban Centre, along York Road, there have been minimal changes in land use within the surrounding landscape. The dwellings on the residential lots along York Road were constructed prior to 2000.

A preliminary assessment of the soil characteristics and site physiology was conducted by reviewing the Soil Survey Report for the Regional Municipality of Niagara, and relevant maps (Ontario Institute of Pedology, 1989). The Subject Property is situated within the Town of NOTL, north of Queenston Heights and the Niagara Escarpment, and west of the Niagara River. According to Soil Survey Map 3 of The Soils of the Regional Municipality of Niagara, soils within the residential lots along York Road are not mapped. However, soils associated with the slope north of the property are Oneida (OID2) soils, which are defined as a clay loam till associated with irregular steep slopes and are moderately well drained.

At the bottom of the slope, the soil associated with the agricultural lands is classified as Cayuga (CGU) soils. South of the Subject Lands, CGU soils are present above the escarpment face. The CGU soils are also generally defined as clay loam till and are associated with smooth to gently sloping topography.

4.2 Landscape Ecology

The Subject Property occurs within the Lake Erie-Lake Ontario Ecoregion 7E, which extends from Windsor and Sarnia east to the Niagara Peninsula and Toronto, with shoreline on Lakes Huron, Erie, and Ontario. Ecoregion 7E is within the Deciduous Forest Region in the Great Lakes Watershed. This is an area of mild climate where remnants of Carolinian forests can still be found and where deciduous species such as Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*), and White Ash (*Fraxinus americana*) dominate, but can be found in association with coniferous species such as Eastern Hemlock (*Tsuga canadensis*) and Eastern White Pine (*Pinus strobus*).

Consideration of the larger ecological matrix or landscape contributes to a better understanding of potential ecological linkages between natural heritage areas. The Subject Lands contain limited natural vegetation, but is located along the Niagara Escarpment, which forms part of a significant linkage across the landscape.

4.3 Vegetation

4.3.1 Vascular Plants

Botanical inventories completed on the Subject Lands recorded a total of 86 species. Of these, 43% are native to Ontario and 57% are exotic. A complete list of species documented during field assessments is provided in **Table 1** (**Appendix B**).

Most of the native plants (89%) are ranked S5 (secure in Ontario) or S4 (apparently secure in Ontario), and three are ranked S1-S3. None of the observed native species are locally rare, as per the Niagara Region rarity rankings (Oldham 2010), and none had a co-efficient of conservatism value of 9 or 10.

Three SAR or provincially rare plants were recorded within the Study Area. A Butternut (*Juglans nigra*; Endangered) and a Common Hop-tree (*Ptelea trifoliata*; Special Concern) were observed within the woodland. The Butternut was located in the northeast corner of the Subject Lands, along the property boundary and at the bottom of a slope. An Eastern Flowering Dogwood (*Cornus florida*) was documented in one of the garden beds behind existing the house.

Local plant rarity is based on the number of population occurrences for a given area. For Niagara Region, a plant is considered rare if it has 10 or fewer known occurrences since 1980, the data of which is derived primarily from historical checklists, MNRF reports, site records, and herbaria records (Oldham 2010).

Invasive plants are those that can become (or presently are) a serious problem within a defined location, reproducing and spreading aggressively, reducing local biodiversity, and threatening ecological function of natural features. Depending on existing conditions, some invasive species can outcompete all other species. Urban Forest Associates (2002) provides a categorical ranking system for plants known to be invasive in southern Ontario. Category 1 plants are deemed to be the most invasive and can dominate a site indefinitely. Of the 49 exotic species observed on the Subject Lands, four are ranked as Category 1. The Category 1 plants observed in the Study Area are:

- Goutweed (Aegopodium podagraria);
- European Buckthorn (*Rhamnus cathartica*);
- Garlic Mustard (*Alliaria petiolata*); and
- Manitoba Maple (*Acer negundo*).

4.3.2 Ecological Land Classification and Botanical Inventory

One vegetation community was classified on the Subject Lands: The woodland located at the rear of the Subject Property was classified as Dry-Fresh Deciduous Forest Ecosite (FOD4) based on canopy cover and native tree associations. However, the woodland is significantly impacted by historic and ongoing anthropogenic activity and is dominated by invasive species. The remainder of the property contained anthropogenic gardens, and a residential dwelling. A description of the woodland is provided below.

4.3.2.1 Deciduous Forest Ecosite (FOD4)

The woodland on the Subject Lands has been heavily impacted by anthropogenic activity within the landscape, as evidenced by the dominance of invasive species in all vegetation layers. The ground layer is dominated by Periwinkle and Thicket Creeper; the shrub layer contains European Buckthorn, and Common Privet; and the tree layer contains non-native species such as Norway Maple, Sweet Cherry, and Box Elder.

Native trees within the canopy primarily included White Ash, Red Oak and White Pine. A Butternut was identified in the northeast corner of the Subject Lands, approximately 15m from the edge of the woodland.

4.3.2.2 Landscaped Area

Outside of the woodland area, the remainder of the Subject Lands contain manicured lawn and gardens. Trees located along the driveway and in the front yard include Norway Spruce, Norway Maple and other Maple cultivars. In the backyard, along the slope, trees have been planted and include White Pine, White Cedar, Katsura Tree, Balsam Fir, Norway Maple and other Maple cultivar.

An Eastern Flowering Dogwood was identified on the west side of the property. However, the tree was planted and is located within an existing garden bed. Eastern Flowering Dogwood trees that are horticultural specimens or cultivars are not considered as an existing population for the purpose of protection and recovery goals outlined in the Recovery Strategy for the Eastern Flowering Dogwood (*Cornus florida*) in Canada (2014).

4.4 Wildlife

GEI observed a variety of wildlife species on the Subject Lands during field surveys, as described in the following subsections. Locally significant wildlife species were determined based on the Niagara Peninsula Conservation Authority's *Natural Areas Inventory 2006–2009: Volume 2* (NPCA 2010) and NHIC S-Ranks (2025). A complete list of wildlife species is provided in **Table 2**, **Appendix B**.

4.4.1 Birds

A total of 25 bird species were observed within, or adjacent to the Subject Lands. Of this total, 4 species are considered non-breeders, flyovers, or migrants. The observed breeding bird species are discussed in the sections below. All species observed in the Study Area are listed in **Table 2, Appendix B**.

All species observed are listed as secure (S5) or apparently secure (S4) in the province of Ontario, except House Sparrow (*Passer domesticus*) which is introduced (SNA) to Ontario, and Tufted Titmouse (*Baeolophus bicolor*), which is considered provincially rare (S3; NHIC 2025). For the full list of species identified on the property, see **Appendix B**.

The following bird species of conservation concern were observed on or adjacent to the Industrial Lands:

- Tufted Titmouse (S3): A singing male was observed moving through the canopy of the woodland on the Subject Lands. As a woodland species, they prefer deciduous or mixed woodlots with dense canopies, but are common in suburban areas, frequenting back yard feeders.

No Threatened or Endangered bird species were observed on or adjacent to the Subject Lands.

4.4.2 Wildlife Habitat

During field assessments, three mammal species were documented within the Subject Lands, and one anuran species was documented off-site. The following wildlife species were documented:

- Northern Green Frog (*Lithobates clamitans*);
- Eastern Chipmunk (*Tamias striatus*);
- Eastern Gray Squirrel (*Sciurus carolinensis*); and
- Spring Peeper (*Pseudacris crucifer*).

Additionally, a recently excavated canid den was observed within the woodland, along the rear of the property. It is suspected to have been occupied by a Coyote (*Canis latrans*), based on size; however, Red Fox (*Vulpes vulpes*) dens are similar in appearance, and no other signs (scat, tracks, fur, etc.) were observed in the vicinity of the den to confirm which species was using the Subject Lands.

These species are all provincially ranked S5 (common and secure) by the NHIC (2025) and are considered common in Niagara by the NPCA (2010).

The portion of woodland within the Subject Lands is highly disturbed, with invasive species in each vegetation layer. However, the Subject Lands are located along the Niagara Escarpment and the existing within the woodland on and adjacent to the Subject Lands may support reptile hibernacula. Additionally, candidate roosting habitat for Species at Risk (SAR) bats may be available within the woodland, while the escarpment along Queenston Heights may support overwintering habitat for resident bats.

5. Analysis of Ecological and Natural Heritage Significance

Eight types of significant natural heritage features are defined in the PPS (MMAH 2024), as follows:

- Significant wetlands;
- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat (SWH);
- Fish habitat;
- Habitat of endangered and threatened species; and
- Significant Areas of Natural and Scientific Interest (ANSIs).

To achieve the objective of the protecting or enhance natural features and functions with the NEP Area, development within KNHFs is restricted to excepted uses identified in Section 2.7.2. The NEP defines the following features as KNHFs:

- Wetlands;
- Habitat of Endangered and Threatened Species;
- Fish Habitat;
- Life Science and Earth Science ANSIs;
- Significant Valleylands;
- Significant Woodlands;
- Significant Wildlife Habitat; and
- Habitat of Special Concern species within Escarpment Natural Areas and Escarpment Protection Areas.

The presence or absence of these elements on or adjacent to the Subject Lands is discussed in the following subsections. The *Natural* Heritage *Reference Manual* (MNR 2010a) was referenced to assess the potential significance of natural areas and associated functions. Where KNHFs are present, the sensitivity of those features is also discussed.

5.1 Significant Woodlands

The PPS notes that Significant Woodlands should be defined and designated by the planning authority using criteria established by the Ministry of Natural Resources (MNR). The NEP also states that Significant Woodlands are to be identified using criteria established by the MNR.

The MNR Natural Heritage Reference Manual (NHRM; 2010) provides direction to Planning authorities to establish evaluation criteria for identifying Significant Woodlands. Table 7-2 of the NHRM provides a list of recommended criteria and standards which assess woodlands on the following categories:

- Woodland Size Criteria;

- Ecological Functions Criteria, including interior habitat, proximity to other habitats, linkages, water protection, and woodland diversity;
- Uncommon Characteristics Criteria; and
- Economic and Social Functional Values Criteria.

The NOP defines woodlands as treed areas, woodlots or forested areas that vary in their level of significance at the local, regional, and provincial levels. The NOP further defines Significant Woodlands as "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 (PPS, 2024)."

Criteria for the establishment of Significant Woodlands are identified within the NOP as:

- Woodlands 2 ha or greater in size;
- Woodlands 1 ha or greater in size meeting at least one of the following criteria:
- naturally occurring (i.e., not planted) trees;
- treed areas planted with the intention of restoring woodland;
- 10 or more trees per hectare greater than 100 years old or 50 cm or more in diameter;
- wholly or partially within 30 m of a PSW or habitat of an endangered or threatened species;
- overlapping or abutting permanent or intermittent streams, fish habitat, or significant valleylands;
- Woodlands 0.5 ha or greater in size meeting at least one of the following criteria:
- a provincially rare (S1, S2, or S3), treed vegetation community;
- habitat of a woodland plant species with an S1, S2 or S3 ranking or an 8, 9, or 10 Coefficient of Conservatism, with 10 or more individual stems or 100 or more m^2 of leaf coverage;
- any woodland overlapping or abutting SWH, habitat of threatened species or endangered species, or other wetlands.
- Any size overlapping or abutting PSW or life science ANSI.

Based on these criteria, the following discussion is provided as it relates to woodlands located at the rear of the property and assessment of significance:

- The FOD4 is part of a woodland feature that is greater than 2ha in size – this woodland is considered a Significant Woodland based on the NOP size criteria alone;
- The FOD4 woodland contains habitat for Endangered species (Butternut) – the presence of Endangered or Threatened species within woodland satisfies NOP criteria for Significance for all woodlands greater than 0.5 ha in size; and
- The FOD4 woodland contains SWH for Species of Concern (Tufted Titmouse) – the presence of SWH within a woodland satisfies NOP criteria for significance for all woodlands greater than 0.5 ha.

