Scoped Environmental Impact Study

10249 Hunsden Sideroad

Caledon, Ontario

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1. Introduction

GEI Consultants (GEI) was retained by Carringwood Homes to prepare an Environmental Impact Study (EIS) in support of a proposed residential development on lands known as 10249 Hunsden Sideroad (herein referred to as the Subject Lands), within the Town of Caledon, Ontario (**Figure 1, Appendix A**). The Subject Lands are legally known as Part Lots 25 and 26, Concession 9 Albion.

The Subject Lands presently consist predominantly of row-crop agricultural lands, currently planted in soy, with surrounding mature woodland communities within the southern and northeastern extents of the Subject Lands. The Subject Lands are situated within the Palgrave Estates Residential Community Secondary Plan area within the Town of Caledon, ON. The surrounding lands consist of a mixture of agricultural lands to the north, continuations of the natural areas present on the Subject Lands, a recently developed residential subdivision to the south, and rural residential lots.

A scoped EIS is required to assess the potential impacts of the proposed development on the natural heritage features and associated ecological functions on the Subject Lands. This report provides a characterization of the existing natural heritage conditions of the Subject Lands based on ecological investigations completed in 2021 and 2022.

This work considers applicable provincial and municipal requirements and policies including reference to the natural heritage policies of the Province of Ontario's Provincial Policy Statement (PPS; MMAH 2020) and associated provincial implementation guidance contained in the Natural Heritage Reference Manual (NHRM; MNR 2010).

This scoped EIS is a requirement of the municipal planning process and is intended to address the policies of the Town of Caledon, Region of Peel, and the Nottawasaga Valley Conservation Authority (NVCA).

The study components to date, have included:

- A review of existing background information, policies and legislation applicable to the Subject Lands in its regional context;
- A field review and description of the natural environmental features and functions on, and immediately adjacent to, the Subject Lands through the completion of various ecological surveys and inventories;
- Identification and delineation of key natural heritage features (KNHF) and key hydrologic features (KHF) in accordance with the ORMCP;
- An evaluation of the sensitivity of the natural heritage features and their functions on the Subject Lands;
- An assessment of linkage functions between the identified natural heritage features;
- A description of the proposed development based on the Draft Plan;
- Identification and discussion of the impacts that could affect the natural heritage features as a result of the proposed development; and
- Recommendations for mitigation to avoid or minimize impacts.

2. Natural Heritage Planning Considerations

The Subject Lands are subject to federal, provincial, and municipal legislation as well as land use policies established by the Town of Caledon, and the NVCA.

An assessment of the quality and extent of natural heritage features found on and adjacent to the Subject Lands was completed. Ecological opportunities and constraints to development were evaluated in the context of the requirements of the following regulatory agencies, local and regional municipalities, and/or legislation:

- Town of Caledon Official Plan (TCOP; 2018 Office Consolidation);
- Region of Peel Official Plan (ROP; 2022);
- Oak Ridges Moraine Conservation Plan (ORMCP; 2017)
- Provincial Policy Statement (PPS; 2020);
- Nottawasaga Valley Conservation Authority (NVCA); and
- Provincial *Endangered Species Act*, *2007* (ESA; 2007).

The relevant portions of each of these, as they apply to the Subject Lands and the development potential, are discussed in the following sections.

2.1 Town of Caledon Official Plan (TCOP)

The Subject Lands are situated within the limits of the Palgrave Estate Residential Community Secondary Plan Area. The secondary plan for this area provides protection from development to woodlots, wetlands and other ecologically significant areas, including valley and stream corridors (Policy 7.1.2.3), ORMCP Key Natural Heritage Features (KNHF) and Hydrologically Sensitive Features (also referred to as key hydrologic features, KHF) (Policy 7.1.2.12), and ORMCP Natural Core and Natural Linkage Areas (Policy 7.1.2.13).

Schedule G of the TCOP shows the Subject Lands situated within a mixture of Policy Areas 2, 3 and 4. Per TCOP Policies within section 7.1.5, Policy Areas 2 and 3 correspond with ORMCP Countryside Areas and are suitable for estate residential development, while Policy Area 4 corresponds with ORMCP Natural Core and Natural Linkage Areas and is unsuitable for estate residential development.

Schedule I of the TCOP shows the Subject Lands contain settlement area with Environmental Zone 1 (EZ1) and Environmental Zone 2 (EZ2) Designations. Per TCOP Policy 7.1.9, EZ1 designations includes all ORMCP KNHF and KHF, and their related Minimum Vegetation Protection Zones (MVPZ), along with more sensitive biological communities, valley and stream corridors and their associated floodplains, native upland and lowland woodlands, natural waterbodies, Provincially and locally significant wetlands, and Environmentally Significant/ Sensitive Areas along with other features of local or regional importance. EZ2 Designations are locations with high groundwater table, seasonal flooding, dry swale lowlands and natural depressions performing natural run-off, detention and groundwater recharge functions, and smaller hedgerows and strips of native vegetation. Though general mapping is provided within Schedule I, the actual limits of the features are to be determined through detailed studies, including Natural Heritage Evaluations (NHE) and/or Hydrological Evaluations.

The TCOP notes that development is not permitted within areas designated as EZ1, while limited development may be permitted within areas designated as EZ2, such as crossing of a narrow point of EZ2 with a driveway to permit reasonable access to a development lot.

2.2 Region of Peel Official Plan

The ROP implements the PPS natural features policies through the Greenlands System's Core Areas, Natural Areas and Corridors (NAC) and Potential Natural Areas and Corridors (PNAC) policy framework. The ROP natural heritage policies and identifies the following components as Core Areas (Schedule A) of the Peel Greenlands system (section 2.14.12):

- Significant wetlands;
- Significant coastal wetlands;
- Core woodlands meeting one or more criteria in Table 1 (of the ROP);
- Environmentally Sensitive or Significant Areas;
- Provincial Life Science Areas of Natural and Scientific Interest (ANSIs);
- Significant habitats of threatened and endangered species;
- Escarpment Naturals Areas of the Niagara Escarpment Plan; and
- Core Valley and Stream corridors meeting one or more criteria in Table 2 (of the ROP).

The ROP further identifies the following components as NAC (2.14.18):

- Evaluated non-provincially significant wetlands and coastal wetlands;
- Woodlands meeting one or more of the criteria for NAC woodland in Table 1 (of the ROP);
- Significant wildlife habitat;
- fish habitat;
- habitat of aquatic species at risk;
- habitat of endangered and threatened species defined in accordance with the *Endangered Species Act*;
- regionally significant life science ANSIs;
- provincially significant earth science ANSIs;
- Escarpment Protection Areas of the Niagara Escarpment Plan;
- the Lake Ontario shoreline and littoral zone and other natural lakes and their shorelines;
- any other valley and stream corridors that have not been defined as part of the Core Areas;
- sensitive headwater areas and sensitive ground water discharge areas; and
- any other natural features and functional areas interpreted as part of the Greenlands System NAC by the local municipalities, in consultation with the conservation authorities and the Ministry of Northern Development, Mines, Natural Resources and Forestry, including, as appropriate, elements of the PNAC.

PNAC are defined in the ROP as the following components (2.14.19):

- unevaluated wetlands and coastal wetlands;
- cultural woodlands and cultural savannahs within the Urban System meeting one or more of the criteria for PNAC woodland in Table 1 (of the ROP). The evaluation of cultural woodlands and cultural savannahs is also subject to Policy 2.14.29 of the ROP;

- any other woodlands greater than 0.5 hectares;
- regionally significant earth science ANSIs;
- sensitive ground water recharge areas;
- portions of Historic shorelines;
- open space portions of the Parkway Belt West Plan Area;
- enhancement areas, buffers and linkages; and
- any other natural features and functional areas interpreted as part of the Greenlands System PNAC, by the individual local municipalities in consultation with the conservation authorities.

Schedule C2 of the ROP identifies the woodland situated at the southern extent of the Subject Lands as Core Area of the Regional Greenlands System, while Schedule C1 shows the limits of the Regional Greenlands System extending north to an east-west corridor along Hunsden Sideroad. Figure 7 of the ROP shows NAC associated with the woodlands in the northeast corner of the Subject Lands, and PNAC associated with the woodland west of the Subject Lands. The remaining areas of the Subject Lands are identified as within the limits of the Palgrave Estate Residential Community.

2.3 Oak Ridges Moraine Conservation Plan

The Subject Lands occur within the Oak Ridges Moraine physiographic region. The Subject Lands contain a mixture of Natural Linkage Area as well as Countryside Areas within the Palgrave Estate Residential Community.

The purpose of Natural Linkage Areas is to protect critical natural and open space linkages between the Natural Core Areas and along rivers and streams and maintain and where possible improve or restore the ecological integrity of the Plan Area. Applications must ensure connectivity between KNHF and KHF is maintained within and adjacent to the Natural Linkage Areas.

Residential development is expressly permitted within Palgrave Estates Residential Community of the Countryside Area of the ORMCP subject to the requirements of the Town of Caledon Official Plan, and various sections within the ORMCP.

A NHE and a hydrological evaluation are required with respect to the development of land within the minimum area of influence, but outside the related MVPZ of a KNHF or KHF, respectively.

The ORMCP defines KNHF and KHF and stipulates where development is or is not permitted.

KNHF are defined in Section 22(1) as one or more of the following:

- Wetlands;
- Habitat of endangered and threatened species;
- Fish habitat;
- ANSI (life science);

- Significant valleylands;
- Significant woodlands;
- Significant wildlife habitat (including habitat of special concern species); and/or
- Sand barrens, savannahs and tallgrass prairies.

KHF are defined in Section 26(1) as:

- Permanent and intermittent streams;
- Wetlands;
- Kettle Lakes; and
- Seepage areas and springs.

2.4 Provincial Policy Statement

The PPS (2020) 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.

Policies in section 2.1 (Natural Heritage) of the PPS identify eight types of significant natural heritage features, as follows:

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

Development and site alteration shall not be permitted in significant wetlands or significant coastal wetlands. Development and site alteration shall not be permitted in significant woodlands, significant valleylands, SWH or significant ANSIs, unless it is demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Development and site alteration shall not be permitted in the habitat of endangered and threatened species or in fish habitat, except in accordance with provincial and federal requirements. Development and site alteration may be permitted on lands adjacent to fish habitat provided it has been demonstrated that there will be no negative impacts on the natural feature or their ecological functions.

2.5 Nottawasaga Valley Conservation Authority

The NVCA conducts reviews of planning processes associated with future development of properties within its jurisdictional boundaries. In addition, the NVCA provides planning and technical advice to planning authorities to assist them in fulfilling their responsibilities regarding natural hazards and wetlands and other relevant policy areas pursuant to the Planning Act as a watershed-based resource management agency, in addition to their Regulatory responsibilities. The Regulation Limit delineates hazardous lands, wetlands, shorelines and areas susceptible to flooding and associated allowances.

Pursuant to the Development, Interference with Wetland and Alterations to Shorelines and Watercourse Regulation (NVCA; Ontario Regulation 172/06), any development in or on areas defined in the Regulation (e.g., river or stream valleys, hazardous land, wetlands) requires permission from the Conservation Authority. The Conservation Authority may grant permission for development in or on these areas if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development. The Regulation also states that it is prohibited to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or change or interfere in any way with a wetland without permission from the Conservation Authority.

Per NVCA's interactive map viewer, a tributary of Beeton Creek enters the Subject Lands near the existing residence on the property. This tributary, and its associated floodplain, is identified as regulated area by the NVCA. Based on existing mapping, the regulated area is limited to the woodland in the northeastern corner of the property.

2.6 Provincial *Endangered Species Act, 2007*

The provincial ESA was developed to:

- Identify Species at Risk (SAR), based upon best available science;
- Protect SAR and their habitats and to promote the recovery of SAR; and
- Promote stewardship activities that would support those protection and recovery efforts.

The ESA protects all threatened, endangered and extirpated species listed on the Species at Risk in Ontario (SARO) list. These species are legally protected from harm or harassment and their associated habitats are legally protected from damage or destruction, as defined under the ESA.

3. Data Collection and Analyses

3.1 Background References

GEI has relied, in part, upon supporting background information to provide additional insight into the overall character of the Subject Lands. These resources included:

- MNRF Land Information Ontario (LIO) Natural Features Mapping;
- Natural Heritage Information Centre (NHIC) database;
- Provincial wildlife atlases (i.e., Ontario Breeding Bird Atlas, etc.);
- Citizen Science Databases (i.e., iNaturalist and eBird);
- DFO Aquatic Species at Risk Distribution Mapping; and
- Innisfil Creek Subwatershed Health Check 2023 (NVCA 2023).

The results of these background reviews are discussed in the following sections.

3.1.1 Land Information Ontario

Based on the Ministry of Natural Resources and Forestry (MNRF) Land Information Ontario (LIO) geographic database, the following features were identified on or adjacent to the Subject Lands (**Figure 1, Appendix A**):

- Woodlands;
- Tributary of Beeton Creek; and
- ORMCP Natural Linkage Area.