The woodland is confirmed to be a Significant Woodland and is a KNHF within the NEP.

5.2 Other Woodlands

Other Woodlands are also included as a component of the Niagara NES, that are not considered KNHFs within the PNHS. The NOP defines other woodlands as:

> "Woodlands determined to be ecologically important in terms of features, functions, representation, or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. Other woodlands include all terrestrial treed vegetation communities where the percent tree cover is greater than 25 percent. Other woodlands would not include woodlands meeting the criteria as significant woodlands."

Since the woodlands within the Subject Lands have been identified as Significant and are considered a KNHF, no Other Woodland features are present within the Subject Lands.

5.3 Areas of Natural and Scientific Interest

Areas of Natural and Scientific Interest (ANSI) are identified by the MNRF as having provincially or regionally significant representative geological or ecological features. There are two known ANSIs located within 120 m of the Study Area:

- Queenston Escarpment Life Science ANSI – a regionally significant feature designated for its ecological significance within the landscape. It is located south of York Road along the escarpment face and extends from Queenston Heights to the Village of St. Davids.
- Niagara River Bedrock Gorge Earth Scient ANSI – a provincially significant feature designated for geological significance. It is located south of York Road extending along the Queenston Escarpment into the Niagara River gorge, to the Niagara Horseshoe Falls.

5.4 Significant Wildlife Habitat

SWH is one of the more complex natural heritage features to identify and evaluate. There are several provincial documents that discuss identifying and evaluating SWH: the NHRM (MNR 2010a), the Significant Wildlife Habitat Technical Guide (MNR 2000), and the SWH Ecoregion Criteria Schedules (e.g., MNR 2015). The Subject Property is in Ecoregion 7E and were therefore assessed using the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (MNRF 2015).

SWH types are grouped into four broad categories: seasonal concentration areas, rare vegetation communities and specialized wildlife habitat, habitats of species of conservation concern, and animal movement corridors. Each of these broad categories is discussed in the following subsections in relation to the Subject Property. The SWH analysis is summarized in **Table 3, Appendix B**.

5.4.1 Seasonal Concentration Areas

Seasonal concentration areas are those sites where large numbers of a species gather at one time of the year, or where several species congregate. Seasonal concentration areas include deer yards; wintering sites for snakes, bats, raptors and turtles; waterfowl staging and molting areas; bird nesting colonies; shorebird staging areas; and migratory stopover areas for passerines or butterflies. Only the best examples of these concentration areas are designated as SWH.

The MNRF has classified woodlands along the escarpment slopes and south of the Subject Lands as deer wintering habitat. Based on field assessments, seasonal concentration areas associated with the Significant Woodland on the Subject Lands are limited to candidate Bat Maternity Colonies and Reptile Hibernaculum. However, within the Subject Lands, bat roosting habitat was limited, and no potential reptile hibernacula were observed. Additional candidate SWH types that have been identified offsite include raptor wintering areas, landbird migratory stopover areas, and bat hibernacula.

5.4.2 Rare Vegetation Communities and Specialized Wildlife Habitat

Rare habitats are those with vegetation communities that are considered rare in the province. Generally, community types with S-Ranks of S1–S3 (extremely rare to rare/uncommon in Ontario), as defined by the NHIC (2022b), could qualify. It is assumed that these habitats are at risk and that they are also likely to support significant wildlife species.

Specialized habitats are microhabitats that are critical to some wildlife species. The NHRM (MNR 2010a) defines specialized habitats as those that provide highly specific habitat requirements, areas with exceptionally high species diversity or community diversity, and areas that provide habitat that greatly enhances species' survival.

Candidate SWH offsite, and generally associated with the Niagara Escarpment, south of York Road include: Cliffs and talus slopes, Bald Eagle and Osprey nesting, foraging and perching, woodland raptor nesting habitat, seeps and springs, woodland area-sensitive bird breeding habitat.

No rare vegetation communities or specialized wildlife habitat was documents on the Subject Lands.

5.4.3 Habitat of Species of Conservation Concern

Species of conservation concern include those that are Special Concern and provincially rare (S1–S3, SH). Several specialized wildlife habitats are also included in this SWH category, i.e., terrestrial crayfish habitat and significant breeding bird habitats for marsh, open country, and early successional bird species. Habitats of species of conservation concern do not include habitats of Endangered or Threatened species as identified by the ESA. Endangered and Threatened species are discussed in **Section 5.5**.

The Significant Woodland on the Subject Lands provides SWH for Tufted Titmouse, a provincially rare (S3) species, which was observed calling within the woodland canopy during breeding bird surveys. No other rare species were observed.

5.4.4 Animal Movement Corridors

Animal movement corridors are areas that are traditionally used by wildlife to move from one habitat to another, often based on seasonal habitat requirements. For ecoregion 7E, animal movement corridors are only assessed where Amphibian Breeding Habitat SWH has been identified.

No candidate Amphibian Breeding SWH has been identified within or adjacent to the Subject Lands.

5.4.5 SWH Summary

Based on the results of GEI's investigations, the following SWH types were identified in or adjacent to the Study Area:

- Deer Winter Congregation Areas along the adjacent escarpment slopes; and
- Habitat for Species of Conservation Concern (Tufted Titmouse).

Additionally, the following candidate SWH types were not documented during field investigations, but were identified as having potential to occur on or adjacent to the Subject Lands:

- Reptile Hibernaculum;
- Bat Maternity Colonies;
- Bat Hibernaculum;
- Raptor Wintering Areas;
- Landbird Migratory Stopover Areas;
- Bald Eagle and Osprey Nesting, Foraging, and Perching Areas;
- Seeps and Springs;
- Woodland Raptor Nesting Areas;
- Woodland Area-Sensitive Bird Breeding Habitat; and
- Cliffs and Talus slopes.

No Provincial or Regional linkages are identified within the Subject Lands. However, the Niagara Escarpment provides a significant provincial linkage, and is located south of the Subject Lands, which traverses southern Ontario, extending from the Niagara River in Queenston to Tobermory at the mouth of Georgian Bay. The Significant Woodland at the rear of the property provides a more local linkage for resident wildlife within the NEP.

5.5 Habitat of Endangered and Threatened Species

Endangered and Threatened species are listed by the MECP based on Committee on the Status of Species at Risk in Ontario (COSSARO) assessments and recommendations. GEI reviewed existing background information and identified known Endangered and Threatened species records from the broader landscape surrounding the Study Area, as summarized in **Section 3.1**.

Screening for SAR involved cross-referencing the existing habitat in the Study Area with species which have been documented in the area to determine potential for occurrence.

A total of twenty-three Threatened or Endangered species were identified as having potential to occur on or in the vicinity of the Subject Lands based on habitat availability:

- American Chestnut (Endangered);
- American Columbo (Endangered);
- American Ginseng (Endangered);

- Butternut (Endangered);
- Cucumber Tree (Endangered);
- Deerberry (Threatened);
- Eastern Flowering Dogwood (Endangered);
- Red Mulberry (Endangered);
- Round-leaved Greenbrier (Threatened);
- Spotted Wintergreen (Endangered);
- White Wood Aster (Threatened);
- Eastern Hog-nosed Snake (Threatened);
- Gray Ratsnake (Endangered);
- Cerulean Warbler (Threatened);
- Chimney Swift (Threatened);
- Rusty-patched Bumble Bee (Endangered);
- Eastern Red Bat (Endangered);
- Eastern Small-footed Myotis (Endangered);
- Hoary Bat (Endangered);
- Little Brown Myotis (Endangered);
- Northern Myotis (Endangered);
- Silver-haired Bat (Endangered); and
- Tri-colored Bat (Endangered).

An additional five SARs were assessed as having the potential to occur along the Queenston escarpment, south of York Road:

- Acadian Flycatcher (Endangered);
- Allegheny Mount-Dusky Salamander (Endangered);
- Jefferson Salamander (Endangered);
- Unisexual Ambystoma (Jefferson salamander dependent population) (Endangered); and
- Northern Dusky Salamander (Endangered).

The full SAR screening, including details on suitable habitat, is included in **Table 4, Appendix B**.

Based on the results of field surveys completed within the Study Area, the following are concluded with respect to Endangered and Threatened Species:

- **Butternut**: species was confirmed within the Subject Lands. A single stem was observed in the woodland at the rear of the property, in the northeast corner of the site. Regulated habitat under the recent revisions to the ESA is limited to the critical root zone for vascular plants. While there is no defined approach to determine CRZ, the Butternut Recovery Strategy (2013) recommends a minimum 25m radius from the base of the tree to ensure habitat conditions and potential regeneration habitat are maintained. The CRZ for Butternut identified within the Study Area will be protected within the woodland feature and minimum recommended setback.

- **Endangered Bats**: Suitable bat maternity roost trees are present in woodlands on and adjacent to the Subject Lands. Acoustic bat surveys were not completed; however, it is assumed that SAR bats are present within the landscape and are likely to be foraging or roosting within the Subject Lands.

The proposed development will not significantly alter the existing land use and is not expected to impact habitat for Butternut, or potential roosting trees for SAR bats.

5.6 Linkages/etc.

No Provincial or Regional linkages are identified within the Study Area. However, the Subject Lands are located within the Niagara Escarpment, at the base of the Queenston Escarpment ANSI. The Niagara Escarpment provides a significant environmental corridor across Southern Ontario due to a combination of its physiographic landform and ecological connectivity. The Niagara Escarpment extends from the Niagara River to Georgian Bay.

The proposed development will not impact corridor functions associated with the Niagara Escarpment.

6. Constraints Analysis

The assessment of constraints takes into consideration the biophysical analysis of the features on the Subject Lands and the applicable Policies and Legislation which may limit the potential for development.

6.1 Development Constraints

Constraints to development associated with the Subject Lands are defined by the Significant Woodlands and the associated SWH and habitat for Endangered or Threatened species. The Significant Woodlands and habitat for Endangered or Threatened Species are considered to be KNHFs within the NEP. The constraints analysis serves to:

- Identify significant and sensitive biophysical features and functions that could potentially constrain development of the Subject Lands;
- Establish a VPZ that will maintain, restore, and enhance existing conditions; and
- Identify potential opportunities for enhancement of natural features and/or ecological functions in association with future development.

Recommended setbacks and natural heritage feature buffers were identified by reviewing requirements set out in the NEP (2017), the NOP (2022), SWH Criteria Schedules for Ecoregion 6E and 7E (MNRF 2015a and 2015b), and the NHRM (2010).

The NEP does not prescribe buffer setbacks for KNHFs. An NHE should establish VPZs that are sufficient width to protect or enhance the KNHF and its functions from the impacts of development and should be established as natural, self-sustaining vegetation. Setback requirements were reviewed in the context of feature form, function, and sensitivity, as well as the extent and nature of the proposed development. Based on this review, the following setbacks are generally recommended:

- Significant Woodlands: 10 m;
- SWH for Species of Conservation Concern – Tufted Titmouse: 10 m; and
- Habitat for Threatened and Endangered Species – Butternut: 25 m.

The existing land use currently impacts the KNHF on the Subject Lands. The property is currently mowed or gardened to the boundary of the woodland and yard waste has been placed within the Woodland boundary. The site slopes toward the Significant Woodland, dropping approximately 7m from the existing dwelling to the edge of the woodland. Exotic species used in landscaping the site have established within the Significant Woodland, altering the natural vegetation cover and structure.