3.1.2 Natural Heritage Information Centre

The Natural Heritage Information Centre (NHIC) database (MNRF 2023) was searched for records of provincially significant plants, vegetation communities and wildlife on, and in the vicinity of the Subject Lands. The database provides occurrence data by 1 km^2 area squares, with 4 squares overlapping at least a portion of the Subject Lands (17NJ9569, 17NJ9669, 17NJ9668, 17NJ9568). Within these squares, the search revealed 11 records, the following records are considered as current occurrences in this reporting:

- Species listed as Threatened or Endangered on the Species at Risk in Ontario (SARO) list:
    - Eastern Meadowlark (*Sturnella magna*) – Threatened in Ontario; and
    - Bobolink *(Dolichonyx oryzivorus)* – Threatened in Ontario;
- Species of Conservation Concern (i.e., listed as Special Concern on the SARO list, or identified as an S1-S3 species):
    - Lilypad Clubtail (*Arigomphus furcifer*) – S3 species
    - Nerveless Kuhlenberg's Sedge (*Carex muehlenbergii var. enervis*) – S1/S2 species

3.1.3 Ontario Breeding Bird Atlas

The Ontario Breeding Bird Atlas (OBBA) contains detailed information on the population and distribution status of Ontario birds (Bird Studies Canada et al. 2006). The data is presented on 100 km^2 area squares with one square overlapping a portion of the Subject Lands (17NJ96). It should be noted that the Subject Lands are a small component of the overall bird atlas square, and therefore it is unlikely that all bird species are found within the Subject Lands. Habitat type, availability and size are all contributing factors in bird species presence and use.

A total of 129 species were recorded in the atlas squares that overlap with the Subject Lands, with the following species of interest noted:

- Species listed as Threatened or Endangered on the SARO list:
    - Bank Swallow (*Riparia riparia*) – Threatened;
    - Bobolink – Threatened;
    - Chimney Swift (*Chaetura pelagica*) – Threatened;
    - Eastern Meadowlark – Threatened;
    - Eastern Whip-poor-will (*Antrostomus vociferus*) – Threatened;
    - Least Bittern (*Ixobrychus exilis*) – Threatened; and
    - Red-headed Woodpecker (*Melanerpes erythrocephalus*) – Endangered.
- Species of Conservation Concern (i.e., listed as Special Concern on the SARO list, or identified as an S1-S3 species):
    - Barn Swallow (*Hirundo rustica*) – Special Concern;
    - Common Nighthawk (*Chordeiles minor*) – Special Concern;
    - Eastern Wood-Pewee (*Contopus virens*) – Special Concern;
    - Grasshopper Sparrow (*Ammodramus savannarum*) – Special Concern;
    - Golden-winged Warbler (*Vermivora chrysoptera*) – Special Concern;
    - Wood Thrush (*Hylocichla mustelina*) – Special Concern;
    - Common Gallinule (*Gallinula galeata*) - S3B;
    - Purple Martin (*Progne subis*) – S3B; and
    - Blue-winged Teal (*Anas discors*) - S3B, S4M.

3.1.4 Ontario Reptile and Amphibian Atlas

The Ontario Reptile and Amphibian Atlas contains detailed information on the population and distribution status of Ontario herpetofauna (Ontario Nature 2020). The data are presented on 100 km^2 area squares with 1 square overlapping a portion of the Subject Lands (17NJ96). It should be noted that the Subject Lands are a small component of the overall atlas square, and therefore it is unlikely that all herpetofauna species are found within the Subject Lands. Habitat type, availability and size are all contributing factors in herpetofauna species presence and use.

A total of 20 species was recorded in the atlas squares that overlap with the Subject Lands, of which 4 are salamander species, 10 are frog and toad species, 2 are turtle species and 4 are snake species. Of these species, the following species of interest are noted:

- Species of Conservation Concern (i.e., listed as Special Concern on the SARO list, or identified as an S1-S3 species):
    - Snapping Turtle (*Chelydra serpentina*) – Special Concern.

3.1.5 Ontario Butterfly and Moth Atlas

The Ontario Butterfly and Moth Atlases (Toronto Entomologists' Association 2023, 2020), contain detailed information on the population and distribution status of Ontario butterflies and moths. The data are presented on 100 km^2 area squares with 1 square overlapping a portion of the Subject Lands (17NJ96). It should be noted that the Subject Lands are a small component of the overall atlas square, and therefore it is unlikely that all butterfly and moth species are found within the Subject Lands. Habitat type, availability and size are all contributing factors in butterfly and moth species presence and use.

A total of 63 species were recorded in the atlas squares that overlap with the Subject Lands, of which 44 are butterfly species and 19 are moth species. Of these species, only one species of conservation concern was identified; Monarch *(Danaus plexippus*), listed as Special Concern.

3.1.6 Citizen Science Database (iNaturalist)

The iNaturalist (2023) database is a large citizen science-based identification and data collection app. It allows any citizen to submit observations to be reviewed and identified by other naturalists and scientists to help provide accurate species observations. As the 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.

This online database was examined to identify observations made within the Subject Lands that were research grade. However, no significant species were found on the Subject Lands or within 120 meters of its boundaries.

3.1.7 Citizen Science Database (eBird)

The eBird (2023) database is a large citizen science-based project with a goal to gather bird diversity information in the form of checklists of birds, archive it, and share it to power new data-driven approaches to science, conservation and education. As the 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.

This online database was examined to identify observations made within the Subject Lands. However, no significant bird species were found on the Subject Lands or within 120 meters of its boundaries.

3.1.8 Aquatic Species at Risk Distribution Mapping

Aquatic species at risk distribution mapping (DFO 2023) was reviewed to identify any known occurrences of aquatic SAR, including fish and mussels, within the subwatershed where the Subject Lands are located.

No aquatic SAR habitats were identified on or within 120 m of the Subject Lands or within the subwatershed.

3.1.9 *Innisfil Creek Subwatershed Health Check 2023*

The NVCA prepares watershed health checks, and a report was prepared for the Innisfil Creek subwatershed in 2023 (NVCA 2023). The report provides a high level overview of the state of the subwatershed, with the following observations noted:

- Forest cover within the subwatershed is generally poor, primarily due to the high quality of the land to support agricultural landscapes. Large stands are restricted to wetland communities (Cookstown Hollows Swamp and Bailey Creek Swamp Forest) and the scatted stands within the Oak Ridges Moraine, including those present on the Subject Lands. The woodland community that overlaps the southern portion of the Subject Lands is shown as containing interior forest habitat. The adjacent CUP woodland is also identified as 'forest gained' between 2008 and 2018. In addition, a natural corridor for wildlife movement is shown generally in an east-west direction through the woodland communities across the Oak Ridges Moraine, with the greatest connectivity shown north of the Subject Lands.
- Wetland habitats within the subwatershed are generally fair to poor when compared to Environment Canada's targets; no wetlands are identified in the vicinity of the Subject Lands.
- The Subject Lands eventually drain through tributaries towards Beeton Creek near Tottenham to the north of the Subject Lands. Beeton Creek is generally mapped as impaired to below potential stream health.
- The Subject Lands are mapped as being within a significant groundwater recharge area

3.2 Technical Methods and Field Studies

A site reconnaissance visit was completed in June 2021 to assess ecological conditions on the Subject Lands. A scoped ecological field survey program was undertaken in 2022. The following ecological surveys have been completed within the Subject Lands:

- Site Reconnaissance;
- Three-season Botanical Inventories and Ecological Land Classification (ELC);
- Headwater Drainage Feature Assessment;
- Breeding Bird Surveys; and
- Incidental Wildlife Observations (recording during other surveys).

A summary of the dates and weather condition associated with all the aforementioned surveys is provided in **Table 1** (**Appendix B**).

Both the NHIC (MNRF 2022) database and the Species at Risk in Ontario (SARO) list (O.Reg. 230/08) were reviewed to determine the current provincial status for all species identified during the field programs outlined below.

3.2.1 *Vegetation and ELC Methods*

ELC surveys were completed in June 2021, May 2022, July 2022 and September 2022. Vegetation community types were initially assessed through the use of aerial imagery, and were confirmed, sampled and revised, as necessary, using the sampling protocol of the

ELC Southern Ontario (Lee et al., 1998). ELC was completed to the finest level of resolution (Vegetation Type) where feasible. Species names generally follow nomenclature from the Database of Vascular Plants of Canada (Brouillet et al., 2010+).

The provincial status of all vegetation communities is based on NHIC (MNRF 2022). Identification of potentially sensitive native plant species is based on their assigned coefficient of conservatism (CC) value, as determined by Oldham et al. (1995). The 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 CC value of 9 or 10 generally exhibit a high degree of fidelity to a narrow range of habitat parameters.

3.2.2 Headwater Drainage Feature Assessment

Potential headwater drainage features (HDFs) on the Subject Lands were assessed using the TRCA/CVC (2014) "Evaluation, Classification and Management of Headwater Drainage Features Guidelines" (herein referred to as the HDFA Guidelines). These guidelines provide a standardized means of identifying and assessing the value of HDFs and identifying long-term management recommendations to protect or maintain the important ecological or biophysical functions provided by HDFs in a developing landscape.

Per the requirements of the HDFA Guidelines, GEI completed site visits at seasonally appropriate times to verify the presence of any features identified through a review of aerial imagery, provide up-to-date data regarding existing HDF conditions and ensure that a full data set is available. HDFA surveys are completed in accordance with the protocols in the HDFA Guidelines, with up to 3 site visits potentially required.

During the first site visit, all areas of the Subject Lands were walked to identify potential HDFs. Consideration was particularly given to areas identified as containing low ground based on topographic information. No HDFs were identified on the Subject Lands.

However, the mapped tributary to Beeton Creek was also inspected during this initial visit, as well as a subsequent site inspection completed in late May 2022 following a precipitation event. It was determined to meet the criteria of a drainage feature and not a watercourse. Further details are provided in **Section 4.5**.

3.2.3 Breeding Bird Surveys

Breeding bird surveys were conducted following protocol set forth by the Ontario Breeding Bird Atlas (Cadman et al. 2007) and the Ontario Forest Bird Monitoring Program (Cadman et al. 1998).

Surveys were conducted between dawn and five hours after dawn with suitable wind conditions, no thick fog or precipitation (Cadman et al., 2007). Point count stations were located in various habitat types within the Subject Lands and combined with area searches to help determine the presence, variety and abundance of bird species. Each point count station was surveyed for 10 minutes for birds within 100 m and outside 100 m. All species recorded on a point-count were mapped to provide specific spatial information and observed for signs of breeding behaviour.

4. Bio-Physical Characterization

4.1 Physiography

The Subject Lands are located on the Oak Ridges Moraine (ORM), an important geological landform that was formed through the advancement and retreat of glaciers, and the deposition of stratified sediment. The ORM and underlying sediments are late Pleistocene in age and overlie thin Paleozoic bedrock platform strata.

The Subject Lands reach a high point at the woodland communities at the southern extent of the Subject Lands, and generally the land falls away to the north, west and east of that point, with some rolling topography present across the Subject Lands.

4.2 Landscape Ecology

Situated within the Oak Ridges Moraine, movement predominantly occurs through the landscape in an east-west direction through the various woodlands. Larger communities in relative proximity to the Subject Lands are predominantly to the west, with movement occurring towards Palgrave and the Palgrave Forest and Wildlife Area to the north and Albion Hills Conservation Park to the south of the residential developments in that area.

Movement to the south through the scattered woodlands eventually connects to the Humber River and the surrounding valleylands that would connect to the south towards Lake Ontario.

4.3 Vegetation

4.3.1 Ecological Land Classification

The Subject Lands were dominated by tilled agricultural lands, that were planted with soybean in 2022. Surrounding these agricultural lands, two blocks of mature woodland were present. These features were classified Fresh-Moist Sugar Maple – Hardwood Deciduous Forest (FOD6-5). These woodlands also extend beyond the Subject Lands to the northeast and south. It is noted that the connection between these two woodlands have been fragmented.

The canopy of these mature forests was dominated by Sugar Maple (*Acer saccharum*), with some Eastern Hemlock (*Tsuga canadensis*) and a small number of Eastern White Pine (*Pinus strobus*). The sub-canopy was dominated by Sugar Maple with Green Ash (*Fraxinus pennsylvanica*) and American Beech (*Fagus grandifolia*). The shrub layer was similarly dominated by Sugar Maple, Green Ash, though Red Elderberry (*Sambucus racemosa*) was also abundant. The ground layer was diverse, some dominant species noted included: Virginia Waterleaf (*Hydrophyllum virginianum*), Canada Wild-Ginger (*Asarum canadense*), Wild Leek (*Allium tricoccum var. tricoccum*), Canada Enchanter's Nightshade (*Circaea canadensis ssp. canadensis*), Garlic Mustard (*Alliaria petiolata*) and Herb-Robert (*Geranium robertianum*). Where moister soil conditions were available, Ostrich Fern (*Matteuccia struthiopteris var. pensylvanica*) and Spotted Jewelweed (*Impatiens capensis*) were more dominant.

In addition to the woodlands, two small hedgerows were also present within the Subject Lands. The south-most hedgerow consisted mainly of Sugar Maple, American Basswood (*Tilia americana*) as well as Ash (*Fraxinus spp.)* snags. While the north-most hedgerow mainly consisted of Scots Pine (Pinus sylvestris) with Common Buckthorn (*Rhamnus catharica*), Tatarian Honeysuckle (*Lonicera tatarica*).

Immediately west of the Subject Lands, a small Coniferous Cultural Plantation (CUP) was present. This feature was situated centrally to the Subject Lands. To the north-northwest of this feature, a Mineral Cultural Meadow (CUM1) was present that extended to Hunsden Sideroad.

These vegetation communities are shown on **Figure 2 (Appendix A).**

4.3.2 Vascular Plants

Botanical inventories completed on the Subject Lands have identified a total of 152 species of vascular plants. Of that number, 103 (or 68%) were native and 49 (or 32%) are exotic. A completed species list is provided in **Table 2** (**Appendix B**).

The majority of the native species (98%) were ranked S5 (secure in Ontario) or S4 (apparently secure in Ontario; NHIC, 2017). One species is listed as an S2? (rare in Ontario); Butternut (*Juglans cinerea*), which are also listed as Endangered on the SARO List. A total of four Butternut were identified within the Subject Lands, these were all associated with Fresh-Moist Sugar Maple – Hardwood Deciduous Forest (FOD6-5) located in the northeast of the Subject Lands (**Figure 2**, **Appendix A**).

Locally Rare Plants

In addition to Butternut, 12 regionally rare or uncommon plants were observed, as per the Peel Region, rarity rankings (Varga 2005). None of these regionally rare species are considered rare in Ontario. None of the species recorded from the Subject Lands had a co-efficient of conservation value of 9 or 10. The regionally rare species are summarized below:

- Rare Species:
  - Downy Arrowwood (Viburnum rafinesquianum);
  - Blue Cohosh (Caulophyllum thalictroides);
  - Common Bedstraw (*Galium aparine*);
  - White Bear Sedge (*Carex albursina*);
  - Loose-Flowered Sedge (*Carex leptalea*);
  - Sprengel's Sedge (*Carex sprengelii*); and
  - Interrupted Fern (*Osmunda claytoniana*).
- Uncommon Species:
  - Virginia Stickseed (*Hackelia virginiana*);
  - Squirrel-Corn (Dicentra canadensis);
  - Canada Plum (*Prunus nigra*);
  - Rough Bedstraw (*Galium asprellum*); and
  - Bristle-Stalked Sedge (*Carex leptalea*).

These species were identified within forest communities on the Subject Lands.

Invasive Plants

Invasive plants are those that can become (or presently are) a serious problem within a defined location. These plants reproduce and spread aggressively, reducing the local biodiversity and threatening ecological function. 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. Of the 49 exotic species observed on the Subject Lands, six are ranked as Category 1 by Urban Forest Associates.

Category 1 plants are deemed to be the most invasive and can dominate a site indefinitely. These are a threat to natural areas wherever they occur because they have very effective reproduction and dispersal mechanisms. The Category 1 plants observed on the Subject Lands are:

- European Swallowwort (*Vincetoxicum rossicum*);
- Garlic Mustard;
- Dame's Rocket (*Hesperis matronalis*);
- Tartarian Honeysuckle (*Lonicera tatarica*);
- European Buckthorn (*Rhamnus cathartica*); and
- Manitoba Maple (*Acer negundo).*

4.4 Wildlife

4.4.1 Breeding Bird Surveys

A total of 39 bird species were observed within the Subject Lands. Of this total, two species are confirmed, 21 are probable, and 13 are possible breeders on the Subject Lands. The remaining three bird species are considered non-breeders, flyovers, or migrants. An additional twelve species were observed only on surrounding lands within 120 m. The observed breeding bird species are discussed in the sections below. All species observed on the Subject Lands are listed in **Table 3** (**Appendix B**).

All (100%) of the confirmed, probable or possible breeders are provincially ranked S5 (common and secure), S4 (apparently common and secure) or SNA (species not native to Ontario). No bird species are considered provincially rare (S1-S3; NHIC 2021) However, the following Species of Conservation Concern were observed on the Subject Lands associated with the woodland communities:

- Wood Thrush – Special Concern; and
- Eastern Wood-Pewee – Special Concern.

Additionally, the following Species at Risk and Species of Conservation Concern were observed beyond the Subject Lands within suitable meadow habitats, however it should be noted that the Subject Lands do not provide breeding habitat for these species:

- Eastern Meadowlark – Threatened; and
- Grasshopper Sparrow – Special Concern.

4.4.2 Incidental Wildlife

A total of 20 species were recorded incidentally within the Subject Lands. Of these, one SAR bird, a Bobolink, was recorded within the Subject Lands. Bobolink is designated as Threatened in Ontario, the remaining species observed are considered common or non-native to Ontario.

The observation of Bobolink was made on June 2, 2021, during the site reconnaissance visit, and was observed alighting on a small tree. Given that the Subject Lands are comprised of soy crops and forested habitat, suitable nesting habitat for the species was not identified within the Subject Lands, and this species was not recorded during 2022 surveys.

A summary of all wildlife observed incidentally is provide in **Table 4** (**Appendix B**).

4.5 Headwater Drainage Features

A site visit was completed on April 20, 2022, to assess for presence of drainage features on the Subject Lands. Agricultural fields had been recently tilled prior to the site investigation; however, no evidence of water movement or presence was observed on the site.

A mapped tributary to Beeton Creek is shown on NVCA mapping within the northeastern extent of the Subject Lands, near the existing residence. In conjunction with HDFA Round 1, the mapped tributary was also inspected. The arterial branch to the south was determined not to exist on the landscape. The main branch of the feature was characterized as a poorly defined drainage swale with stagnant and isolated pools of water located towards the upstream end of the Subject Lands. The feature connects beneath Hunsden Road through a corrugated steel pipe (CSP) which was also dry during the time of the initial inspection. A subsequent site inspection was completed following a precipitation event in late May 2022 and further confirmed the drainage feature to be dry. Given the lack of flow and very poor channel definition associated with the drainage swale, the feature is proposed to be evaluated and managed for under the HDFA Guidelines. This determination is also supported by the fluvial geomorphological assessment which determined that this feature should not be identified as a watercourse (GEI 2023). Classification of the feature is provided in the table below.

STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION
FUNCTION	**MODIFIERS**				
FT – 7 FC – 2 (Round 1) FC – 1 (Round 2) **Recharge Functions** (based on location in groundwater recharge area) – dry or standing water was identified during assessments.		**Important** – forest habitat adjacent to feature.	**Contributing-** No direct fish habitat is present.	**Limited –** As per Table 7 in HDFA Guidelines, swale provides limited terrestrial function Although this feature is situated within a forest, it does not connect other features upstream and downstream.	**Maintain Recharge**

Evaluation of the NVCA mapped tributary under the HDFA guidelines results in a management recommendation of *Maintain Recharge*. This management recommendation includes the following strategy:

- Maintain overall water balance by providing mitigation measures to infiltrate clean stormwater.

As the feature is well protected within the woodland, there are no material ecological requirements with respect to this feature. Water balance measures at the site level will ensure recharge functions are maintained.

5. Analysis Of Ecological and Natural Heritage Significance

Eight types of natural features are identified in the PPS (MMAH 2020):

- Significant wetlands;
- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- SWH;
- Fish habitat;
- Habitat of endangered and threatened species; and
- Significant areas of natural and scientific interest.

In addition to natural features identified in the PPS, consideration was also given to the KNHF and KHF identified within the ORMCP, as well as woodlands that may meet criteria to be identified as Core Areas, Natural Areas and Corridors or Potential Natural Areas and Corridors under the Region of Peel Official Plan. Finally, an assessment with respect to which areas meet the criteria for identification as EZ1 or EZ2 was completed.

The presence/absence of these natural features on the Subject Lands are discussed in the subsequent sections of this EIS. The NHRM (MNR 2010) and the Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSE Inc et al 2009) were referenced to assess the potential significance of these feature types.

Where natural features are present on the Subject Lands, their sensitivities are discussed.

5.1 Wetlands/Significant Wetlands

Within Ontario, Significant Wetlands are identified by the MNRF or by their designates. Other evaluated or unevaluated wetlands may be identified for conservation by the municipality or the conservation authority.

No significant wetlands are known to occur within 750 m of the Subject Lands, with the nearest provincially significant wetland (PSW), known as the Gibson Lake Wetland Complex, identified more than 1 km to the West. No wetlands were identified on the Subject Lands during the site investigations. As a result, this feature type is not present.

5.2 Significant Coastal Wetlands

Significant coastal wetlands are not present on or adjacent to the Subject Lands.

5.3 Habitat of Endangered and Threatened Species

Based upon the species identified through the background wildlife atlas search (**Section 3.0**) and field investigations results, the following SAR and SAR habitat is confirmed or may be present within the Subject Lands:

- Butternut;
- Eastern Small-footed Myotis (*Myotis leibii*);
- Little Brown Myotis (*Myotis lucifugus*);
- Northern Myotis (*Myotis septentrionalis*); and
- Tricolored Bat (*Perimyotis subflavus*).

Of these, only Butternut was confirmed within the Subject Lands, associated within the north-eastern woodland community. In addition, the forested habitats within the Subject Lands are considered candidate habitat for Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis, and Tricolored Bat, and are thus treated as habitat for Endangered bat species. Details pertaining to these species are provided below. The remaining species identified from the records review were confirmed absent, or the Subject Lands did not provide suitable habitat for the species.

Both Bobolink and Eastern Meadowlark, two SAR bird species that breed in grassland habitats, were recorded incidentally during surveys on or surrounding the Subject Lands. However, as breeding habitat for these species is not present within the Subject Lands, there will be no impacts to the habitat for these species, and they are not addressed further.

5.3.1 Butternut

Four Butternut were identified within the northeastern woodland community on the Subject Lands. Butternut are listed as Endangered on the SARO List. Of the four trees, two of the trees were identified along the southern extent of the forest edge and two were set further back into the feature. The two trees located near the forest edge are more than 30 m from the proposed structural envelope (**Figure 2**, **Appendix A**), and abut active agricultural fields.

5.3.2 Endangered Species of Bats

Suitable bat maternity roosting habitat (tree cavities, peeling bark, rock piles etc.) are present within the woodland communities on the Subject Lands. Targeted surveys for bats were not completed as no encroachment into these features are proposed. As a result, the woodlands are treated as candidate SAR bat habitat.

5.4 Fish Habitat

Fish habitat, as defined in the federal Fisheries Act, c. F-14, means… spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly to carry out their life processes. Fish, as defined in S.2 of the Fisheries Act, c. F-14, includes parts of fish, shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.

Though no water movement was observed during site investigations completed in 2022, the drainage feature present in the northeastern portion of the Subject Lands may be considered to provide indirect fish habitat. Provided that the conveyance of any potential seasonal or event based flows are still directed towards the culvert beneath Hunsden Sideroad, no negative impacts to potential fish habitat are anticipated.

5.5 Significant Woodlands/Region of Peel Woodlands

The PPS notes that, significant woodlands should be defined and designated by the planning authority using criteria established by the MNRF. Within the Region of Peel, woodlands are assessed against criteria to determine whether they are considered to be Core Areas of the Greenlands System, Natural Areas and Corridors (NAC) of the Greenlands System, or Potential NAC (PNAC) using criteria identified in Table 1 of the Official Plan. As the Subject Lands are situated within the Oak Ridges Moraine Conservation Plan Area, consideration was also given to the criteria identified in Technical Paper 7 of the ORMCP.

Both woodland communities on the Subject Lands were assessed against these criteria.

The southern woodland is a large feature that is well more than 16 ha in size. Based on size alone, this feature would be considered a Core Area under both the ROP and Technical Paper 7, and so would be considered a significant woodland.

The northeastern woodland on the Subject Lands is approximately 6 ha in size. As this woodland community contains Butternut, a species listed as Endangered by both the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the Committee on the Status of Species at Risk in Ontario (COSSARO), this feature would also be considered to be a Core Area under the ROP, and also meets criteria for significance under Technical Paper 7.

The limits of these features were staked with the Town of Caledon and members of the Project Team. It is noted that the staking included portions which are not considered to be components of the significant woodland. This included a small hedgerow extending southwesterly from the northeastern woodland, along the limit of the previously severed residential lot along Hunsden Sideroad, as well as a single mature tree in the northwest corner of the southern woodland that is a portion of the remnant hedgerow that extends further to the northwest. These features are not considered to be components of the significant woodland and setbacks from these features are not provided.

The cultural plantation west of the Subject Lands was also considered. The feature measures approximately 1.5 ha in size, with several large openings within the canopy. As this feature is not identified within either the ORMCP Natural Core or Natural Linkage Areas (see discussions re linkage areas in section 5.13) and is not situated within nor intersects with a key natural heritage feature or hydrologically sensitive feature or their vegetation protection zone, this woodland is neither a core area nor a significant woodland under the ORMCP. However, as the cultural plantation is greater than 1.5 ha in size, it does exceed the size requirement to be identified as a PNAC.

5.6 Significant Valleylands

Significant Valleylands should be defined and designated by the planning authority. General guidelines for determining significance of these features are presented in the NHRM) for Policy 2.1 of the PPS. Recommended criteria for designating significant valley lands include prominence as a distinctive landform, degree of naturalness, and importance of its ecological functions, restoration potential, and historical and cultural values.

No valley features were identified on the Subject Lands.

5.7 Significant Areas of Natural and Scientific Interest (ANSIs)

An ANSI is identified by the MNRF as "*areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education*" (MNR 2010).

A review of mapping from MNRF's LIO and NHIC databases showed that there are no ANSIs identified on or in proximity to the Subject Lands.