The proposed development should have consideration for proximity to the natural features and wildlife present within the Study Area. SAR are documented within the area and candidate SAR has been identified north of the Subject Property. It is the responsibility of the proponent to ensure the proposed activity is not in contravention of the ESA, or other in force legislation at the time of commencement.

Constraints to development are shown in **Figure 4, Appendix A**.

6.2 Opportunities for Ecological Restoration or Enhancement

Enhancement of the Significant Woodlands can be achieved through removal of yard waste and garden beds that extend into the feature. Based on the extent of invasive species establishment within the woodland layers, removal or management is likely not feasible. However, the proposed 10m VPZ can be planted with native species and shrubs to prevent further establishment of non-native species. Native species should be used for future landscaping of the property, which can supplement or enhance food sources for aerial foraging birds and bats.

7. Impact Assessment and Mitigation

7.1 Current Proposed Development

The current application proposes lot severance to create one additional residential lot. The existing dwelling will be retained within the newly created lot, and a new dwelling will be constructed to the east of the existing structure with driveway access to York Road.

The new dwelling will be located immediately adjacent to the existing dwelling, in the portion of the Subject Lands that currently contain a driveway/parking and landscaped gardens. It will be located on the tableland portion of the site, above the existing slope.

The proposed development is shown in **Figure 5, Appendix A.**

7.2 Impacts of Development

7.2.1 Direct Impacts

The proposed building footprint is approximately 25m from the Significant Woodland and will not encroach into the proposed minimum 10m VPZ. Vegetation removal will be required above the slope and adjacent to the existing dwelling to accommodate the proposed development of the Subject Lands. Vegetation removal will be limited to the landscaped portion of the Subject Lands. The direct impacts of the proposed development include the following:

- Removal of eight trees, four of which are not native to Ontario;
- Increased impervious area to accommodate additional residential dwelling; and
- Grading to accommodate new dwelling with walk out basement.

7.2.2 Indirect Impacts

The following indirect impacts to natural features and functions may occur as a result of the proposed development:

- Increased surface water runoff to the Significant Woodlands introducing increased sedimentation or contaminants during construction;
- Introduction of contaminants to Significant Woodlands from additional stormwater inputs, including potential sediment loading during construction activities; and
- Disruption to wildlife during construction, and post-construction disruption as a result of exterior lighting.

The volume of surface runoff resulting from the dwelling is expected to have minimal impact on the Significant Woodland as the location of the proposed dwelling currently contains a gravel driveway and parking. While the gravel driveway allows some infiltration, the compaction and existing slope of the Subject Lands limits infiltration potential. Drainage patterns on the Subject Lands will not be otherwise altered.

7.2.3 Cumulative Impacts

Cumulative impacts refer to the combined or incremental effects of individual actions or impacts and may result from a combination of different types of impacts, or the incremental effects of a series of impacts over time. The proposed development may result in impacts to breeding birds or other Wildlife using the portion of the woodland on the Subject Lands due to human occupancy. However, except for the addition of a dwelling, the existing land use of the Subject Lands will not change. Based on adjacent residential uses, which include amenity uses abutting the woodland feature, the proposed development is expected to have minimal cumulative impacts on the Significant Woodlands or wildlife habitat.

7.3 Mitigation for Anticipated Impacts

Potential impacts resulting from the proposed development have been identified in **Section 7.2.** The following discusses mitigation measures that are recommended to offset those impacts:

- **Best Management Practices for construction**: an effective erosion and sediment control plan should be established and implemented for the duration of construction. Considerations should include installation of silt fencing along the limit of grading, identification of a suitable location for machinery storage and maintenance, and an emergency spill response plan.
- **Wildlife Timing Windows**: Tree removals should occur outside of the sensitive windows for breeding birds (April 1 – September 30) and bat activity (May 1 – November 30).
- **Tree Inventory and Preservation Plan (TIPP)**: A TIPP has been prepared for the Subject Lands (Jackson Arboriculture Inc). The recommendations for tree protection should be implemented to minimize impacts to trees on the Subject Lands.
- **Native species plantings**: a planting plan for the Subject Lands should identify native trees and shrubs. Use of fruit-bearing native shrubs within the proposed VPZ should be considered to provide enhanced foraging habitat for birds and bats.
- **Wildlife considerations:** Landscaping for the site should avoid planting trees or tall shrubs next to proposed windows. Vegetation within 1m of a window should be limited to ground cover, or low shrubs (<1 m). Exterior lighting should be directed away from the Significant Woodland.

8. Conclusions and Recommendations

This NHE was prepared as part of the planning process for the Consent and Severance Application for development of 2502 York Road, located in the Town of NOTL. Through background review and field studies completed as a component of this NHE, the following natural heritage features have been identified on or in the vicinity of the Study Area:

- Significant Woodlands;
- Significant wildlife habitat (SWH); and
- Habitat of endangered and threatened species.

All of the natural features identified on the Subject Lands are considered KNHFs within the NEP. An assessment of impacts on the KNHFs identified above and their associated functions has been conducted and discussed. There will be no direct impact to Significant Woodlands, SWH, or habitat of endangered and threatened species.

Development within the Subject Lands would result in:

- Increased impervious area and associated runoff potential;
- Removal of eight trees to accommodate the new building footprint;
- Potential increased erosion and sediment loading during construction as a result of site grading; and
- Minor disruptions to wildlife as a result of site occupancy.

It is proposed that impacts of construction be mitigated through implementation of best management practices, including the establishment of an effective erosion and sediment control plan, and implementation of the recommendations within the TIPP. Impacts to birds and other wildlife may be mitigated through the adherence to suitable timing windows for vegetation removal to avoid impacts during sensitive life stages, and the establishment of native vegetation plantings within the Significant Woodland VPZ.

Considering the above, it is anticipated that development of the Subject Lands can be completed without negative impacts on the natural heritage features and associated functions, by implementing the recommended mitigation measures provided in this report as well as the TIPP, prepared by Jackson Arboriculture Inc. It is therefore the opinion of GEI that the proposed development demonstrates conformity to the natural heritage policies of the PPS (2024), NEP (2017), and the NOP (2022).

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Appendix A

Figures

Reference(s):

1. Coordinate System: NAD 1983 CSRS UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025.

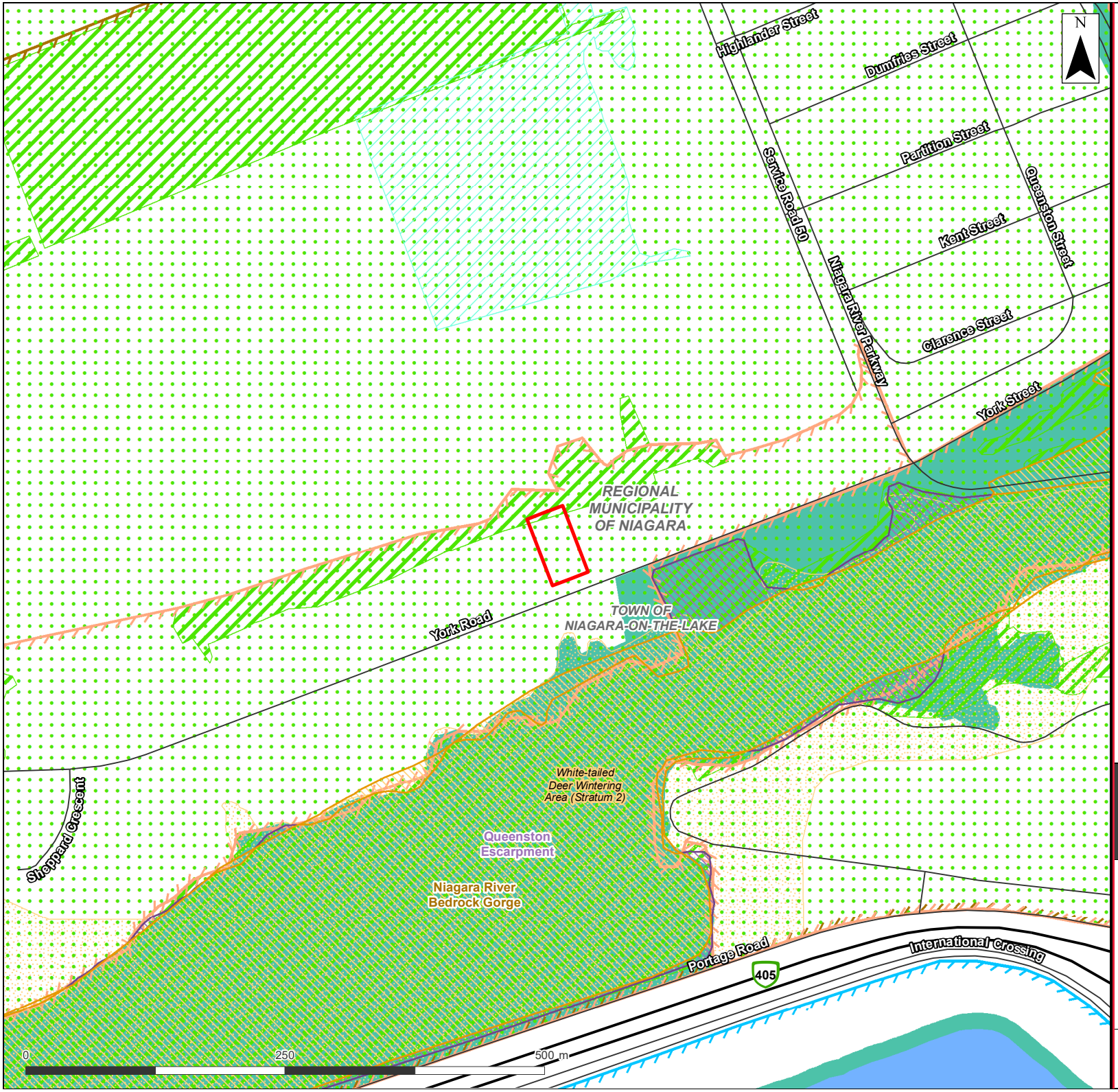
Figure 1
Location of Subject Lands

Project Name:
Natural Heritage Evaluation
2052 York Road, Niagara-on-the-Lake

Client Name:
Newcastle Communities

GEI Consultants Canada

Last Updated: July 2025
Document ID: 700000-G-000



Subject Lands
Highway
Road
Provincially Significant Earth Science ANSI
Regionally Significant Life Science ANSI
Growth Plan for the Greater Golden Horseshoe NHS
Niagara Escarpment Plan NHS
Niagara Escarpment Plan Boundary
Greenbelt Boundary
Wetland - Not evaluated per OWES
Wildlife Activity Area
Waterbody
Wooded Area

Reference(s):

1. Coordinate System: NAD 1983 CSRS UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025.

Figure 2
Landscape Setting

Project Name:
Natural Heritage Evaluation
2052 York Road, Niagara-on-the-Lake

Client Name:
Newcastle Communities

GEI Consultants Canada

Last Updated: July 2025
Document ID: 700000-G-000

Subject Lands
Road
Ecological Land Classification
Butternut Location

ELC LEGEND

DIST, Disturbed

FOD4, Dry-Fresh Deciduous Forest

Reference(s):

1. Coordinate System: NAD 1983 CSRS UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2023.

Figure 3
Terrestrial Conditions

Project Name:
Natural Heritage Evaluation
2052 York Road, Niagara-on-the-Lake

Client Name:
Newcastle Communities

GEI Consultants Canada

Last Updated: July 2025
Document ID: 700000-G-000

Document Path: \\cos-pzcc-1\data_storage\Working\NEWCASTLE COMMUNITIES\2503345 2052 York Road EIS\05_GIS\MXD\2025 07 NHE\2503345_rpt_fig03_terrestrial_conditions.mxd

Reference(s):

1. Coordinate System: NAD 1983 CSRS UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2023.

Figure 4
Development Constraints

Project Name:
Natural Heritage Evaluation
2052 York Road, Niagara-on-the-Lake

Client Name:
Newcastle Communities

GEI Consultants Canada

Last Updated: July 2025
Document ID: 700000-G-000

Subject Lands
Road
Significant Woodland (FOD4)
Butternut Location
Woodland + 10m
Butternut + 25m
Site Plan

Reference(s):
1. Coordinate System: NAD 1983 CSRS UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2023.

Figure 5
Development Overlay

Project Name:
Natural Heritage Evaluation
2052 York Road, Niagara-on-the-Lake

Client Name:
Newcastle Communities

GEI Consultants Canada

Last Updated: July 2025
Document ID: 700000-G-000

Document Path: \\cos-pzcc-1\data_storage\Working\NEWCASTLE COMMUNITIES\2503345 2052 York Road EIS\05_GIS\MXD\2025 07 NHE\2503345_rpt_fig05_development_overlay.mxd

Appendix B

Tables

LATIN NAME	COMMON NAME	COEFFICIENT OF CONSERVATISM (NHIC 2025)	WETNESS INDEX (NHIC 2025)	OWES WETLAND SPECIES	WEEDINESS INDEX	INVASIVE EXOTIC RANK (Urban Forest Associates 2002)	PROVINCIALLY TRACKED (NHIC) (NHIC JUN 6 2025)	PROVINCIAL STATUS (S-RANK) (NHIC JUN 6 2025)	GLOBAL STATUS (G-RANK) (NHIC JUN 6 2025)	SARO (MNRF) (NHIC JUN 6 2025)	COSEWIC STATUS (NHIC JUN 6 2025)		NIAGARA (Oldham 2010)	CAROLINIAN ZONE (Oldham 2017)	AUTHORITY
Chenopodium album	Common Lamb's-Quarters		3		-1		N	SNA	G5				IC	IC	L.
Toxicodendron radicans var. radicans	Eastern Poison Ivy	2	0	T			N	S5	G5T5				C	C	(L.) Kuntze
Aegopodium podagraria	Goutweed		0		-3	1	N	SNA	GNR				IR	IU	L.
Apocynum cannabinum	Hemp Dogbane	3	0				N	S5	GNR					C	L.
Asclepias syriaca	Common Milkweed	0	5				N	S5	G5				C	C	L.
Vinca minor	Lesser Periwinkle		5		-2	2	N	SNA	GNR				IU	IX	L.
Ilex verticillata	Common Winterberry	5	-3	I			N	S5	G5				C	C	(L.) A. Gray
Hedera helix	English Ivy		3			3	N	SNA	GNR					IR	L.
Centaurea montana	Mountain Cornflower		5				N	SNA	GNR						L.
Echinacea purpurea	Eastern Purple Coneflower		5				N	SNA	G4				IR	IR	(L.) Moench
Lapsana communis	Common Nipplewort		3		-2	P	N	SNA	GNR				IC	IX	L.
Rudbeckia triloba	Brown-Eyed Susan		3		-1		N	SNA	G5				IR	IX	L.
Solidago canadensis	Canada Goldenrod	1	3				N	S5	G5				C		L.
Symphyotrichum lanceolatum	Panicled Aster	3	-3	I			P	S5	G5				C	C	(Willd.) G.L. Nesom
Taraxacum officinale	Common Dandelion		3		-2		N	SNA	G5				IC	IC	F.H. Wiggers
Berberis thunbergii	Japanese Barberry		3		-3	3	N	SNA	GNR				IC	IX	de Candolle
Myosotis sylvatica	Woodland Forget-Me-Not		5		-1		N	SNA	G5				IR	IR	Ehrhardt ex Hoffman
Alliaria petiolata	Garlic Mustard		0		-3	1	N	SNA	GNR				IC	IC	(M. Bieb.) Cavara & Grande
Erysimum cheiranthoides	Wormseed Wallflower		3		-1		N	S5?	G5				IU	IC	L.
Pachysandra terminalis	Japanese-Spurge		0			4	N	SNA	GNR					IR	Siebold & Zucc.
Cerastium fontanum ssp. vulgare	Common Mouse-Ear Chickweed		3		-1		N	SNA	GNRTNR				IC	IC	(Hartman) Greuter & Burdet
Cornus florida	Eastern Flowering Dogwood	7	3				Y	S2?	G5	END	END		U	U	L.
Cornus racemosa	Grey Dogwood	2	0	T			N	S5	G5				C	C	Lamarck
Acalypha rhomboidea	Common Three-Seed Mercury	0	3				N	S5	G5				C	C	Raf.
Cercis canadensis	Eastern Redbud	8	3				Y	SX	G5				IR	H	L.
Medicago lupulina	Black Medick		3		-1	4	N	SNA	GNR				IC	IC	L.
Melilotus albus	White Sweet-Clover		3		-3	2	N	SNA	G5				IC	IC	Medik.
Robinia pseudoacacia	Black Locust		3		-3	2	N	SNA	G5				IC	IC	L.
Trifolium pratense	Red Clover		3		-2	4	N	SNA	GNR				IC	IC	L.
Trifolium repens	White Clover		3		-1	4	N	SNA	GNR				IC	IC	L.
Fagus grandifolia	American Beech	6	3				N	S4	G5				C	C	Ehrhart
Quercus rubra	Northern Red Oak	6	3				N	S5	G5				C	C	L.
Geranium maculatum	Spotted Geranium	6	3				N	S5	G5				C	C	L.
Geranium robertianum	Herb-Robert	2	3		-2		N	S5	G5				IC	C	L.
Juglans cinerea	Butternut	6	3				Y	S2?	G3	END	END		U	U	L.
Juglans nigra	Black Walnut	5	3				N	S4?	G5				C	C	L.
Glechoma hederacea	Ground-Ivy		3		-2	4	N	SNA	GNR				IC	IC	L.
Lamium galeobdolon	Yellow Archangel						N	SNA	GNR					IR	(L.) L.
Melissa officinalis ssp. officinalis	Lemon Balm		5		-1		N	SNA	GNRTNR				IR	IR	L.
Forsythia suspensa	Weeping Forsythia		5				N	SNA	GNR						(Thunb.) Vahl
Fraxinus americana	White Ash	4	3				N	S4	G4				C	C	L.
Ligustrum vulgare	European Privet		3		-2	4	N	SNA	GNR				IC	IX	L.
Syringa vulgaris	Common Lilac		5		-2	2	N	SNA	GNR				IC	IX	L.
Circaea canadensis ssp. canadensis	Canada Enchanter's Nightshade	2	3				N	S5	G5T5				C	C	(L.) Hill
Epilobium ciliatum ssp. ciliatum	Northern Willowherb	3	-3	I*			N	S5	G5T5				C	C	Raf.
Oenothera biennis	Common Evening Primrose	0	3				N	S5	G5				C	C	L.
Oxalis stricta	European Wood-Sorrel		3				N	SNA	G5				C	C	L.
Paeonia officinalis	Common Peony						N	SNA	GNR						L.
Plantago major	Common Plantain		3		-1		N	SNA	G5				IC	IC	L.
Veronica arvensis	Corn Speedwell		5		-1		N	SNA	GNR				IU	IC	L.
Phlox paniculata	Garden Phlox		3		-1		N	SNA	G5				IR	IR	L.
Persicaria orientalis	Oriental Smartweed		5		-1		N	SNA	GNR				IH	IR	(L.) Spach
Rhamnus cathartica	European Buckthorn		0	T	-3	1	N	SNA	GNR				IC	IC	L.
Fragaria virginiana	Wild Strawberry	2	3				N	S5	G5				C	C	Miller
Geum aleppicum	Yellow Avens	2	0	T			N	S5	G5				C	C	Jacquin
Geum canadense	White Avens	3	0	T			N	S5	G5				C	C	Jacquin
Prunus avium	Sweet Cherry		5		-2	P	N	SNA	GNR				IC	IR	(L.) L.
Spiraea prunifolia	Bridal-Wreath		5				N	SNA	G5				IH	IR	Siebold & Zuccarini
Asperula arvensis	Blue Woodruff						N	SNA	G5						L.
Galium odoratum	Sweet-Scented Bedstraw		5				N	SNA	GNR				IR	IR	(L.) Scopoli
Ptelea trifoliata	Common Hop-Tree	7	3				Y	S3	G5	SC	SC		R	R	L.
Acer negundo	Manitoba Maple	0	0	T		1	N	S5	G5				C	C	L.
Acer platanoides	Norway Maple		5		-3	2	N	SNA	GNR				IC	IU	L.
Acer pseudoplatanus	Sycamore Maple		5		-1	2	N	SNA	GNR				IR	IR	L.
Solanum dulcamara	Bittersweet Nightshade		0	T	-2	3	N	SNA	GNR				IC	IC	L.
Viola odorata	Sweet Blue Violet		5		-1	P	N	SNA	GNR				IR	IR	L.
Viola sororia	Woolly Blue Violet	4	0	T			N	S5	G5				C	C	Willdenow
Parthenocissus vitacea	Thicket Creeper	4	3				N	S5	G5				C	C	(Knerr) Hitchcock
Vitis riparia	Riverbank Grape	0	0				N	S5	G5				C	C	Michaux
Juniperus virginiana var. virginiana	Eastern Red Cedar	4	3				N	S5	G5T5				C	C	L.
Thuja occidentalis	Eastern White Cedar	4	-3	T			N	S5	G5				U	C	L.
Abies balsamea	Balsam Fir	5	-3	T			N	S5	G5				IR	R	(L.) Miller
Picea abies	Norway Spruce		5		-1		N	SNA	G5				IC	IX	(L.) Karsten
Picea pungens	Blue Spruce		3				N	SNA	G5					IR	Engelm.
Pinus strobus	Eastern White Pine	4	3	T			N	S5	G5				C	C	L.
Tsuga canadensis	Eastern Hemlock	7	3	T			N	S5	G4G5				C	C	(L.) Carrière
Taxus canadensis	Canada Yew	7	3				N	S4	G5				U	U	Marshall
Allium schoenoprasum var. schoenopra	Wild Chives (var. schoenoprasum)		0		-1		N	SNA	G5T5				IR	IR	L.
Convallaria majalis var. majalis	European Lily-Of-The-Valley		5		-2	3	N	SNA	G5				IU	IX	L.
Muscari botryoides	Common Grape Hyacinth		5		-1		N	SNA	GNR					IR	(L.) Miller
Hemerocallis fulva	Orange Daylily		5		-3	4	N	SNA	GNA				IC	IU	(L.) L.
Epipactis helleborine	Broad-Leaved Helleborine		3		-2		N	SNA	GNR				IC	IC	(L.) Crantz
Lolium perenne	Perennial Ryegrass		3		-1	4	N	SNA	GNR				IU	IU	L.
Poa annua	Annual Bluegrass		3		-2		N	SNA	GNR				IC	IC	L.
Polystichum acrostichoides	Christmas Fern	5	3				N	S5	G5				C	C	(Michx.) Schott
Matteuccia struthiopteris var. pensylvar	Ostrich Fern	5	0	T			N	S5	G5T5				C	C	(Willd.) C.V. Morton