5.8 Significant Wildlife Habitat

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, the SWH Technical Guide (MNR 2000), and the relevant SWH Ecoregion Criterion Schedule (MNRF 2015). The Subject Lands are located in Ecoregion 6E and were therefore assessed using the 6E Criterion Schedule (MNRF 2015).

There are four general types of significant wildlife habitat, including seasonal concentration areas of animals, migration corridors, rare vegetation communities or specialized habitat for wildlife, habitat for species of conservation concern and animal movement corridors. All types of significant wildlife habitat are discussed in more detail below.

Seasonal Concentration Areas of Animals

Seasonal concentration areas are those sites where large numbers of a species gather together at one time of the year, or where several species congregate. The following is a partial list of numerous examples: deer yards, snake and bat hibernacula, waterfowl staging areas, raptor wintering areas, bird nesting colonies, shorebird stopover areas, and colonial nesting bird habitats. Areas that support a SAR, or if a large proportion of the population may be lost if the habitat is destroyed, are examples of seasonal concentration areas which should be designated as significant.

Rare Vegetation Communities or Specialized Habitat for Wildlife

Rare vegetation communities or specialized habitat are two separate components.

Rare vegetation communities are those that are considered rare in the province. These include cliff and talus slopes, sand barrens, alvars, old growth forest, savannah, and tallgrass prairie. Provincially ranked vegetation communities with SRANKS of S1 to S3 (extremely rare to rare-uncommon in Ontario) as defined by the NHIC, would also typically qualify. It is assumed that these habitats are at risk and that they are also likely to support additional wildlife species that are considered significant. Such vegetation communities do not occur on or adjacent to the Subject Lands.

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

Habitat for Species of Conservation Concern

Habitat for species of conservation concern includes five types of habitats:

a) Marsh bird breeding habitat;
b) Open country bird breeding habitat;
c) Shrub/early successional bird breeding habitat;
d) Terrestrial crayfish; and
e) Special concern and rare wildlife species.

Habitats of species of conservation concern do not include habitats of Endangered or Threatened species as identified by the Endangered Species Act, 2007, which are discussed in Section 5.3.

Animal Movement Corridors

Animal movement corridors are areas that are traditionally used by wildlife to move from one habitat to another. This is usually in response to different seasonal habitat requirements. Some examples are trails used by deer to move to wintering areas, and areas used by amphibians between breeding and summering habitat. Animal movement corridors are only identified as significant wildlife habitat where a confirmed or candidate significant wildlife habitat has been identified by MNRF or the planning authority.

Table 5 (**Appendix B**) discusses the potential for SWH within the Subject Lands based on the background information review and field investigations. The following SWH types were identified within the Subject Lands:

- Candidate Bat Maternity Colonies (FOD6-5);
- Candidate Reptile Hibernacula (rock pile within FOD6-5);
- Confirmed Woodland Area-Sensitive Bird Breeding Habitat (southernmost FOD6-5);
- Confirmed Habitat for Species of Conservation Concern:
    - Eastern Wood-Pewee; and
    - Wood Thrush.

5.9 Sand Barrens, Savannahs and Tallgrass Prairies

These vegetation types were not identified on the Subject Lands.

5.10 Permanent and Intermittent Streams

As discussed in section 4.5, there is no permanent or intermittent stream present on the Subject Lands.

5.11 Kettle Lakes

Kettle lakes are not present on the Subject Lands.

5.12 Seepage Areas and Springs

No seepage areas or springs were identified on the Subject Lands.

5.13 Linkage Assessment

The Oak Ridges Moraine Conservation Plan identifies Natural Linkage Areas on the Subject Lands, consisting of an east-west corridor along Hunsden Sideroad, and a north south corridor connecting the two woodlands that overlap the Subject Lands. This Natural Linkage Area was later refined in accordance with the provisions of the ORMCP within the Town of Caledon Official Plan to reduce the extent of the Natural Linkage Area on the Subject Lands. Schedule G of the Official Plan shows the east-west linkage corridor predominantly along the northern side of Hunsden Sideroad (as delineated by the extent of Policy Area 4 on Schedule G, which delineates the extent of ORMCP Natural Core and Linkage Areas). Given the increased prevalence of trees/shrubs along the northern side of Hunsden Sideroad, this is the most probable location for wildlife movement across the landscape. Along the southern side of Hunsden Sideroad, there is a general absence of vegetation cover, with several large gaps between trees. Wildlife movement along the southern side of Hunsden Sideroad is less preferred when compared to the northern side. Preservation of a linkage along the southern side of Hunsden Sideroad would not be warranted; as a result, the recommended location for the linkage remains on the north side of Hunsden Sideroad, consistent with the mapping shown in Schedule G of the Town of Caledon Official Plan.

The other location shown for a linkage is along the eastern property limit between the northern and southern woodland communities. A projection of the northern woodland extends towards the southern woodland along the adjacent property to the east. A 60 m gap exists between the two woodland communities. The natural linkage area within this area would exist through the woodland communities, and along the narrow remnant vegetation along the property line within the gap between the two features.

5.14 EZ Designations

As identified within **Section 2.1**, the following are identified as the requirements with respect to EZ designations:

- EZ1 designations includes all ORMCP KNHF and KHF, and their related Minimum Vegetation Protection Zones (MVPZ), along with more sensitive biological communities, valley and stream corridors and their associated floodplains, native upland and lowland woodlands, natural waterbodies, Provincially and locally significant wetlands, and Environmentally Significant/Sensitive Areas along with other features of local or regional importance.
- EZ2 Designations are locations with high groundwater table, seasonal flooding, dry swale lowlands and natural depressions performing natural run-off, detention and groundwater recharge functions, and smaller hedgerows and strips of native vegetation.

Within the Subjetc Lands, as identified in Schedule I of the TCOP (2018), the significant woodlands (FOD6-5) and the Cultural Plantation (CUP) are designated as EZ1s.

The Town of Caledon was consulted to determine what information resulted in the identification of an EZ2 on the Subject Lands, however no information is currently available. As a result, an assessment was completed to determine whether that portion of the Subject Lands meets the definition of an EZ2, as discussed further below.

- High groundwater table: High groundwater tables are defined in the Town of Caledon Official Plan as areas where the water table is usually within 1.5 m or less of the ground surface. The groundwater table on the site is greater than 1.5 m below the ground surface.
- Seasonal flooding: Investigations in the spring did not find any evidence of seasonal flooding on the Subject Lands.
- Dry swale lowlands and natural depressions performing natural run-off detention and groundwater recharge functions: A review of the topographic mapping showed that there are no topographic lowlands present in this area that would provide natural run-off detention and groundwater recharge functions.
- Smaller hedgerows and strips of native vegetation: There are no smaller hedgerows or strips of native vegetation present in the area of EZ2 in the center of the Subject Lands, however an EZ2 is likely present associated with the hedgerow connecting the forest units along the eastern property limit. This area is generally already contained within the VPZ of the larger woodlands and was discussed above with respect to the linkage assessment.

Given the above assessment, it is the recommendation of this NHE that there is no EZ2 designation present within the central portion of the Subject Lands, and as a result, the restrictions associated with that designation would not apply to the proposed development.

5.15 Summary of Ecological Components Subject to Impact Assessment

An analysis of existing natural heritage features on the Subject Lands was completed. The results of this analysis identified the following natural heritage features as present, within and/or adjacent to the Subject Lands:

- Habitat of Endangered and Threatened Species (Butternut, Bat SAR), associated with the deciduous forest communities on and adjacent to the Subject Lands;
- Significant Woodlands/Core Area Woodlands/EZ1 area associated with the deciduous forest communities on and adjacent to the Subject Lands;
- PNAC Woodland/EZ1 area associated with the cultural plantation west of the Subject Lands;
- Indirect Fish Habitat associated with the drainage feature on the Subject Lands;
- Candidate and Confirmed SWH associated with the deciduous woodland communities on the Subject Lands:
    - Candidate Bat Maternity Colonies (both FODs);
    - Candidate Reptile Hibernacula (south-most FOD6-5);
    - Confirmed Woodland Area-Sensitive Bird Breeding Habitat (south-most FOD6-5);
    - Confirmed Habitat for Species of Conservation Concern (both FODs):
        - Eastern Wood-Pewee; and
        - Wood Thrush.
- Linkage corridors along the northern extent of Hunsden Sideroad and along the eastern portion of the Subject Lands between the two significant woodlands.

These features are shown on **Figure 3** (**Appendix A**).

6. Description Of Proposed Development

The proposed development would consist of estate residential development within the existing agricultural lands.

The Draft Plan **(Appendix C**) considers 13 estate residential lots of approximately 1.2 to 1.8 acre in size, connected via a Street "B" connection to the development presently in construction to the west, and a Street A connection to Hunsden Sideroad. Street "A" is presently proposed to terminate at a cul-de-sac within the southeastern extent of the Subject Lands, though an open space corridor is maintained that would permit an eventual connection to the lands to the east if required. The Draft Plan proposes a 30 m setback from the woodland communities on the Subject Lands, consisting of a 20 m vegetated buffer outside of the proposed lots, along with a 10 m setback for the structural envelope within the lots.

A Functional Servicing and Preliminary Stormwater Management Report was prepared by C.F. Crozier & Associates Inc. (dated November 2023). Within the report, it has been recommended that roadside bioswales and a rear yard infiltration trench will be used to control peak flows post-development to the pre-development levels up to the 100-year storm events. In addition, the bioswales will incorporate filter media and grassed swales to control water quality.

7. Impact Assessment, Mitigation and Enhancement Opportunities

This section of the report assesses the potential effects on the natural heritage features and their associated functions that could occur over the short-term and long-term following implementation of a future development plan, based on the draft concept plan. It also suggests appropriate mitigation measures to limit negative impacts and/or to enhance features and functions where practical.

The impact assessment below examines the predicted effects of the development on the natural heritage features and associated functions present on, and adjacent to, the Subject Lands. (**Figure 4, Appendix A**) shows the proposed development against the identified features.

7.1 Vegetation Protection Zone

This section provides a technical summary regarding the recommended vegetation protection zone for the identified natural heritage features on the Subject Lands. These are discussed by feature type.

7.1.1 Significant Woodlands

Two significant woodland units are present on the Subject Lands. The significant woodlands were also assessed as being habitat for endangered species (Butternut, endangered species of bats), as well as both confirmed and candidate significant wildlife habitats.

The key functions of these areas on the Subject Lands are:

- Provision of breeding, foraging, and wintering habitat for wildlife, including birds, mammals, reptiles, and amphibians, including endangered species of bats and special concern wildlife species;
- Provision of habitat for the endangered Butternut;
- Provision of movement corridors for wildlife with connections to other natural core areas within the Oak Ridges Moraine area;
- Nutrient cycling and hydrological cycling associated with woodland vegetation communities; and
- Improvements in air quality relating to the presence of woodland vegetation.

Understanding those features and functions, allows for the consideration of an appropriate protective buffer. The recommended buffers or vegetation protection zones, has considered the physical characteristics of the natural edge (e.g., soil types, moisture regime, woodland edge structure and composition and rooting habits of adjacent trees) and has addressed other pertinent aspects.

In accordance with relevant policies, a 30 m development setback has been incorporated into the development plan, consisting of a 20 m wide buffer block (Block 16) that will be subject to reforestation plantings (discussed further in section 8) and a 10 m wide portion within each of the proposed lots abutting this feature situated outside of the structural envelope.

This development setback has been assessed and is considered appropriate as outlined below:

- Given the use of the adjacent agricultural fields that are proposed for development as row crop agricultural, these lands do not provide critical support functions for wildlife within the significant woodlands, which would necessitate the maintenance of larger buffers for protection, as noted below:
    - General wildlife use of the lands adjacent to the significant woodlands is likely restricted to periodic transit through, or foraging opportunities within, given the existing conditions.
    - Bat species may forage over the agricultural lands; however, alternate foraging habitat is abundant in the local area. In addition, with the estate residential development, open landscaped areas will remain on the landscape that would also provide foraging opportunities. The SWH Mitigation Support Tool (MNRF 2014), does not recommend a specific setback for maternity colony habitats.
    - Reptile movement from the candidate hibernacula feature will continue throughout the landscape. The SWH Mitigation Support Tool (MNRF 2014), states that, the SWH includes a 30 m radius around the hibernacula feature. This radius is protected within the woodland buffers. Further, there is no development proposed within the woodland communities which would provide necessary shelter cover for aggregating snakes prior to entry into the hibernacula.
    - There will be no impact to the structure of the woodland communities providing area-sensitive woodland bird breeding habitat, and habitat for Wood Thrush and Eastern Wood-Pewee. The SWH Mitigation Support Tool (MNRF 2014), does not recommend a specific setback for these habitat types. The measures to protect the significant woodland will be effective at protecting this habitat type.
- There would be no direct impact to the Butternut trees required within the woodland, and as the fields are in agricultural production, there is no reproductive dispersal habitat available in the present condition beyond the limits of the woodland.
- Mitigation measures with respect to soil erosion, stormwater management, and water balance are addressed separately in the sections below.
- No vegetation removal is proposed, and therefore there would be no anticipated impact on nutrient cycling or air quality benefits within this feature.

7.1.2 PNAC Woodland

A PNAC Woodland was identified to the west of the Subject Lands. This woodland is a cultural plantation and has not been identified as being associated with any other natural heritage features. Given their monocultural planting regime, cultural plantations such as this one are generally of low ecological function. Based on the site investigations, this is considered applicable to the feature in question.

Given the above, a 10 m development setback is proposed from the staked limits of this feature. The development setback will be located within each of the proposed lots abutting

this feature situated outside of the structural envelope. The structural setback has been aligned to be 15 m from the property limit, which results in a variable buffer greater than 10 m of approximately 12 to 15 m depending on the extent of the overhang of the vegetation along the property limit. The area between the property limit and the structural setback will be seeded with a native seed mix

7.1.3 Linkages

There are two linkages identified within proximity of the Subject Lands.

The first feature is located north of Hunsden Sideroad. As the feature is on the other side of the road, a development setback is not recommended for this feature.

The second feature was identified encompassing the two significant woodlands, with a connection between these two features. The only existing connection between these woodlands at present is a small linear connection along the property line with marginal vegetation. To protect and enhance/restore this connection, a 20 m vegetation protection zone has been proposed between the two significant woodlands as a movement corridor between these features. Given the open nature of this connection, this 20 m vegetation protection zone is proposed to be subject to reforestation measures as outlined in section 8, which will represent a substantial improvement to connectivity between these features.

As discussed above, an open space corridor has been provided that would permit future construction of a roadway though this area to the adjacent lands to the east. Given both the proximity and general narrowness of the connection between these two features, this section of roadway would likely see significantly higher wildlife movement than other connections on the landscape. If a roadway is placed through this area, the design should consider the potential for increased wildlife/vehicle interactions, the need for provision of wildlife passages beneath the roadway should be assessed, and appropriate signage displayed.

7.2 Indirect Fish Habitat

7.2.1 *Potential Impacts During Construction*

As the drainage feature is situated within the woodland community away from the proposed development, no direct impacts would occur.

Potential indirect impacts could occur during construction include:

- Erosion and sedimentation from the construction area;
- Effects due to stormwater management during construction; and
- Accidental spills (e.g., fuel or oil from machinery) with transport of spilled material to watercourses.

Each of these potential impacts is discussed in the following sections.

Erosion and Sedimentation

Erosion and sedimentation from the disturbed work area associated with the proposed development could potentially result in adverse effects to water quality (e.g., increased turbidity) or sedimentation and associated effects on fish (e.g., injury or mortality due to suspended sediments or altered habitat use) or fish habitat (e.g., loss of interstitial spaces in

rocky areas, smothering of aquatic vegetation and/or incubating eggs) in downstream receiving features.

A preliminary Erosion and Sedimentation Control (ESC) Plan has been prepared by C.F. Crozier & Associates to minimize the potential for erosion and sedimentation from the construction site. The preliminary plan includes the use of sedimentation control measures, including silt fences and other barriers. The ESC Plan should be reviewed and updated, if needed, by the chosen construction contractor. The final plan should be developed based on the guidance provided in the *Erosion and Sediment Control Guideline for Urban Construction* (GGHCA 2006). Basic elements of the plan should include consideration of:

- Requirements and timing for rehabilitation of disturbed areas;
- Stormwater management strategies during construction;
- Erosion prevention measures (e.g., hydroseeding, sodding, erosion control matting, tarping of stockpiles);
- Sedimentation control measures (e.g., silt fences and other barriers); and
- Inspection and performance monitoring requirements and adaptive management considerations.

Implementation of an effective ESC Plan, incorporating both erosion and sedimentation controls, coupled with regular inspection and performance monitoring and implementation of any remedial actions necessary to ensure effective performance, is anticipated to be largely effective in preventing the movement of eroded soil particles off-site towards the downstream features north of Hunsden Sideroad.

However, should erosion and off-site sedimentation occur during the construction process, the proposed setbacks from drainage feature on site, which is located more than 50 m from the proposed development within the woodland community will assist in mitigating potential effects on fish and their habitat further downstream within receiving features.

Overall, no adverse effects on the downstream features are predicted to occur as a result of erosion and sedimentation during construction, provided an effective ESC Plan, including monitoring and adaptive management, is implemented.

Stormwater Management During Construction

Increases in stormwater runoff from the disturbed areas of the construction site or pumping of groundwater from excavations, potentially resulting in higher flows to the downstream features could cause increases in bed and bank erosion, aside from the obvious potential increase in erosion from the work area.

It is recommended that the contractor consider management of stormwater throughout the construction period as part of the overall ESC Plan, since stormwater flows through disturbed areas are one of the primary causes of erosion and sedimentation from construction sites. Increased volumes of runoff during construction could also potentially result in increases in erosion due to overland flow, particularly if stormwater runoff from the construction area is concentrated. To mitigate these potential effects, stormwater management techniques should

be implemented prior to construction to control surface water runoff throughout the construction period. Implementation of an effective stormwater control plan during construction is anticipated to prevent adverse effects on the watercourse and fish habitat.

Pumping of groundwater from excavations may be required, depending on the depth of the excavation and groundwater level at the time. If pumping is necessary, consideration should be given to the discharge location, and potential impacts on surface water quality and quantity. Mitigation (e.g., sedimentation filter bags) should be provided to ensure that discharge quality criteria are met (e.g., highly turbid water is not discharged to the environment), and mitigation (e.g., rip rap pad) employed to ensure that discharge water does not erode the soils at the immediate discharge location. Implementation of effective mitigation is anticipated to prevent adverse effects on the downstream features and associated fish habitats.

Accidental Spills

Accidental spills of potentially hazardous materials (e.g., fuel and oil from heavy equipment), if transported to the watercourse on the Subject Lands, could cause stress or injury to fish, amphibians and other aquatic biota (e.g., benthic invertebrates).

In order to mitigate the potential for adverse effects on these species and their habitats due to accidental spills during construction, it is recommended that the contractor prepare a spill prevention and response plan to outline the material handling and storage protocols, mitigation measures (e.g., spill kits on-site), monitoring measures and spill response plans (i.e., emergency contact procedures, including MOECC Spills Action Centre, and response measures including containment and clean-up). Implementation of an effective spill prevention and response plan is anticipated to be largely effective in preventing adverse effects on these species and their habitats.

7.2.2 *Potential Post-Construction Impacts*

No direct impacts on the downstream features and associated fish habitat are anticipated to occur during the post-construction period, since there would be no requirement for any activity within these features.

However, potential indirect impacts may occur, including:

- Changes in flow and water quality due to stormwater management and changes in groundwater infiltration; and
- Effects on water quality associated with runoff from urban areas.

These potential impacts and recommended mitigation measures is discussed in the following sections.

7.2.2.1 Stormwater Management and Changes in Infiltration

The proposed development and associated changes in soil permeability, and storm water treatment and flows, may affect the flows to the receiving features downstream.

The stormwater management system has been designed to convey water to the same areas as at present, and to relevant regulatory requirements. Compliance with these limits is anticipated to be largely effective at mitigating potential impacts on the downstream features. Consideration should also be given to ensure water balance into the groundwater table is maintained.

Implementation of these measures would mitigate potential impacts on the downstream features and associated fish habitat.

7.2.2.2 Impacts on Water Quality

The proposed stormwater management system has been designed to provide water quality control.

Some surface water on the Subject Lands will infiltrate through residential lawns and into the shallow groundwater or will flow directly as overland runoff from residential rear yards towards the drainage features. This runoff or infiltration water could potentially be impaired due to residential use of potential contaminants (e.g., lawn fertilizers) or other residential land use activities (including accidental spills in rear yards). As the receiving features are situated well away from the proposed development, potential effects on water quality within the receiving features are not anticipated.

7.3 Significant Woodlands/Habitat of Endangered and Threatened Species/Confirmed and Candidate Significant Wildlife Habitat

The woodland community and associated confirmed and candidate significant wildlife habitats are being protected from direct impacts (i.e., avoidance) and from indirect impacts, in part through the implementation of the 30 m development setback.

Noise from construction activities may result in wildlife avoidance of the edges abutting active work areas during the construction period. Where possible, construction activities should be timed outside of the nighttime and early morning periods during peak of the bat maternity roosting and bird breeding seasons (typically May through July). Some localized movement of wildlife out of these edge areas may still occur during the construction phase. Given continued development in this area and active agricultural operations, wildlife likely have some tolerance to background noise and so would be somewhat tolerant of construction activities.

Following construction, increased noise in vicinity of the woodland community due to residential activities (e.g., lawn mowing, vehicle movement, etc.), and the potential for increased predation pressure from domestic cats allowed to roam free outdoors may occur. These effects are already present to a degree given the existing residential development to the southwest, as well as rural residential dwellings on the Subject Lands and surrounding properties. Measurable alterations in wildlife composition within the significant woodlands are not anticipated following occupation of the residential subdivision. These potential effects may be further reduced through the development and distribution of a homeowner's manual that explains the relationship between the development and adjacent significant natural areas.

7.4 PNAC Woodland

Though generally of low ecological function, one indirect impact to this PNAC Woodland will be the change in site drainage as a result of the proposed development. Currently, some exiting overland flow is directed towards the pine plantation. Post-development, overland flow will be directed toward grass swales which will drain water into the proposed bioswale along Street A (C.F. Crozier & Associates Inc., 2022) and away from the woodland.

The cultural plantation is a mature community with generally limited ground cover outside of grass species. Pine plantations are tolerant of a range of moisture regimes, and as a result, this minor alteration in hydrology is not expected to impact the feature.

7.5 Migratory Birds/Endangered Species of Bats

To ensure that migratory birds or endangered species of bats are not impacted during construction, any vegetation removal or significant earthworks should occur outside of the breeding bird window of April 1 – August 31 (dates approximate) and tree removals should occur outside of the active bat window (April 1 through September 30). In rare circumstances where this window cannot be avoided, a nest search or bat exit survey (as appropriate) is recommended to ensure that the vegetation being removed is not providing active nesting/roosting habitat for these species. If activity is confirmed, a buffer will be marked off surrounding any active nests/roost trees that must be maintained until activity in the nest/roost tree has ceased.

7.6 Air Pollution

Consideration was given to whether there would be an increase in air pollution as a result of the proposed development. There may be a minor increase in air pollution during the construction phase associated with earth moving activities or use of other gas-powered equipment, given the relatively small scale of the development, and nature of the proposed works, these impacts would be anticipated to be short-term and temporary. No measurable impact on local air pollution is anticipated following construction given the low density nature of the proposed development.

8. Environmental Management/Reforestation Plan

As identified within section 7 above, and as shown on Figure 4, the following environmental protection measures have been proposed for the natural heritage features surrounding the proposed development:

- 30 m development setback from the significant woodlands/significant wildlife habitats. This will consist of a 20 m vegetated buffer and a 10 m portion of the developments lots outside of the structural envelope;
- 20 m vegetated buffer along the existing hedgerow linkage connection between the two significant woodlands; and
- 10 m development setback from the PNAC woodland west of the Subject Lands that will be situated within the developments lots outside of the structural envelope.

Areas situated within the development lots (Lots 3, 4 and 6 to 12) but outside of the structural envelope adjacent to natural heritage features, as well as Block 18, will be seeded with a native upland seed mix. Cover crops should be incorporated to support establishment of the planted seed.

A reforestation planting plan will be prepared at detailed design for the 1.5 ha Block 16 that includes the 20 m vegetated buffer for the significant woodlands and linkage connections, as well as the 0.8 ha Block 17 situated west of the southern significant woodland to the western property line. The reforestation planting plan will be prepared to target extensions of the existing native Fresh-Moist Sugar Maple Hardwood Deciduous Forest (FOD6-5) within the retained significant woodland communities.

As part of the Reforestation Planting Plan prepared at the detail design, the plan will also assess and determine what invasive species management for the Category 1 species is recommended on the Subject Lands. The Category 1 plants observed on the Subject Lands are:

- European Swallowwort;
- Garlic Mustard;
- Dame's Rocket;
- Tartarian Honeysuckle;
- European Buckthorn; and
- Manitoba Maple

A species-specific management assessment will be undertaken to determine whether active management is warranted (i.e., using chemical, biological, or physical interventions) or whether indirect management is appropriate (i.e., supporting natural succession). Consideration will also be given to the likelihood of success in eliminating the target species given occurrence within the local landscape.

Species Selection

Species selection will consider specific moisture, soil and sun requirements of the area. Some species (e.g., Ash, Elm) will not be selected due to pest and disease concerns that could impact their survivability. Native plant materials should be sourced from native plant nurseries and seed suppliers within 100 km of the Subject Lands, if possible, to reduce transplant shock. All plant materials will be obtained and installed in accordance with the Canadian Nursery Stock Standard. Native shrub and tree species will be selected to provide a diverse assemblage of plant species. Plantings will include fast-growing and pioneer species more tolerant of harsher/variable growing conditions.

The type of planting stock is dependent on the species and their modes of reproduction, as well as practicality. The following plant stock will be considered within the planting areas:

- Herbs (forbs, graminoids): seeds, plugs;
- Shrubs: 1-gallon pots, stem cuttings, rootstock cuttings; and
- Trees: seed, bareroot, ball and burlap, whips, potted seedlings.