Inside Study Area	Only Outside Study Area	COMMON NAME	SCIENTIFIC NAME	Provincial Status (S RANK)	Global Status (G RANK)	SARO (MECP)	COSEWIC (Federal)	Niagara Region CA Status	SWH Indicator Species 7E
		BUTTERFLIES							
X		Cabbage White	*Pieris rapae*	SNA	G5				
X		Little Wood-Satyr	*Megisto cymela*	S5	G5			R	
		AMPHIBIANS							
	X	Northern Green Frog	*Lithobates clamitans*	S5	G5			W	X
		BIRDS							
X		Mourning Dove	*Zenaida macroura*	S5	G5				
	X	Ring-billed Gull	*Larus delawarensis*	S5	G5				X
	X	Double-crested Cormorant	*Nannopterum auritum*	S5B, S4N	G5				
X		Red-bellied Woodpecker	*Melanerpes carolinus*	S5	G5				
X		Willow Flycatcher	*Empidonax traillii*	S4B	G5				X
	X	Red-eyed Vireo	*Vireo olivaceus*	S5B	G5				
X		Blue Jay	*Cyanocitta cristata*	S5	G5				
X		Black-capped Chickadee	*Poecile atricapillus*	S5	G5				
X		Tufted Titmouse	*Baeolophus bicolor*	S3	G5				
X		Northern House Wren	*Troglodytes aedon*	S5B	G5				
X		American Robin	*Turdus migratorius*	S5	G5				
X		Gray Catbird	*Dumetella carolinensis*	S5B, S3N	G5				
X		Cedar Waxwing	*Bombycilla cedrorum*	S5	G5				
X		House Sparrow	*Passer domesticus*	SNA	G5				
X		American Goldfinch	*Spinus tristis*	S5	G5				
	X	Chipping Sparrow	*Spizella passerina*	S5B, S3N	G5				
	X	Song Sparrow	*Melospiza melodia*	S5	G5				
X		Baltimore Oriole	*Icterus galbula*	S4B	G5				
X		Red-winged Blackbird	*Agelaius phoeniceus*	S5	G5				
	X	Brown-headed Cowbird	*Molothrus ater*	S5	G5				
	X	Common Grackle	*Quiscalus quiscula*	S5	G5				
X		Common Yellowthroat	*Geothlypis trichas*	S5B, S3N	G5				
X		Yellow Warbler	*Setophaga petechia*	S5B	G5				
X		Northern Cardinal	*Cardinalis cardinalis*	S5	G5				
	X	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	S5B	G5				
		MAMMALS							
X		Eastern Chipmunk	*Tamias striatus*	S5	G5				
X		Eastern Gray Squirrel	*Sciurus carolinensis*	S5	G5				
X		Red Squirrel	*Tamiasciurus hudsonicus*	S5	G5				
X		Coyote	*Canis latrans*	S5	G5				

Explanation of Status and Acronymns

COSSARO: Committee on the Status of Species at Risk in Ontario
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
S1: Critically Imperiled—Critically imperiled in the province (often 5 or fewer occurrences)
S2: Imperiled—Imperiled in the province, very few populations (often 20 or fewer),
S3: Vulnerable—Vulnerable in the province, relatively few populations (often 80 or fewer)
S4: Apparently Secure—Uncommon but not rare
S5: Secure—Common, widespread, and abundant in the province
SX: Presumed extirpated
SH: Possibly Extirpated (Historical)
SNR: Unranked
SU: Unrankable—Currently unrankable due to lack of information
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
S#B- Breeding status rank
S#N- Non Breeding status rank
?: Indicates uncertainty in the assigned rank
G1: Extremely rare globally; usually fewer than 5 occurrences in the overall range
G1G2: Extremely rare to very rare globally
G2: Very rare globally; usually between 5-10 occurrences in the overall range
G2G3: Very rare to uncommon globally
G3: Rare to uncommon globally; usually between 20-100 occurrences
G3G4: Rare to common globally
G4: Common globally; usually more than 100 occurrences in the overall range
G4G5: Common to very common globally
G5: Very common globally; demonstrably secure
GU: Status uncertain, often because of low search effort or cryptic nature of the species; more data needed.
T: Denotes that the rank applies to a subspecies or variety
Q: Denotes that the taxonomic status of the species, subspecies, or variety is questionable.
END: Endangered
THR: Threatened
SC: Special Concern
NAR: Not At Risk
IND: Indeterminant, insufficient information to assign status
DD: Data Deficient
6: Rare in Site Region 6
7: Rare in Site Region 7

Status in Hamilton Region (2014)
R - Highly significant in Hamilton Region (i.e. rare)
U - Uncommon. Moderately significant in Hamilton Region
C - Common. Present in many locations across the City of Hamilton
M - Migrant. Passes through Hamilton; not known to breed here

TRCA Rankings (2023)
L1 - Regionally scarce due to either accidental occurrence or extreme sensitivity to human impacts
L2 - Somewhat more abundant and generally slightly less sensitive than L1 species
L3 - Generally less sensitive and more abundant than L1 and L2 ranked species

L4 - Species of Urban Concern; occur throughout the region but could show declines if urban impacts are not mitiagted effectively

L5 - Species that are considered secure throughout the region

L+ - Introduced species, not native to the Toronto Region
LX - Extirpated species; species not recorded in the region in the past 10 years
LV - Sporadic breeder ("Vagrant"); species not recorded in the region in the past 10 years
LU - Unknown, the status of the species in the region is unknown due to insufficient data

Status in Halton Region (2006)

Halton (2006)

HR- rare in Halton Region, highly significant

HU- uncommon in Halton Region, moderately significant

Status in Niagara Regional Municipality (2010)

H - Niagara historical only

R - Niagara rare

U - Niagara uncommon

L - Niagara locally signficant

DD - Niagara Data Deficient

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COSEWIC Status

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Significant Wildlife Habitat (SWH) Indicator Species

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Table 3: Ecoregion 7E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
1. SEASONAL CONCENTRATION AREAS OF ANIMALS					
Waterfowl Stopover and Staging Areas (terrestrial)	No – CUM1 and CUT1 vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Waterfowl Stopover and Staging Areas (aquatic)	No – MAM and SWD vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Shorebird Migratory Stopover Areas	No – MAM vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Raptor Wintering Areas	Yes – Forested vegetation communities present within Study Area.	No – Habitat does not meet the minimum size criteria (<20 ha).	No	N/A	Candidate - Potential SWH within adjacent natural areas.
Bat Hibernacula	No – Cave ecosites are absent from the Study Area.	N/A Cave ecosites may be present within Escarpment slopes on adjacent lands.	No	N/A	Candidate - Potential SWH within adjacent natural areas.
Bat Maternity Colonies	Yes – Forested vegetation communities present within Study Area.	Candidate – Snag abundance (>25cm dbh; >10 stems/ha) may be met within woodland feature.	No – no loss of woodland habitat is as a result of proposed development.	N/A	Candidate - Potential SWH within Study Area. No anticipated impacts.
Turtle Wintering Areas	No – MA vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Reptile Hibernacula	Yes – forested vegetation communities present	Yes – Existing dwelling within the Study Area may provide subsurface access below the frost line.	No – proposed development will retain existing dwelling.	N/A	Candidate - Potential SWH within Study Area. No anticipated impacts.
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	No – CUT and CUM vegetation communities absent from the Study Area.	N/A Steep slopes along Niagara Escarpment located on adjacent lands.	No	N/A	Candidate - Potential SWH within adjacent natural areas.
Colonially-Nesting Bird Breeding Habitat (Tree and Shrub)	No – SWD and SWM vegetation communities absent from the Study Area.	N/A Mixed Wader Nesting Colony was identified in NHIC search for area.	No	N/A	Candidate - Potential SWH within adjacent natural areas.
Colonially-Nesting Bird Breeding Habitat (Ground)	No – No rocky islands or peninsulas are present within the Study Area.	N/A	No	N/A	Not Present

Table 3: Ecoregion 7E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
Migratory Butterfly Stopover Areas	No – CUM and CUT vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Landbird Migratory Stopover Areas	Yes – Suitable vegetation communities could be present within non -participating properties.	No - The Study Area is >5 km away from Lake Ontario.	No	N/A	Not Present
Deer Winter Congregation Areas	Yes – Mapping from the MNRF LIO identified deer wintering areas south of the Study Area.	No – Woodlots of >100 ha not present in the Study Area.	No	N/A	Candidate - Potential SWH within adjacent natural areas.
2. RARE VEGETATION COMMUNITIES OR SPECIALIZED HABITAT FOR WILDLIFE					
2a. Rare Vegetation Communities					
Rare Vegetation Types (cliffs, talus slopes, sand barrens, alvars, old-growth forests, savannahs, and tallgrass prairies)	No – Rare vegetation types are not present within the Study Area.	N/A	No	N/A	Not Present
Other Rare Vegetation Types (S1 to S3 communities)	Yes – Forested vegetation community present within Study Area.	Yes – forested community identified as naturally occurring, despite anthropogenic influence	Yes – Ecological Land Classification	No – Forested community was defined as an FOD4 community and is common (S5) in Ontario	Not Present
2b. Specialized Wildlife Habitat					
Waterfowl Nesting Areas	No – MAM vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Yes– Forested vegetation communities present within the Study Area.	No – forested community not directly adjacent to waterbody	No	N/A	Candidate - Potential SWH within adjacent natural areas.
Woodland Raptor Nesting Habitat	Yes – Forested vegetation communities present within the Study Area.	No – The forested vegetation communities do not meet the minimum size criteria (>30 ha with >10 ha interior habitat that is greater than 200 m from the woodland edge).	No	N/A	Candidate - Potential SWH within adjacent natural areas.
Turtle Nesting Areas	No – MAS vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present

Table 3: Ecoregion 7E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
Seeps and Springs	Yes – Suitable vegetation communities may be present.	No – Drainage features not documented within the Study Area.	No	N/A	Candidate - Potential SWH within adjacent natural areas.
Amphibian Breeding Habitat (Woodland)	No – Isolated woodland communities do not contain vernal pools.	N/A	No	N/A	Not Present
Amphibian Breeding Habitat (Wetland)	No – MA and OA vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Woodland Area-Sensitive Bird Breeding Habitat	Yes – FO vegetation communities are present within the Study Area.	No – Vegetation communities do not meet the minimum size criteria (>30 ha with interior habitat >200 m from the woodland edge).	No	N/A	Candidate - Potential SWH within adjacent natural areas.
3. SPECIES OF CONSERVATION CONCERN					
Marsh Bird Breeding Habitat	No – MA vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Open Country Bird Breeding Habitat	No – CUM vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Shrub/Early Successional Bird Breeding Habitat	No – CUT vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Terrestrial Crayfish	No – MAM vegetation communities absent from the Study Area.	N/A	No	N/A	Not Present
Special Concern and Rare Wildlife Species					
i) Barn Swallow (*Hirundo rustica)*	N/A	Candidate– Suitable breeding habitat (e.g., anthropogenic structures) may be present within the non -participating properties.	Yes	Two rounds of breeding bird surveys were conducted on the Subject Lands. Barn Swallows were not documented during survey efforts. Potential nesting associated with existing dwellings.	Candidate - Potential SWH within adjacent natural areas.
ii) Eastern Wood-Pewee (*Contopus virens*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Two rounds of breeding bird surveys were conducted on the Subject Lands. No Easten Wood-Pewee were documented during survey efforts. Potential nesting habitat in woodlands south of York Road.	Candidate - Potential SWH within adjacent natural areas.

Table 3: Ecoregion 7E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
iii) Wood Thrush (*Hylocichla mustelina*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Two rounds of breeding bird surveys were conducted on the Subject Lands. Wood Thrush were not documented during survey efforts. Potential nesting habitat in woodlands south of York Road.	Candidate - Potential SWH within adjacent natural areas.
iv) Tufted Titmouse (*Baeolophus bicolor*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Two rounds of breeding bird surveys were conducted on the Subject Lands. Tufted Titmouse was documented on first round survey data calling from canopy within the woodland on the Subject Lands.	Confirmed SWH within the Significant Woodland feature.
v) Kansas Hawthorn (*Crataegus coccinioides*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Kansas Hawthorn was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
vi) Purple Giant Hyssop (*Agastache scrophulariifolia*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Purple Giant Hyssop was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
vii) Round-leaved Tick-trefoil (*Desmodium rotundifolium*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Round-leaver Tick-trefoil was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
viii) Big-root Morning Glory (*Ipomoea pandurate*)	N/A	Yes – Disturbed forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Big-root Morning Glory was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
ix) Black Snakeroot (*Actaea racemosa*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Black Snakeroot was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.

Table 3: Ecoregion 7E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
x) Hairy Green Sedge (*Carex hirsutella*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Hairy Green Sedge was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xi) Autumn Coralroot (*Corallorhiza odontorhiza*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Autumn Coralroot was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xii) Slim-flowered Muhly (*Muhlenbergia tenuiflora*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Slime-flowered Muhly was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xiii) Woodland Flax (*Linum virginianum*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Woodland Flax was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xiv) Pawpaw (*Asimina triloba*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Pawpaw was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xv) Scarlet Beebalm (*Monarda didyma*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Scarlet Beebalm was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xvi) Biennial Gaura (*Oenothera gaura*)	N/A	No – Suitable prairie or open habitat not present within the Study Area	No	N/A	Not Present

Table 3: Ecoregion 7E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
xvii) Pignut Hickory (*Carya glabra*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Pignut Hickory was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xviii) Black Gum (*Nyssa sylvatica*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Black Gum was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xix) Broad Beech Fern (*Phegopteris hexagonoptera*)	N/A	Yes – Forested habitats are present within the Study Area.	Yes	Botanical inventory completed for the Subject Lands. Broad Beech Fern was not documented despite survey efforts.	Candidate - Potential SWH within adjacent natural areas.
xx) Swamp Rose-mallow (*Hibiscus moscheutos*)	N/A	No – Suitable marsh habitat absent from the Study Area.	No	N/A	Not Present
4. ANIMAL MOVEMENT CORRIDORS					
Amphibian Movement Corridors	N/A	No – Woodland amphibian breeding SWH is not present within the Study Area.	Yes	N/A	Not Present

Species Common Name	Species Scientific Name	Provincial Status (ESA)	S-Rank	Federal Status (SARA Sched. 1)	Ontario Range and Occurrences	Description of Suitable Habitat in Ontario	Habitat Suitability Assessment of Study Area
VASCULAR PLANTS							
American Chestnut	*Castanea dentata*	END	S1S2	END	Over 50% of surviving trees in southern Ontario are found in Elgin, Haldimand and Norfolk counties (Boland et al 2013).	Found only in the Carolinian Zone between Lake Erie and Lake Ontario. Typically grows in upland, deciduous forests in well-drained sandy soils among white and red oaks, black cherry, sugar maple and American beech (MECP 2022; Boland et al. 2012).	Yes - potentially suitable woodlands present on Subject Lands
American Columbo	*Frasera caroliniensis*	END	S2	END	Currently, it is thought that 13 populations exist in Ontario, specifically in Halton, Hamilton, Brant and Niagara (MECP 2022; Bickerton, 2013).	Primarily grows in dry, upland open deciduous forests (MECP 2022). Most known occurrences are along utility and transportation corridors (Bickerton 2013).	Yes - potentially suitable woodlands present on Subject Lands
American Ginseng	*Panax quinquefolius*	END	S2	END	In Canada, it is found in southwestern Quebec and southern Ontario (MECP 2022)	Typically grows in rich, moist, but well-drained, and relatively mature, deciduous woods dominated by Sugar Maple, White Ash and American Basswood. Usually grows in deep, nutrient rich soil over limestone or marble bedrock (MECP 2022)	Yes - potentially suitable woodlands present on Subject Lands
American Hart's-tongue Fern	*Asplenium scolopendrium*	SC	S3	SC	Reports of this fern have been recorded at 100 sites, mostly on the Niagara Escarpment, with about 75 of these believed to still exist (MECP 2022).	In Ontario, most occurrences of Hart's-tongue Fern are in maple-beech forests growing on calcareous rocks. Established plants can grow in rock crevices and on rock outcrops; however, moist, mossy areas seem to be essential for spore germination and early plant development (MECP 2022).	Yes - potentially suitable woodlands present on Subject Lands
Black Ash	*Fraxinus nigra*	END	S4	-	Black Ash occurs throughout most of Ontario, except the Far North, ranging from southern Ontario east to the Quebec border, west to the Manitoba border and north to approximately 51° latitude. Approximately 25% of the global range of Black Ash occurs in Ontario (MECP 2022).	Black Ash is predominantly a wetland species found in swamps, floodplains and fens (MECP 2022).	**No** - potentially suitable swamps are absent from the Subject Lands.
Butternut	*Juglans cinerea*	END	S2?	END	The range of butternut extends through most of the southern and eastern mixed deciduous forests in Ontario except the Bruce Peninsula and Manitoulin Island (MECP 2022)	Found in well-drained, rich soils in valleys or on slopes. Prefers full sun and moist to moderately dry conditions (MECP 2022)	**Yes** - Butternut observed on the Subject Lands
Cucumber Tree	*Magnolia acuminata*	END	S2	END	The cucumber tree is rare in Ontario, confined to only a few locations in Norfolk County and the Niagara Region. A total of 18 populations of Cucumber Tree have been identified in Ontario with approximately 170 to 190 mature trees, plus additional saplings (MECP 2022).	In Ontario, Cucumber Trees are found in upland moist deciduous or mixed forest habitats, where they grow in rich, well-drained soils, often in headwater areas or on rises within low swampy areas (MECP 2022).	Yes - potentially suitable woodlands present on Subject Lands

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Deerberry	*Vaccinium stamineum*	THR	S1	THR	In Canada, it only occurs in two areas in Ontario – the Niagara region and the Thousand Islands region. There are six extant populations of Deerberry in Ontario, five of them in the Thousand Islands region (MECP 2022)	In Canada, Deerberry is found in habitats where the climate is moderated by their proximity to large bodies of water such as the Niagara and St. Lawrence rivers and to Lake Ontario. Within Ontario, Deerberry is found predominately in dry open woods on sandy and well-drained soils growing under oaks, Pitch Pine or White Pine (MECP 2022)	Yes - potentially suitable woodlands present on Subject Lands
Dense Blazing Star	*Liatris spicata*	THR	S2	THR	Dense Blazing Star is found only in southwest Ontario, mainly in the area between Lake St. Clair, Lake Huron and Lake Erie. There are believed to be 11 to 13 populations in the province (MECP 2022).	Dense Blazing Star grows in open, sunny habitats including moist prairies, grassland savannahs, wet areas between sand dunes and abandoned fields (MECP 2022).	No - potentially suitable praire habitat absent from Subject Lands
Eastern Flowering Dogwood	*Cornus florida*	END	S2?	END	Eastern Flowering Dogwood can only be found in southern Ontario in the Carolinian Zone (MECP 2022).	Eastern Flowering Dogwood grows under taller trees in mid-age to mature deciduous or mixed forests. It most commonly grows on floodplains, slopes, bluffs and in ravines and has been found along roadsides and fencerows (MECP 2022).	Yes - potentially suitable woodlands present on Subject Lands
False Hop Sedge	*Carex lupuliformis*	END	S1	END	Seven occurrences of False Hop Sedge are known to persist in southern Ontario (MECP 2022).	False Hop Sedge most often grows in riverine swamps and marshes and around temporary forest ponds. It prefers open areas and areas under forest canopy openings with lots of sunlight (MECP 2022).	No - potentially suitable swamps are absent from the Subject Lands.
Fern-leaved Yellow False Foxglove	*Aureolaria pedicularia*	THR	S2	THR	Fern-leaved Yellow False Foxglove is largely restricted to the Carolinian ecoregion. There are six subpopulations remaining in Ontario which are found in: Hamilton, Halton, Lambton, Norfolk, Niagara. Two additional populations may persist in Brant County and Walpole Island First Nation. About 19 subpopulations have been extirpated including ones in Essex, Waterloo and the city of Toronto (MECP 2022).	Fern-leaved Yellow False Foxglove is found in open savanna and woodland habitats along with Black Oak (Quercus velutina), its preferred host tree (MECP 2022).	No - potentially suitable savanna habitat absent from the Subject Lands
Forked Three-awned Grass	*Aristida basiramea*	END	S2	END	In Canada, Forked Three-awned Grass is found only in southwestern Quebec and southern Ontario, with one likely introduced population found in the Rainy River area of northwestern Ontario (MECP 2022)	Forked Three-awned Grass grows on open, bare ground or in sparsely-covered grassy areas, often in bare spots between patches of other species of grasses. Maintenance of this habitat requires periodic disturbances to prevent other plants from dominating the area (MECP 2022)	No - potentially suitable grassy habitat absent from the Subject Lands
Green Dragon	*Arisaema dracontium*	SC	S3	SC	In Ontario, it is believed to still occur at about 30 to 35 sites in the southwestern part of the province (MECP 2022)	The Green Dragon grows in somewhat wet to wet deciduous forests along streams, particularly maple forest and forest dominated by Red Ash and White Elm trees (MECP 2022)	No - potentially suitable riparian forests absent from Subject Lands
Red Mulberry	*Morus rubra*	END	S2	END	Red Mulberry is only found in the Carolinian Zone near rivers, the shores of Lake Erie and the slopes of the Niagara Escarpment (MECP 2022).	Red Mulberry grows in moist, forested habitats and on both sandy and limestone-based loamy soils. It is often found in areas where the forest canopy is quite open but will tolerate some shade (MECP 2022).	Yes - potentially suitable woodlands present on Subject Lands

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Round-leaved Greenbrier	*Smilax rotundifolia*	THR	S2	THR	The species is found across much of eastern North America from southwestern Nova Scotia to northern Florida, eastern Texas and north to eastern Michigan and southwestern Ontario. As of 2007, thirteen populations were known in Ontario (MECP 2022)	In Ontario, Round-leaved greenbrier is found mainly in the warmer climate of the Carolinian Forest. It prefers open moist to wet woodlands, often growing on sandy soil (MECP 2022)	Yes - potentially suitable woodlands present on Subject Lands
Shumard Oak	*Quercus shumardii*	SC	S3	SC	In Ontario, it grows in Essex, Kent, Elgin and Lambton counties in the southwestern part of the province, and in the Niagara Regional Municipality (MECP 2022)	Shumard oaks prefer moist soils, and can grow close to water and in swampy areas. It typically grows in deciduous forest or along fencerows (MECP 2022)	No - potentially suitable swamps are absent from the Subject Lands.
Spotted Wintergreen	*Chimaphila maculata*	END	S2	END	In Canada, it is only found in a few locations in southern Ontario in Norfolk County and the Niagara Region (MECP 2022)	In Ontario, Spotted Wintergreen occurs in dry oak-pine woodland habitats with sandy soils. Typically, dominant tree species include White Pine, Red Oak, Black Oak, and American Beech. The species does best in semi-open habitats (MECP 2022)	Yes - potentially suitable woodlands present on Subject Lands
Virginia Mallow	*Sida hermaphrodita*	END	S1	END	In Ontario, it is found in only two sites, in Haldimand County, and the Niagara Region (MECP 2022)	Virginia mallow grows in riparian habitats that are flooded in most years. It benefits from this moist environment and is usually found in sunny or partly shaded areas with sandy soils. Loose sandy or rocky soils of scoured riversides and floodplains, and disturbed areas along roadsides and railroad banks are its preferred habitats (MECP 2022).	No - potentially suitable riparian habitat absent from Subject Lands
White Wood Aster	*Eurybia divaricatus*	THR	S2S3	THR	In Canada, it is restricted to a relatively small number of sites in the Niagara region and a few woodlots in southwestern Quebec (MECP 2022)	White wood aster grows in open, dry deciduous forests that are dominated by Sugar maple and American beech trees. The plant does best in well-drained soils and it may prefer a low level of disturbance, as it has been found to grow along trails. It does well in partial to full shade (MECP 2022)	Yes - potentially suitable woodlands present on Subject Lands
INSECTS							
Monarch	*Danaus plexippus*	SC	S2N,S4B	END	In Canada, Monarchs are most abundant in southern Ontario and Quebec where milkweed plants and breeding habitat are widespread (MECP 2022)	Only the caterpillars feed on milkweed plants and are confined to meadows and open areas where milkweed grows. Adult butterflies can be found in more diverse habitats (MECP 2022)	No - Milkweed is present in gardens, but potentially suitable open habitat absent from Subject Lands
Rusty-patched Bumble Bee	*Bombus affinis*	END	S1	END	The species has suffered rapid, severe decline throughout its entire range since the 1970s with only a handful of specimens collected in recent years in Ontario. The only sightings of this bee in Canada since 2002 have been at The Pinery Provincial Park on Lake Huron (MECP 2022).	This bee is found in open habitats such as mixed farmland, urban areas, savannah, open woods and sand dunes. The most recent sightings have been in oak savannah (MECP 2022).	Yes - potentially suitable woodlands present on Subject Lands