Soil Amendments

Currently, the lands subject to the reforestation plan are under active agricultural use. Soil testing, prior to planting, to determine the need for soil amendments for healthy plant growth is recommended. Ahead of planting, site preparation is key to ensure that soil moisture capacity and nutrient content are suitable for native plant growth. Native plants generally require low soil nitrogen content and nutrient supplementation is not expected (generally nutrient levels are high in recently farmed cash crop fields). The addition of targeted mycorrhizal inoculants to establish symbiotic relationship between a specific plant and mycorrhiza symbiont (i.e., arbuscular mycorrhiza and Maple (*Acer* ssp.) trees; ectomycorrhizal and Oak (*Quercus* spp.) trees) is generally helpful to facilitate native plant establishment (Chen et al 2016). Studies have also shown that mycorrhizal symbionts are expected to improve the host tree's adaptation to stressors associated with climate change such as high temperatures, drought, salinity and flooding (Usman et al. 2021).

Excessive application of soil amendments (i.e., fertilizers) could negatively impact the surrounding landscape as it will result in nutrient loading and could impact the realigned watercourses. In accordance with CH's Guidelines for Landscaping and Rehabilitation Plans (2021), should soil amendments be required, soil amendments will be sourced from sustainable practices (e.g., incorporating leaf mulch or compost that meets Category AA or A of the MECP Ontario Compost Standard Quality). The incorporation of peat moss is strongly discouraged and composted leaves used instead. Upland disturbed areas should have at least 20 cm of topsoil containing 5 to 15% organic matter (by dry weight) depending on the type of vegetation to be established, a total uncompacted soil depth of at least 30 cm and a soil pH of 6.0 to 8.0 per the TRCA's (2012) Preserving and Restoring Healthy Soil: Best Practices for Urban Construction. Topsoil requirements will also follow CH's (2021) Guidelines for Landscaping and Rehabilitation Plans. Where soil has been compacted, a minimum of 45 cm of clean topsoil will be evenly distributed throughout the site. Imported soil will be mixed with native soil to ensure soil micro-organisms are adapted to the site.

Within tree pits (areas where trees will be planted), trees should have a topsoil layer of a minimum depth of 60 cm. The subsoil layer should be either tilled, scarified or excavated and replaced to a minimum depth of 30 cm. Incorporation of the upper layer into the sublayer should be included to avoid stratified layers where possible. This will produce a total of 90 cm of uncompacted soil, per the TRCA (2012).

All landscaped works, within the reforestation areas, will be reviewed weekly during the construction period to ensure all planting and surface treatments are installed per specifications. It is also anticipated that the works will be inspected with the Town once substantially complete. An additional inspection will be arranged once a year for the two-year compliance period following implementation to ensure that all works are established.

9. Conclusions and Recommendations

This Scoped EIS has been developed as part of the planning process for the proposed development at 10249 Hunsden Sideroad in the Town of Caledon, Ontario. An assessment of impacts on natural features and their associated functions has been conducted and discussed in relation to the PPS and the ORMCP.

The proposed development occurs in areas that are agricultural, and a 30 m development setback has been proposed from the natural heritage features associated with the significant woodlands, while a 20 m setback for the linkage corridor, and a 10 m setback for the PNAC woodland is provided.

Based upon the natural heritage feature inventories and analyses carried out, the following conclusions are drawn:

- The agricultural lands upon which development is proposed, do not provide habitat for any significant natural features/KNHF/KHF when considered through both the PPS and the ORMCP;
- The significant woodlands on the Subject Lands were also identified as providing habitat for endangered species (i.e., Butternut, bat SAR), and have also been identified as candidate and confirmed significant wildlife habitat:
    - Candidate Bat Maternity Colonies (both FODs);
    - Candidate Reptile Hibernacula (south-most FOD);
    - Confirmed Woodland Area-Sensitive Bird Breeding Habitat (south-most FOD);
    - Confirmed Habitat for Species of Conservation Concern (both FODs):
        - Eastern Wood-Pewee; and
        - Wood Thrush.
- A PNAC woodland has been identified to the west of the Subject Lands that is of low ecological function;
- The identified development setbacks will sufficiently protect the identified natural heritage features;
- Linkage functions along the eastern extent of the Subject Lands will be maintained. Should a roadway be required to cross to the lands to the East, careful consideration should be given to ensuring appropriate design as this area is likely to see greater wildlife traffic given the proximity between two significant features on the landscape; and
- A formal Erosion and Sediment Control Plan will be provided as part of the detailed design phase of the Project. The use of standard mitigation measures regarding the use of fuels and chemicals during the construction process will reduce the risk of groundwater or surface water contamination from accidental spills.

Based upon current and available technical information and analyses, the predicted effects on the natural features and associated functions will be avoided/minimized through the protection, mitigation and enhancement measures recommended and discussed in this report.

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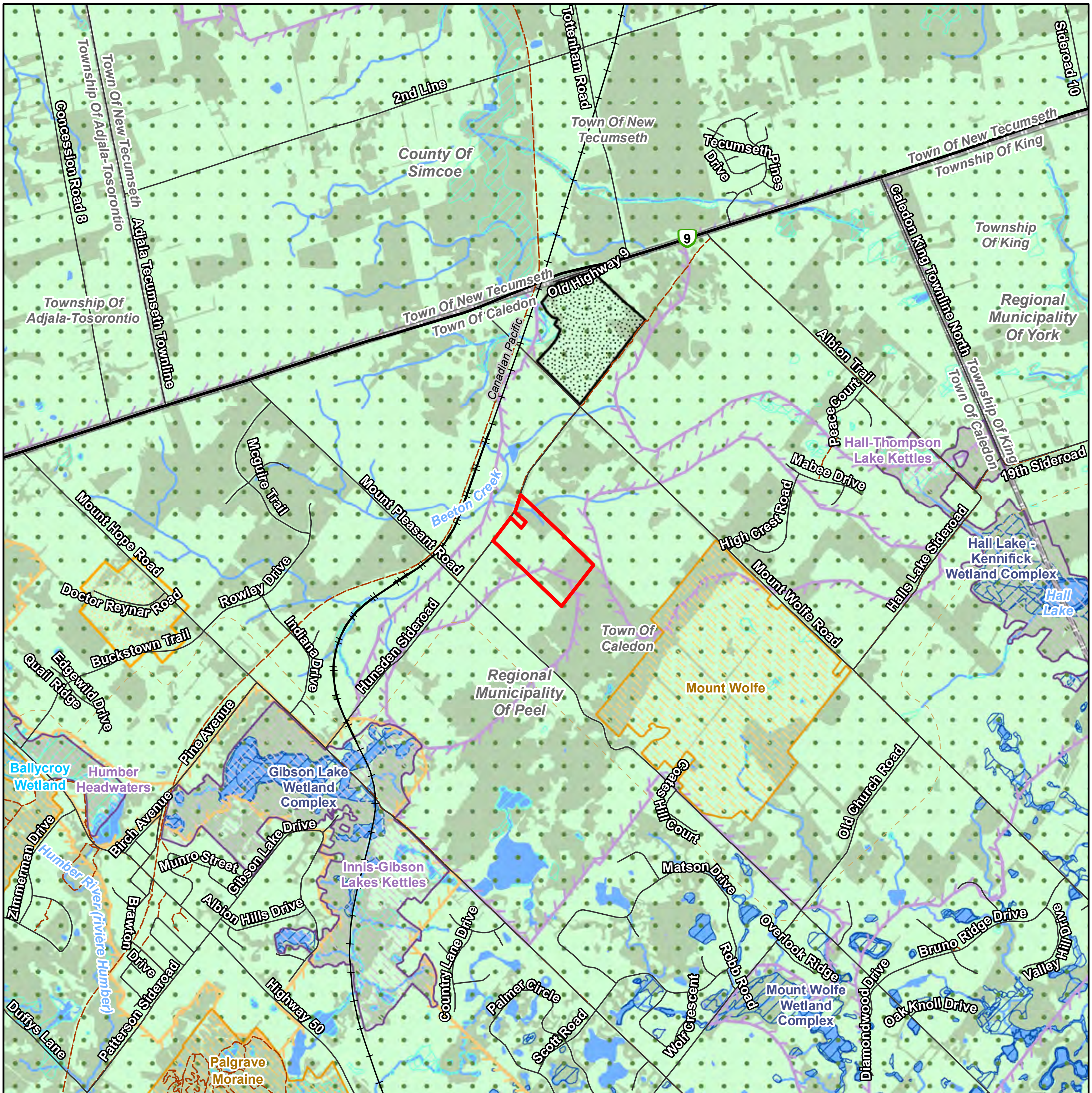
Appendix A

Figures



Project 2101948

NOTES:

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Legend

- Subject Lands
- Municipal Boundary, Lower/Single Tier
- Municipal Boundary, Upper Tier
- Watercourse
- Waterbody
- Wooded Area
- Railway
- Highway
- Road
- Trail Segment (OTN)
- Trail Segment
- Aggregate Site - Active
- Aggregate Site - Inactive
- Candidate Earth Science ANSI
- Candidate Life Science ANSI
- Provincially Significant Wetland
- Locally/Other Significant Wetland
- Wetland - Not evaluated per OWES
- Oak Ridges Moraine Planning Area
- Oak Ridges Moraine Conservation Plan Core Area
- Oak Ridges Moraine Conservation Plan Linkage Area
- Greenbelt Boundary

Greenbelt Designation

- Oak Ridges Moraine Conservation Plan

Carringwood Homes
10249 Hunsden Sideroad, Caledon, ON

Figure 1
Project Location and Landscape Context

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4. Dripline as staked with the Town of Caledon on August 9, 2023

Legend

- Subject Lands
- Watercourse
- Butternut
- Butternut 25m Protection Zone
- Ecological Land Classification
- Dripline[4]

ELC Legend

AG, Agricultural
CUP, Cultural Plantation
FOD6-5, Fresh – Moist Sugar Maple Hardwood Deciduous Forest
HR, Hedgerow
RES, Residential

Carringwood Homes
10249 Hunsden Sideroad, Caledon, ON

Figure 2
Ecological Land Classification

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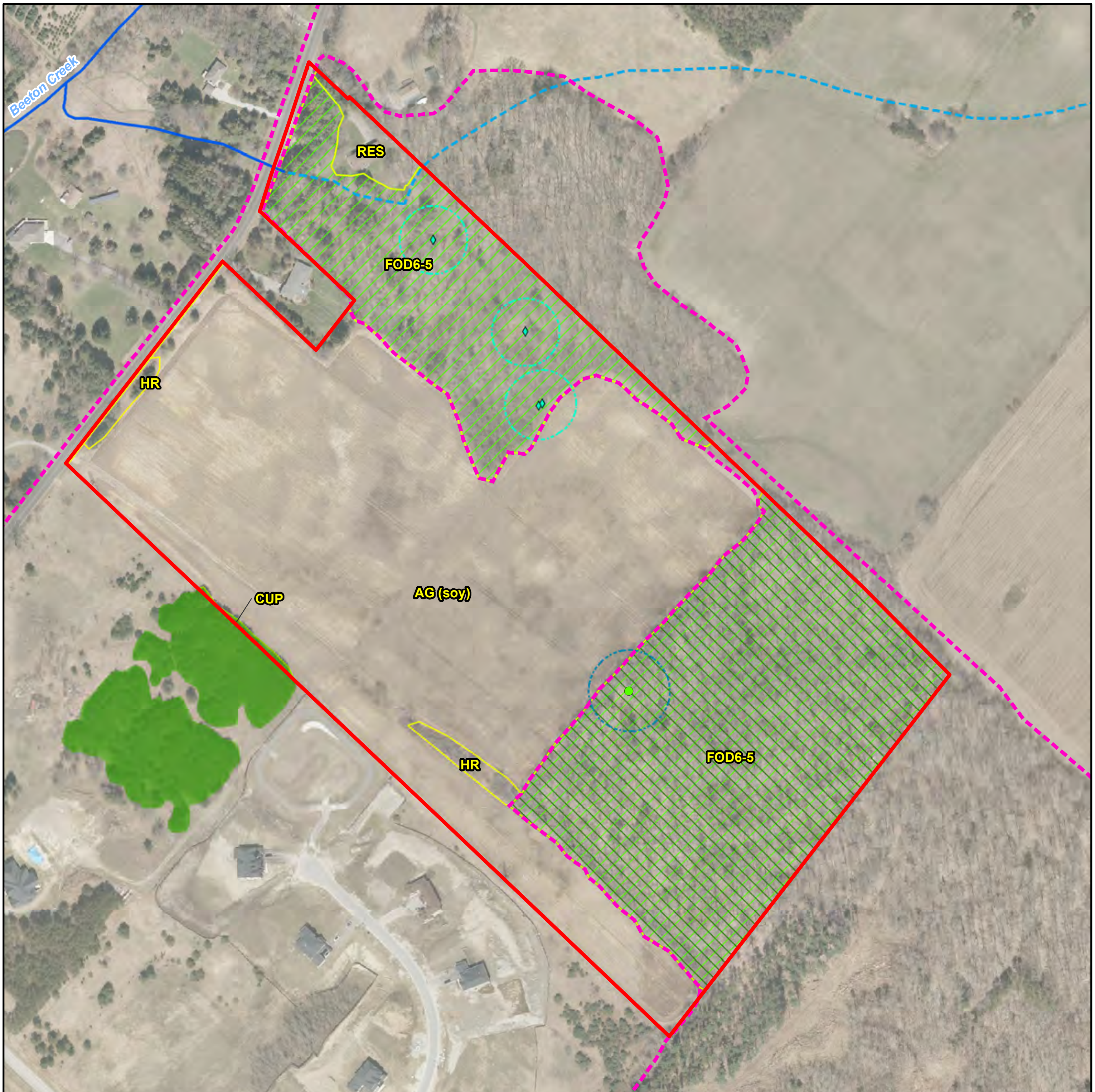