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West Virginia White	*Pieris virginiensis*	SC	S3	SC	The majority of sites in the province are in central and southern Ontario, but it also extends north to Manitoulin and St. Joseph islands. The largest populations are in the western Lake Ontario region (MECP 2022)	The West Virginia White lives in moist, deciduous woodlots. This butterfly requires a supply of toothwort, a small, spring-blooming plant that is a member of the mustard family, since it is the only food source for larvae (MECP 2022)	Yes - potentially suitable woodlands present on Subject Lands
Yellow-banded Bumble Bee	*Bombus terricola*	SC	S3S5	SC	The Yellow-banded Bumble Bee ranges from the Mixedwood Plains of southern Ontario to the Hudson Bay Lowlands in the north. In southern Ontario, it is still observed but is less common than it was historically after steep declines. Less is known about historical or recent abundance of Yellow-banded Bumble Bee in the northern portion of its range (MECP 2022).	This species is a forage and habitat generalist, able to use a variety of nectaring plants and environmental conditions. It can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands and urban areas. Nest sites are often underground in abandoned rodent burrows or decomposing logs (MECP 2022).	Yes - potentially suitable woodlands present on Subject Lands
AMPHIBIANS							
Allegheny Mountain Dusky Salamander	*Desmognathus ochrophaeus*	END	S1	END	In Ontario, the species is restricted to the Niagara Gorge in southern Ontario (MECP 2022).	Most often found in or near forested small swamps, springs, or seeps. Typically nest in underground cavities close to seeps, or in shallow depressions in moist soil beneath logs, stones, moss, leaf litter or stumps. Usually absent from larger streams where predatory fish occur (MECP 2022)	No - Subject Lands are in proximity to the Niagara Gorge; but potentially suitable woodlands containing vernal pools are absent
Jefferson Salamander	*Ambystoma jeffersonianum*	END	S2	END	Jefferson salamander is only found in southern Ontario, typically along the Niagara Escarpment (MECP 2022).	Adults live in moist, loose soil, under logs or in leaf litter of deciduous forests. They spend much of their time underground in rodent burrows or under rocks and stumps. They breed in vernal pools and lay their eggs in clumps attached to underwater vegetation (MECP 2022).	No - potentially suitable woodlands containing vernal pools are absent; potentially suitable habitat in surrounding landscape
Unisexual Ambystoma (Jefferson salamander dependent p	*Ambystoma laterale-(2) jeffersoni*	END	S2	END	In Canada, the Unisexual Ambystoma (Jefferson Salamander dependent population) salamanders are restricted to southern Ontario, mainly along the Niagara Escarpment (MECP 2022).	Unisexual Ambystoma salamanders live in leaf litter, under logs and in underground cavities in deciduous and mixed forests, typically within close proximity to breeding habitats. Adults breeds in vernal pools (temporary woodland ponds) or fish-free permanent wetlands. They lay their eggs in clumps attached to underwater vegetation in shallow water (MECP 2022).	No - potentially suitable woodlands containing vernal pools are absent; potentially suitable habitat in surrounding landscape
Northern Dusky Salamander	*Desmognathus fuscus*	END	S1	END	In Ontario, it is restricted to a small area of the Niagara Peninsula (MECP 2022)	Northern dusky salamander adults are mainly found on land, but are always close to small groundwater fed streams, seeps and springs, where they live under rocks, logs or leaf litter within or near water (MECP 2022)	No - potentially suitable woodlands containing vernal pools are absent; potentially suitable habitat in surrounding landscape

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REPTILES							
Blanding's Turtle	*Emydoidea blandingii*	THR	S3	THR	Blanding's Turtles can be found throughout southern, central and eastern Ontario (MECP 2022).	Blanding's Turtles live in shallow water, usually in large wetlands and shallow lakes with lots of water plants. Blanding's Turtles hibernate in the mud at the bottom of permanent water bodies from late October until the end of April (MECP 2022).	**No** - potentially suitable wetlands absent from the Subject Lands.
Common five-lined skink (Carolinian population)	*Plestiodon fasciatus*	END	S2	END	The Five-lined skink is limited to two distinct areas: along the southern margin of the Canadian Shield and in the Carolinian Zone where it is found near the shores of Lakes Erie, St. Clair and Huron (MECP 2022).	There are two populations of Common Five-lined Skink in Ontario, and they each occupy different types of habitat. The Carolinian population can be found under woody debris in clearings with sand dunes, open forested areas and wetlands (MECP 2022).	**No** - Subject Lands not in proximity to known habitat associated with sand dunes.
Eastern Foxsnake (Carolinian population)	*Elaphe gloydi*	END	S2	END	The Eastern Foxsnake is only found in Ontario, Michigan and Ohio. Ontario contains 70 per cent of their range in two distinct populations: the Carolinian population in southwestern Ontario and the eastern Georgian Bay population (MECP 2022)	Eastern Foxsnakes in the Carolinian population are usually found in old fields, marshes, along hedgerows, drainage canals and shorelines. Females lay their eggs in rotting logs, manure or compost piles, which naturally incubate the eggs until they hatch (MECP 2022)	No - suitable marsh/shoreline habitat absent from the Subject Lands
Eastern Hog-nosed Snake	*Heterodon platirhinos*	THR	S3	THR	The Canadian population is limited to Ontario where it can be found in two areas: The Carolinian Region and Great Lakes-St. Lawrence Region (MECP 2022)	The Eastern Hog-nosed Snake specializes in hunting and eating toads, and usually only occurs where toads can be found. Eastern Hog-nosed Snakes prefer sandy, well-drained habitats such as beaches and dry forests where they can lay their eggs and hibernate (MECP 2022)	Yes - potentially suitable woodlands present on Subject Lands
Eastern Ribbonsnake	*Thamnophis sauritus*	SC	S4	SC	In Ontario, this snake occurs throughout southern and eastern Ontario and is locally common in parts of the Bruce Peninsula, Georgian Bay and eastern Ontario (MECP 2022).	The Eastern Ribbonsnake is usually found close to water, especially in marshes, where it hunts for frogs and small fish. These snakes congregate in underground burrows or rock crevices to hibernate over winter (MECP 2022).	No - potentially suitable marsh habitat absent from Subject Lands
Gray Ratsnake (Carolinian population)	*Elaphe obsoleta*	END	S1	END	There are two widely separated populations in Ontario: the Carolinian in southwestern Ontario and the Frontenac Axis in southeastern Ontario (MECP 2022)	The Carolinian population is found in a mix of agricultural land and deciduous forest, preferring habitat where forest meets more open environments (MECP 2022).	Yes - potentially suitable woodlands present on Subject Lands
Snapping turtle	*Chelydra serpentina*	SC	S3	SC	In Ontario, the range of the Snapping Turtle is limited to southern Ontario (MECP 2022).	Snapping Turtles spend most of their lives in water. They prefer shallow waters so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe. During the nesting season, from early to mid summer, females travel overland in search of a suitable nesting site, usually gravelly or sandy areas along streams (MECP 2022).	No - potentially suitable open water habitat absent from Subject Lands

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Wood Turtle	*Glyptemys insculpta*	END	S2	THR	In Ontario, Wood Turtles have been found in three separate regions of the province (MECP 2022).	The Wood Turtle prefers clear rivers, streams or creeks with a slight current and sandy or gravelly bottom. `It spends more time on land and the shores of watercourses than other native Ontario turtles. Wooded areas are essential habitat for the Wood Turtle, but they are found in other habitats, such as wet meadows, swamps and fields. Wood Turtles overwinter on stream bottoms (MECP 2022).	No - potentially suitable riparian habitat absent from Subject Lands
BIRDS							
Acadian Flycatcher	*Empidonax virescens*	END	S2S3B	END	In Ontario, the Acadian Flycatcher primarily lives in the warmer climate of southern Ontario's Carolinian forests. It needs large, undisturbed forests, often more than 40 hectares in size. It has also been known to nest at a few sites in the Greater Toronto Area but this is unusual. The Acadian Flycatcher population in Ontario is very small, with 25 to 75 breeding pairs recorded in 2010 (MECP 2022).	Typically found in mature, shady forests with ravines, or in forested swamps with a lot of maple and beech trees. Nests are placed at the tip of lower limbs on a tree and formed by loosely woven plant material. Acadian Flycatchers nest only in southwestern Ontario, mostly in large forests and forested ravines near the shore of Lake Erie (MECP 2022).	Yes - potentially suitable woodlands present in adjacent woodlands
Barn Owl	*Tyto alba*	END	S1	END	In Canada, the species breeds only in extreme southern Ontario and British Columbia (MECP 2022)	The Barn Owl cannot tolerate severe winter temperatures, and southern Ontario is the northern limit of its range. Breeding sites in Ontario seem to be restricted to areas with the moderating effects of the Great Lakes (within 50 kilometres of the lakes) (MECP 2022)	No - potentially suitable nest cavities absent from Subject Lands
Bank Swallow	*Riparia riparia*	THR	S4B	THR	Found across southern Ontario, with sparcer populations scattered across northern Ontario. The largest populations are found along the Lake Erie and Lake Ontario shorelines, and the Saugeen River (MECP 2022)	Bank swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable (MECP 2022)	**No** - potentially suitable river bank habitats absent from Subject Lands.
Barn Swallow	*Hirundo rustica*	SC	S4B	THR	The Barn Swallow may be found throughout southern Ontario and can range as far north as Hudson Bay, wherever suitable locations for nests exist (MECP 2022).	Barn Swallows often live in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. The species is attracted to open structures that include ledges where they can build their nests, which are often re-used from year to year. They prefer unpainted, rough-cut wood, since the mud does not adhere as well to smooth surfaces (MECP 2022).	**Yes** - potentially suitable anthropogenic structures (residential dwellings, barns, outbuildings) are present within the Subject Lands.
Black Tern	*Chlidonias niger*	SC	S3B		Black Terns are found scattered throughout the province but breed mainly in the marshes along the edges of the Great Lakes (MECP 2022).	Black Terns build floating nests in loose colonies in shallow marshes, especially in cattails (MECP 2022).	No - potentially suitable marsh habitat absent from Subject Lands