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Legend

- Subject Lands
- Core Areas/Significant Woodlands /Habitat for Endangered Species of Bats /Candidate SignificantWildlife Habitat (Bat Maternity Colony)/ Confirmed Significant Wildlife Habitat (Species of Conservation Concern – Eastern Wood-pewee and Wood Thrush)
- Oak Ridges Moraine Conservation Plan – Natural Linkage Area/Town of Caledon Policy Area 4
- Confirmed Significant Wildlife Habitat (Woodland Area-Sensitive Bird Breeding Habitat
- Ecological Land Classification
- Potential Natural areas and Corridors Woodland
- Candidate Reptile Hibernacula
- Butternut
- Intermittent Watercourse/Fish Habitat
- Drainage Swale
- Butternut 25m Protection Zone
- Candidate Significant Wildlife Habitat (Reptile Hibernacula)

ELC Legend

AG, Agricultural

CUP, Cultural Plantation

FOD6-5, Fresh – Moist Sugar Maple Hardwood Deciduous Forest

HR, Hedgerow

RES, Residential

Carringwood Homes
10249 Hunsden Sideroad, Caledon, ON

Figure 3 Designated Natural Heritage Features

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NOTES:

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Legend

- Subject Lands
- Core Areas/Significant Woodlands /Habitat for Endangered Species of Bats /Candidate SignificantWildlife Habitat (Bat Maternity Colony)/ Confirmed Significant Wildlife Habitat (Species of Conservation Concern – Eastern Wood-pewee and Wood Thrush)
- Oak Ridges Moraine Conservation Plan – Natural Linkage Area/Town of Caledon Policy Area 1
- Confirmed Significant Wildlife Habitat (Woodland Area-Sensitive Bird Breeding Habitat
- Ecological Land Classification
- Potential Natural areas and Corridors Woodland
- Candidate Reptile Hibernacula
- Butternut
- PNAC Woodlands + 10m
- Significant Woodland + 30 m
- Butternut 25m Protection Zone
- Candidate Significant Wildlife Habitat (Reptile Hibernacula)
- Intermittent Watercourse/Fish Habitat
- Drainage Swale

ELC Legend

AG, Agricultural

CUP, Cultural Plantation

FOD6-5, Fresh – Moist Sugar Maple Hardwood Deciduous Forest

HR, Hedgerow

RES, Residential

Project 2101948

Carringwood Homes
10249 Hunsden Sideroad, Caledon, ON

Figure 4
Draft Plan

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Legend
- Subject Lands
- Core Areas/Significant Woodlands /Habitat for Endangered Species of Bats /Candidate Significant Wildlife Habitat (Bat Maternity Colony)/ Confirmed Significant Wildlife Habitat (Species of Conservation Concern – Eastern Wood-pewee and Wood Thrush)
- Oak Ridges Moraine Conservation Plan – Natural Linkage Area/Town of Caledon Policy Area 1
- Confirmed Significant Wildlife Habitat (Woodland Area-Sensitive Bird Breeding Habitat
- Ecological Land Classification
- Potential Natural areas and Corridors Woodland
- Native Seed Mix
- Reforestation Area
- Candidate Reptile Hibernacula
- Butternut
- PNAC Woodlands + 10m
- Significant Woodland + 30 m
- Butternut 25m Protection Zone
- Candidate Significant Wildlife Habitat (Reptile Hibernacula)
- Intermittent Watercourse/Fish Habitat
- Drainage Swale

ELC Legend
- AG, Agricultural
- CUP, Cultural Plantation
- FOD6-5, Fresh – Moist Sugar Maple Hardwood Deciduous Forest
- HR, Hedgerow
- RES, Residential

Project 2101948

Carringwood Homes
10249 Hunsden Sideroad, Caledon, ON

Figure 5
Environmental Management/ Reforestation Plan

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Appendix B

Tables

Table 1: Field Studies and Natural Inventories (2021 - 2022)

SURVEYORS (SURNAME, INTL)	SURVEY ROUND	SURVEY TYPE	DATE (2022)	TIME		AIR TEMP (C°)	WATER TEMP (C°)	HUMIDITY (%)	CLOUD COVER (%)	BEAUFORT WIND SPEED	PRECIPITATION COMMENTS
				START	END						
2021											
Szabo, A	1	Site Reconnaissance	02-JN	-	-	24	N/A	37	60	1	None
2022											
Kimble, B.	1	Headwater Drainage Feature Assessment	20-AP	11:00	13:30	4	N/A	54	20	4	None
Snow J.	1	Spring Botanical Inventory and ELC	17-MA	09:00	12:00	14	N/A	62	80	4	None
Kimble, B.	2	Headwater Drainage Feature Assessment	20-MA	11:00	11:30	23	N/A	N/A	70	3	None
Burke, P.	1	Breeding Bird Surveys	14-JN	05:30	07:40	17	N/A	63	5	1	None
Burke, P.	2	Breeding Bird Surveys	30-JN	05:40	07:30	17	N/A	66	85	1	None
Snow J.	2	Summer Botanical Inventory and ELC	12-JL	09:45	12:00	22	N/A	51	45	2-3	None
Snow J.	3	Fall Botanical Inventory and ELC	02-SE	10:00	12:00	23	N/A	54	60	1	None

LEGEND:

Table 1: Field Studies and Natural Inventories (2021 - 2022)

BEAUFORT WIND SPEED SCALE	
0	Calm (<1 km/hr)
1	Light Air (1-5 km/hr)
2	Light Breeze (6-11 km/hr)
3	Gentle Breeze (12-19 km/hr)
4	Moderate Breeze (20-28 km/hr)

MONTH (CODE)	
JA	January
FB	February
MR	March
AP	April
MA	May
JN	June
JL	July
AU	August
SE	September
OC	October
NO	November
DE	December

ORDER	FAMILY	LATIN NAME	COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	OWES WETLAND SPECIES	WEEDINESS INDEX	INVASIVE EXOTIC RANK (Urban Forest Associates 2002)	PROVINCIAL STATUS (S-RANK)	GLOBAL STATUS (G-RANK)	COSSARO (MNRF)	COSEWIC STATUS	PEEL (Varga 2005)	FOD6-5 (A)	FOD6-5 (B)	hedgerows
DICOTYLEDONS	Adoxaceae	*Sambucus racemosa ssp. pubens*	Red Elderberry	5	3			P	S5	G5			X	x	x	
DICOTYLEDONS	Adoxaceae	*Viburnum acerifolium*	Maple-Leaved Viburnum	6	5				S5	G5			X	x		
DICOTYLEDONS	Adoxaceae	*Viburnum rafinesquianum*	Downy Arrowwood	7	5				S5	G5			R4	x	x	
DICOTYLEDONS	Amaranthaceae	*Chenopodium album*	Common Lamb's-Quarters		3		-1		SNA	G5T5			X			x
DICOTYLEDONS	Anacardiaceae	*Rhus typhina*	Staghorn Sumac	1	3				S5	G5			X		x	x
DICOTYLEDONS	Apiaceae	*Conium maculatum*	Poison Hemlock		-3		-1		SNA	G5			X	x	x	
DICOTYLEDONS	Apiaceae	*Daucus carota*	Wild Carrot		5		-2		SNA	GNR			X			x
DICOTYLEDONS	Apocynaceae	*Apocynum androsaemifolium*	Spreading Dogbane	3	5				S5	G5T?			X	x	x	
DICOTYLEDONS	Apocynaceae	*Asclepias syriaca*	Common Milkweed	0	5				S5	G5			X	x		x
DICOTYLEDONS	Apocynaceae	*Vinca minor*	Lesser Periwinkle		5		-2	2	SNA	GNR			X		x	
DICOTYLEDONS	Apocynaceae	*Vincetoxicum rossicum*	European Swallowwort		5			1	SNA	GNR			X	x	x	x
DICOTYLEDONS	Aristolochiaceae	*Asarum canadense*	Canada Wild-Ginger	6	5				S5	G5			X	x	x	
DICOTYLEDONS	Asteraceae	*Ambrosia artemisiifolia*	Common Ragweed	0	3				S5	G5			X		x	x
DICOTYLEDONS	Asteraceae	*Arctium minus*	Common Burdock		3		-2		SNA	G?T?			X	x	x	x
DICOTYLEDONS	Asteraceae	*Cirsium vulgare*	Bull Thistle		3		-1		SNA	G5			X			x
DICOTYLEDONS	Asteraceae	*Erigeron annuus*	Annual Fleabane	0	3				S5	G5			X	x	x	x
DICOTYLEDONS	Asteraceae	*Euthamia graminifolia*	Grass-Leaved Goldenrod	2	0				S5	G5			X			x
DICOTYLEDONS	Asteraceae	*Rudbeckia hirta var. pulcherrima*	Black-Eyed Susan	0	3				S5	G5			X		x	
DICOTYLEDONS	Asteraceae	*Solidago altissima var. altissima*	Tall Goldenrod	1	3				S5	GNR			X	x		x
DICOTYLEDONS	Asteraceae	*Solidago canadensis*	Canada Goldenrod	1	3				S5	G5T5			X			x
DICOTYLEDONS	Asteraceae	*Solidago gigantea*	Giant Goldenrod	4	-3	T			S5	G5			X	x	x	
DICOTYLEDONS	Asteraceae	*Solidago nemoralis var. nemoralis*	Grey-Stemmed Goldenrod (var. nemora	2	5				S5	G5T?			X			x
DICOTYLEDONS	Asteraceae	*Sonchus arvensis ssp. arvensis*	Field Sow-Thistle		3				SNA	GNR			X			x
DICOTYLEDONS	Asteraceae	*Symphyotrichum cordifolium*	Heart-Leaved Aster	5	5				S5	G5			X	x		
DICOTYLEDONS	Asteraceae	*Symphyotrichum ericoides var. ericoide*	White Heath Aster	4	3				S5	G5T5			X			x
DICOTYLEDONS	Asteraceae	*Symphyotrichum lanceolatum*	Panicled Aster	3	-3	I			S5	G5			X	x		x
DICOTYLEDONS	Asteraceae	*Symphyotrichum novae-angliae*	New England Aster	2	-3				S5	G5			X			x
DICOTYLEDONS	Asteraceae	*Taraxacum officinale*	Common Dandelion		3		-2		SNA	G5			X	x	x	x
DICOTYLEDONS	Asteraceae	*Tragopogon dubius*	Yellow Goatsbeard		5		-1		SNA	GNR			X			x
DICOTYLEDONS	Asteraceae	*Tussilago farfara*	Coltsfoot		3	T	-2	4	SNA	GNR			X	x		
DICOTYLEDONS	Balsaminaceae	*Impatiens capensis*	Spotted Jewelweed	4	-3	I			S5	G5			X	x	x	
DICOTYLEDONS	Berberidaceae	*Caulophyllum thalictroides*	Blue Cohosh	5	5				S5	G5			R1	x	x	
DICOTYLEDONS	Berberidaceae	*Podophyllum peltatum*	May-Apple	5	3				S5	G5			X		x	
DICOTYLEDONS	Betulaceae	*Betula alleghaniensis*	Yellow Birch	6	0	T			S5	G5			X	x	x	
DICOTYLEDONS	Betulaceae	*Betula papyrifera*	Paper Birch	2	3	T			S5	G5			X	x		
DICOTYLEDONS	Betulaceae	*Ostrya virginiana*	Eastern Hop-Hornbeam	4	3				S5	G5			X	x	x	
DICOTYLEDONS	Boraginaceae	*Hackelia virginiana*	Virginia Stickseed	5	3				S5	G5			U	x	x	
DICOTYLEDONS	Boraginaceae	*Hydrophyllum virginianum var. virginia*	Virginia Waterleaf	6	0				S5	G5			X	x	x	x
DICOTYLEDONS	Boraginaceae	*Symphytum officinale*	Common Comfrey		5		-1		SNA	GNR			X	x	x	
DICOTYLEDONS	Brassicaceae	*Alliaria petiolata*	Garlic Mustard		0		-3	1	SNA	G5			X	x	x	
DICOTYLEDONS	Brassicaceae	*Cardamine diphylla*	Two-Leaved Toothwort	7	3				S5	G5			X	x		
DICOTYLEDONS	Brassicaceae	*Hesperis matronalis*	Dame's Rocket		3		-3	1	SNA	G4G5			X	x		x
DICOTYLEDONS	Brassicaceae	*Thlaspi arvense*	Field Pennycress		5		-1		SNA	GNR			X			x
DICOTYLEDONS	Campanulaceae	*Lobelia inflata*	Indian-Tobacco	3	3				S5	G5			X	x		
DICOTYLEDONS	Caprifoliaceae	*Lonicera canadensis*	Canada Fly Honeysuckle	6	3				S5	G5			X	x		
DICOTYLEDONS	Caprifoliaceae	*Lonicera tatarica*	Tartarian Honeysuckle		3		-3	1	SNA	GNR			X	x		x
DICOTYLEDONS	Caryophyllaceae	*Saponaria officinalis*	Bouncing-Bet		3		-3	3	SNA	GNR			X			x
DICOTYLEDONS	Caryophyllaceae	*Silene vulgaris*	Bladder Campion		5		-1		SNA	GNR			X			x
DICOTYLEDONS	Cornaceae	*Cornus alternifolia*	Alternate-Leaved Dogwood	6	3				S5	G5			X	x	x	
DICOTYLEDONS	Cucurbitaceae	*Echinocystis lobata*	Wild Cucumber	3	-3	T			S5	G5			X			x
DICOTYLEDONS	Elaeagnaceae	*Elaeagnus angustifolia*	Russian Olive		3		-1	3	SNA	GNR			X			x
DICOTYLEDONS	Fabaceae	*Amphicarpaea bracteata*	American Hog-Peanut	4	0	T			S5	G5			X	x		
DICOTYLEDONS	Fabaceae	*Lotus corniculatus*	Garden Bird's-Foot Trefoil		3		-2	2	SNA	GNR			X			x
DICOTYLEDONS	Fabaceae	*Medicago sativa ssp. sativa*	Alfalfa (ssp. sativa)		5		-1	4	SNA	GNRTNR			X			x
DICOTYLEDONS	Fabaceae	*Melilotus albus*	White Sweet-Clover		3		-3	2	SNA	GNR			X			x
DICOTYLEDONS	Fabaceae	*Trifolium pratense*	Red Clover		3		-2	4	SNA	GNR			X		x	x
DICOTYLEDONS	Fabaceae	*Vicia cracca*	Tufted Vetch		5		-1	2	SNA	GNR			X			x
DICOTYLEDONS	Fagaceae	*Fagus grandifolia*	American Beech	6	3				S4	G5			X	x	x	
DICOTYLEDONS	Geraniaceae	*Geranium robertianum*	Herb-Robert	2	3		-2		S5	G5			X	x	x	
DICOTYLEDONS	Grossulariaceae	*Ribes cynosbati*	Eastern Prickly Gooseberry	4	3				S5	G5			X	x	x	
DICOTYLEDONS	Grossulariaceae	*Ribes rubrum*	European Red Currant		5	T	-2		SNA	G4G5			X	x	x	
DICOTYLEDONS	Juglandaceae	*Juglans cinerea*	Butternut	6	3				S2?	G4	END	END	X		x	
DICOTYLEDONS	Juglandaceae	*Juglans nigra*	Black Walnut	5	3				S4?	G5			X	x		x
DICOTYLEDONS	Lamiaceae	*Ajuga reptans*	Creeping Bugleweed		5		-1	4	SNA	GNR			X		x	
DICOTYLEDONS	Lamiaceae	*Leonurus cardiaca ssp. cardiaca*	Common Motherwort		5		-2		SNA	GNR			X	x	x	x
DICOTYLEDONS	Malvaceae	*Tilia americana*	Basswood	4	3				S5	G5			X	x	x	x
DICOTYLEDONS	Oleaceae	*Fraxinus americana*	White Ash	4	3				S4	G5			X	x	x	
DICOTYLEDONS	Oleaceae	*Fraxinus pennsylvanica*	Red Ash	3	-3	T			S4	G5			X	x	x	
DICOTYLEDONS	Oleaceae	*Syringa vulgaris*	Common Lilac		5		-2	2	SNA	GNR			X			x
DICOTYLEDONS	Onagraceae	*Circaea canadensis ssp. canadensis*	Canada Enchanter's Nightshade	2	3				S5	G5T5			X	x	x	
DICOTYLEDONS	Oxalidaceae	*Oxalis stricta*	European Wood-Sorrel	0	3				S5	G5			X	x	x	
DICOTYLEDONS	Papaveraceae	*Dicentra canadensis*	Squirrel-Corn	7	5				S5	G5			U	x	x	
DICOTYLEDONS	Papaveraceae	*Sanguinaria canadensis*	Bloodroot	5	3				S5	G5			X	x	x	
DICOTYLEDONS	Phrymaceae	*Phryma leptostachya var. leptostachya*	Lopseed	6	3				S4S5	G5			X	x		
DICOTYLEDONS	Plantaginaceae	*Linaria vulgaris*	Butter-And-Eggs		5		-1	4	SNA	GNR			X			x
DICOTYLEDONS	Plantaginaceae	*Plantago lanceolata*	English Plantain		3		-1		SNA	G5			X			x
DICOTYLEDONS	Plantaginaceae	*Plantago major*	Common Plantain		3		-1		SNA	G5			X			x
DICOTYLEDONS	Polygonaceae	*Fallopia convolvulus*	Eurasian Black Bindweed		3		-1		SNA	GNR			X		x	x