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Bobolink	*Dolichonyx oryzivorus*	THR	S4B	THR	Bobolink is widespread in Ontario and is found throughout the province, generally south of the boreal forest (MECP 2022).	Historically, Bobolinks lived in North American tallgrass prairie and other open meadows. With the clearing of native prairies, Bobolinks moved to living in hayfields. Bobolinks often build their small nests on the ground in dense grasses. Both parents usually tend to their young, sometimes with a third Bobolink helping (MECP 2022).	**No** - potentially suitable grasslands are not present within the Subject Lands.
Canada Warbler	*Cardellina canadensis*	SC	S4B	THR	Its primary breeding range is in the Boreal Shield, extending north into the Hudson Plains and south into the Mixedwood Plains. Although the Canada Warbler breeds at low densities across its range, in Ontario, it is most abundant along the Southern Shield (MECP 2022)	The Canada Warbler breeds in a range of deciduous and coniferous, usually wet forest types, all with a well-developed, dense shrub layer. Dense shrub and understory vegetation help conceal Canada Warbler nests that are usually located on or near the ground on mossy logs or roots, along stream banks or on hummocks (MECP 2022)	Yes - potentially suitable habitat in adjacent woodlands
Cerulean Warbler	*Dendroica cerulea*	THR	S3B	END	There are two distinct bands of Cerulean Warbler: one band range is from southern Lake Huron to western Lake Ontario and a bit further north; the second band range is from the Bruce Peninsula/Georgian Bay to the Ottawa River (MECP 2022).	Cerulean Warblers breed in mature deciduous forests that contain large, tall trees with an open understorey (MECP 2022).	Yes - potentially suitable woodlands present on Subject Lands
Chimney Swift	*Chaetura pelagica*	THR	S4B,S4N	THR	In Ontario, the species is most widely distributed in the Carolinian zone in the south and southwest of the province, but has been detected throughout most of the province south of the 49th parallel (MECP 2022).	They are more likely to be found in and around urban settlements where they nest and roost (rest or sleep) in chimneys and other manmade structures. They also tend to stay close to water as this is where the flying insects they eat congregate (MECP 2022).	**Yes** - potentially suitable anthropogenic structures which may contain chimneys are present within the Subject Lands.
Common Nighthawk	*Chordeiles minor*	SC	S4B	THR	In Canada, the species is found in all provinces and territories except Nunavut. In Ontario, the Common Nighthawk occurs throughout the province except for the coastal regions of James Bay and Hudson Bay (MECP 2022)	Traditional Common Nighthawk habitat consists of open areas with little to no ground vegetation, such as logged or burned-over areas, forest clearings, rock barrens, peat bogs, lakeshores, and mine tailings. Although the species also nests in cultivated fields, orchards, urban parks, mine tailings and along gravel roads and railways, they tend to occupy natural sites (MECP 2022)	No - potentially suitable open areas absent from Subject Lands
Eastern Meadowlark	*Sturnella magna*	THR	S4B	THR	Eastern Meadowlark is widespread in Ontario and found mostly south of the Canadian Shield (MECP 2022).	Eastern Meadowlarks breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs or fence posts are used as elevated song perches (MECP 2022).	**No** - potentially suitable grasslands are not present within the Subject Lands.
Eastern Whip-poor-will	*Caprimulgus vociferus*	THR	S4B	THR	In Ontario they breed as far north as the shore of Lake Superior. Although Eastern Whip-poor-wills were once widespread throughout the central Great Lakes region of Ontario, their distribution in this area is now fragmented (MECP 2022).	The Eastern Whip-poor-will is usually found in areas with a mix of open and forested areas, such as savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests (MECP 2022)	**No** - The Subject Lands lack open woodlands or Savannahs.

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Eastern Wood-Pewee	*Contopus virens*	SC	S4B	SC	The eastern wood-pewee is found across most of southern and central Ontario, and in northern Ontario as far north as Red Lake, Lake Nipigon and Timmins (MECP 2022)	The eastern wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation (MECP 2022)	Yes - potentially suitable woodlands present on Subject Lands
Grasshopper Sparrow	*Ammodramus savannarum*	SC	S4B		The Grasshopper Sparrow can be found throughout southern Ontario, but only occasionally on the Canadian Shield. It is most common where grasslands, hay or pasture dominate the landscape (MECP 2022).	It lives in open grassland areas with well-drained, sandy soil. It will also nest in hayfields and pasture, as well as alvars, prairies and occasionally grain crops such as barley. It prefers areas that are sparsely vegetated. Its nests are well-hidden in the field and woven from grasses in a small cup-like shape (MECP 2022).	**No** - potentially suitable grasslands are not present within the Subject Lands.
Henslow's Sparrow	*Ammodramus henslowii*	END	SHB	END	A few are still seen each spring at migration hotspots such as Point Pelee National Park, and a few may breed at selected locations (MECP 2022)	Henslow's Sparrow breed in open grassland habitats with tall grasses, flowering plants and few, scattered shrubs. It has also been found in abandoned farm fields, pastures, and wet meadows. It tends to avoid fields that have been grazed or are crowded with trees and shrubs. It prefers extensive, dense, tall grasslands where it can more easily conceal its small ground nest (MECP 2022).	**No** - potentially suitable grasslands are not present within the Subject Lands.
Least Bittern	*Ixobrychus exilis*	THR	S4B	THR	Least Bittern are mostly found in central and eastern Ontario, south of the Canadian Shield (MECP 2022).	In southern Ontario, Least Bittern inhabit wetlands but strongly prefer cattail marshes with open water and channels (MECP 2022).	**No** - potentially suitable cattail wetlands absent from Subject Lands.
Louisiana Waterthrush	*Seiurus motacilla*	SC	S3B	THR	Louisiana Waterthrush breeds in southern Ontario, along the Niagara Escarpment, in woodlands along Lake Erie and scattered locations elsewhere (MECP 2022).Also known from the Frontenac Axis of Eastern Ontario (P. Burke 2016)	The Louisiana Waterthrush is usually found in steep, forested ravines with fast-flowing clear, coldwater streams. It also less frequently inhabits heavily wooded, deciduous swamps with large pools of open water (MECP 2022).	Yes - potentially suitable habitat in adjacent woodlands
Prothornatory Warbler	*Protonaotaria citrea*	END	S1B	END	In Canada, the Prothonotary warbler is only known to nest in southwestern Ontario, primarily along the north shore of Lake Erie. Over half of the small and declining population is found in Rondeau Provincial Park. In Ontario, the Prothonotary warbler is found in the warmer climate of the Carolinian deciduous forests. In 2005, it was estimated that there were only between 28-34 individuals in Ontario (MECP 2022).	The Prothornatory Warbler nests in small, shallow holes, found low in the trunks of dead or dying trees standing in or near flooded woodlands or swamps. They will also readily use properly placed artificial nest boxes (MECP 2022).	No - potentially suitable woodland swamps absent from Subject Lands
Wood Thrush	*Hylocichla mustelina*	SC	S4B	THR	The wood thrush is found all across southern Ontario. It is also found, but less common, along the north shore of Lake Huron, as far west as the southeastern tip of Lake Superior. There is a very small population near Lake of the Woods in northwestern Ontario, and there have been scattered sightings in the mixed forest of northern Ontario (MECP 2022)	The wood thrush lives in mature deciduous and mixed (conifer-deciduous) forests. They seek moist stands of trees with well-developed undergrowth and tall trees for singing perches. These birds prefer large forests, but will also use smaller stands of trees. They build their nests in living saplings, trees or shrubs, usually in sugar maple or American beech (MECP 2022)	Yes - potentially suitable woodland habitat present on Subject Lands

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Yellow-breasted Chat	*Icteria virens*	END	S2B	END	The Yellow-breasted Chat is concentrated in Point Pelee National Park and Pelee Island in Lake Erie (MECP 2022).	The Yellow-breasted Chat lives in thickets and scrub, especially locations where clearings have become overgrown (MECP 2022).	No - potentially suitable thicket habitat absent from Subject Lands
MAMMALS							
Eastern Red Bat	*Lasiurus borealis*	END	S3	-	Eastern Red bat is found in most of Ontario, with high occurrence of fatalities associated with wind energy farms (COSSARO 2024)	Eastern Red bat is a Migratory species that overwinters in southern US. In the summer, foraging, drinking and roosting primarily occur in the foliage of deciduous trees in deciduous or coniferous forests.	Yes - potentially suitable woodlands and anthropogenic structures (i.e., barns) are present within the Subject Lands.
Eastern Small-footed Myotis	*Myotis leibii*	END	S2S3	-	The eastern small-footed bat has been found from south of Georgian Bay to Lake Erie and east to the Pembroke area. There are also records from the Bruce Peninsula, the Espanola area, and Lake Superior Provincial Park (MECP 2022)	In the spring and summer, eastern small-footed bats will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. In the winter, these bats hibernate, most often in caves and abandoned mines. They seem to choose colder and drier sites than similar bats and will return to the same spot each year (MECP 2022)	**Yes** - potentially suitable woodlands and anthropogenic structures (i.e., barns) are present within the Subject Lands.
Hoary Bat	*Lasiurus cinereus*	END	S3	-	Hoary bat is widespread in Canada and has been documented in every province. In Ontario, range covers the whole province, except most northern edge of Hudson Bay (COSSARO 2024)	Roosting occurs among the foliage of deciduous and coniferous trees.	Yes - potentially suitable woodlands and anthropogenic structures (i.e., barns) are present within the Subject Lands.
Little Brown Myotis	*Myotis lucifugus*	END	S4	END	Widespread in southern Ontario and found as far north as Moose Factory and Favourable Lake (MECP 2022)	Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown bats hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing (MECP 2022).	**Yes** - potentially suitable woodlands and anthropogenic structures (i.e., barns) are present within the Subject Lands.
Northern Myotis	*Myotis septentrionalis*	END	S3	END	The northern long-eared bat is found throughout forested areas in southern Ontario, to the north shore of Lake Superior and occasionally as far north as Moosonee, and west to Lake Nipigon (MECP 2022)	Northern long-eared bats are associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April, most often in caves or abandoned mines (MECP 2022).	**Yes** - potentially suitable woodlands and anthropogenic structures (i.e., barns) are present within the Subject Lands.
Silver-haired Bat	*Lasionycteris noctivagans*	END	S3	-	In Ontario, Silver-haired bat occurs across the province and north to the Hudson Bay Lowlands.	Silver-haired bat primarily roosts under bark and in cavities of decaying, large diameter deciduous or coniferous trees. They will occassionally roost in anthropogenic structures; especially during migration.	Yes - potentially suitable woodlands and anthropogenic structures (i.e., barns) are present within the Subject Lands.

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Tri-colored Bat	*Perimyotis subflavus*	END	S2S3	END	This bat is found in southern Ontario and as far north as Espanola near Sudbury. Because it is very rare, it has a scattered distribution (MECP 2022).	During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They overwinter in caves where they typically roost by themselves rather than part of a group (MECP 2022).	**Yes** - potentially suitable woodlands and anthropogenic structures (i.e., barns) are present within the Subject Lands.

Appendix C

Site Photos

Photographic Record

Photo 1 – Front yard of existing dwelling.

Photo 2 – Driveway of existing dwelling.

Photo 3 – Back yard of dwelling; woodland feature in photo background.

Photo 4 – Back yard from the bottom of the slope; existing dwelling in photo background.

APPENDIX C

Natural Heritage Evaluation

2052 York Road, NOTL

July 25, 2025

PHOTOGRAPHIC RECORD

GEI Consultants Canada

Photo 5 – Transition from manicured back yard to woodland.

Photo 6 – Existing conditions within woodland feature.

Photo 7 – Existing conditions within woodland feature; yard waste and vegetable garden in photo background located at the edge of the woodland feature.

Photo 8 – Existing conditions within existing woodland along north property boundary; non-native groundcover on the property (left side of photo).

APPENDIX C

Natural Heritage Evaluation

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