ORDER	FAMILY	LATIN NAME	COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	OWES WETLAND SPECIES	WEEDINESS INDEX	INVASIVE EXOTIC RANK (Urban Forest Associates 2002)	PROVINCIAL STATUS (S-RANK)	GLOBAL STATUS (G-RANK)	COSSARO (MNRF)	COSEWIC STATUS	PEEL (Varga 2005)	FOD6-5 (A)	FOD6-5 (B)	hedgerows
DICOTYLEDONS	Polygonaceae	*Rumex crispus*	Curled Dock		0	T	-2		SNA	GNR			X	x	x	
DICOTYLEDONS	Primulaceae	*Lysimachia borealis*	Northern Starflower	6	0				S5	G5T?			X		x	
DICOTYLEDONS	Ranunculaceae	*Actaea pachypoda*	White Baneberry	6	5				S5	G5			X	x	x	
DICOTYLEDONS	Ranunculaceae	*Actaea rubra ssp. rubra*	Red Baneberry	6	3				S5	G5			X	x	x	
DICOTYLEDONS	Ranunculaceae	*Anemone acutiloba*	Sharp-Lobed Hepatica	8	5				S5	G5			X	x		
DICOTYLEDONS	Ranunculaceae	*Anemone virginiana*	Tall Anemone	4	3				S5	G5			X			x
DICOTYLEDONS	Ranunculaceae	*Ranunculus abortivus*	Kidney-Leaved Buttercup	2	0				S5	G5			X	x	x	
DICOTYLEDONS	Ranunculaceae	*Thalictrum dioicum*	Early Meadow-Rue	6	3				S5	G5			X		x	
DICOTYLEDONS	Rhamnaceae	*Rhamnus cathartica*	European Buckthorn		0	T	-3	1	SNA	GNR			X	x	x	x
DICOTYLEDONS	Rosaceae	*Fragaria virginiana*	Wild Strawberry	2	3				S5	G5			X		x	
DICOTYLEDONS	Rosaceae	*Geum aleppicum*	Yellow Avens	2	0	T			S5	G5			X	x		
DICOTYLEDONS	Rosaceae	*Geum urbanum*	Wood Avens		5		-1		SNA	G5			X		x	
DICOTYLEDONS	Rosaceae	*Prunus nigra*	Canada Plum	4	3				S4	G4G5			U	x	x	
DICOTYLEDONS	Rosaceae	*Prunus pensylvanica*	Pin Cherry	3	3				S5	G5			X	x	x	
DICOTYLEDONS	Rosaceae	*Prunus virginiana var. virginiana*	Chokecherry	2	3				S5	G5T?			X	x		x
DICOTYLEDONS	Rosaceae	*Rubus allegheniensis*	Alleghany Blackberry	2	3				SU	G5			X		x	
DICOTYLEDONS	Rosaceae	*Rubus idaeus ssp. idaeus*	European Red Raspberry		3				SNA	G5T5				x	x	x
DICOTYLEDONS	Rosaceae	*Rubus occidentalis*	Black Raspberry	2	5				S5	G5			X	x	x	
DICOTYLEDONS	Rubiaceae	*Galium aparine*	Common Bedstraw	4	3				S5	G5			R4	x	x	
DICOTYLEDONS	Rubiaceae	*Galium triflorum*	Three-Flowered Bedstraw	4	3				S5	G5			X		x	
DICOTYLEDONS	Salicaceae	*Populus tremuloides*	Trembling Aspen	2	0	T			S5	G5			X		x	x
DICOTYLEDONS	Sapindaceae	*Acer negundo*	Manitoba Maple	0	0	T		1	S5	G5			X	x	x	x
DICOTYLEDONS	Sapindaceae	*Acer saccharum*	Sugar Maple	4	3				S5	G5			X	x	x	x
DICOTYLEDONS	Sapindaceae	*Acer x freemanii*	Freeman's Maple	6	-5	I			SNA	GNA			XSR			x
DICOTYLEDONS	Saxifragaceae	*Tiarella cordifolia*	Heart-Leaved Foamflower	6	3	T			S5	G5			X		x	
DICOTYLEDONS	Scrophulariaceae	*Verbascum thapsus ssp. thapsus*	Common Mullein		5		-2		SNA	GNR			X		x	x
DICOTYLEDONS	Solanaceae	*Solanum dulcamara*	Bittersweet Nightshade		0	T	-2	3	SNA	GNR			X			x
DICOTYLEDONS	Ulmaceae	*Ulmus americana*	White Elm	3	-3	T			S5	G5			X	x	x	x
DICOTYLEDONS	Urticaceae	*Urtica dioica ssp. dioica*	European Stinging Nettle		0		-1	3	SNA	G5T5?			XSR	x	x	
DICOTYLEDONS	Violaceae	*Viola canadensis var. canadensis*	Canada Violet	6	3				S5	GNR			X	x	x	
DICOTYLEDONS	Violaceae	*Viola pubescens*	Downy Yellow Violet	5	3				S5	G5			X	x	x	
DICOTYLEDONS	Vitaceae	*Parthenocissus quinquefolia*	Virginia Creeper	6	3				S4?	G5			RLR	x	x	x
DICOTYLEDONS	Vitaceae	*Parthenocissus vitacea*	Thicket Creeper	4	3				S5	G5			X	x	x	
DICOTYLEDONS	Vitaceae	*Vitis riparia*	Riverbank Grape	0	0				S5	G5			X	x	x	x
GYMNOSPERMS	Pinaceae	*Picea pungens*	Blue Spruce		3				SNA	G5						x
GYMNOSPERMS	Pinaceae	*Pinus strobus*	Eastern White Pine	4	3	T			S5	G5			X	x	x	
GYMNOSPERMS	Pinaceae	*Pinus sylvestris*	Scots Pine		3		-3	2	SNA	GNR			X			x
GYMNOSPERMS	Pinaceae	*Tsuga canadensis*	Eastern Hemlock	7	3	T			S5	G5			X	x	x	
MONOCOTYLEDONS	Amaryllidaceae	*Allium tricoccum var. tricoccum*	Wild Leek	7	3				S4	G5			X	x		
MONOCOTYLEDONS	Araceae	*Arisaema triphyllum ssp. triphyllum*	Jack-In-The-Pulpit	5	-3	T			S5	G5			X	x	x	
MONOCOTYLEDONS	Asparagaceae	*Convallaria majalis var. majalis*	European Lily-Of-The-Valley		5		-2	3	SNA	G5			X		x	
MONOCOTYLEDONS	Asparagaceae	*Maianthemum canadense ssp. canaden*	Wild Lily-Of-The-Valley (ssp. canadense	5	3				S5	G5T5			X	x	x	
MONOCOTYLEDONS	Asparagaceae	*Maianthemum racemosum*	Large False Solomon's Seal	4	3				S5	G5T			X	x	x	
MONOCOTYLEDONS	Asparagaceae	*Polygonatum biflorum var. commutatu*	Giant Solomon's Seal	8	3				S4	G5				x	x	
MONOCOTYLEDONS	Asparagaceae	*Polygonatum pubescens*	Hairy Solomon's Seal	5	5				S5	G5			X	x		
MONOCOTYLEDONS	Cyperaceae	*Carex albursina*	White Bear Sedge	7	5				S5	G5			R10	x	x	
MONOCOTYLEDONS	Cyperaceae	Carex arctata	Drooping Woodland Sedge	5	5				S5	G5?			X	x	x	
MONOCOTYLEDONS	Cyperaceae	*Carex communis var. communis*	Fibrous-Root Sedge	6	5				S5	G5			X	x	x	
MONOCOTYLEDONS	Cyperaceae	*Carex intumescens*	Bladder Sedge	6	-3	I			S5	G5			X		x	
MONOCOTYLEDONS	Cyperaceae	*Carex laxiflora*	Loose-Flowered Sedge	5	0				S5	G5			R7	x		
MONOCOTYLEDONS	Cyperaceae	Carex leptonervia	Finely-Nerved Sedge	5	0				S5	G5			R6	x	x	
MONOCOTYLEDONS	Cyperaceae	*Carex pensylvanica*	Pennsylvania Sedge	5	5				S5	G5			X	x	x	
MONOCOTYLEDONS	Cyperaceae	*Carex sprengelii*	Sprengel's Sedge	6	0				S5	G5			R1		x	
MONOCOTYLEDONS	Cyperaceae	*Carex sylvatica*	European Woodland Sedge		3		-1		SNA	GNR				x	x	
MONOCOTYLEDONS	Liliaceae	*Erythronium americanum ssp. americar*	Yellow Trout Lily	5	5				S5	G5T5			X	x	x	
MONOCOTYLEDONS	Melanthiaceae	*Trillium erectum*	Red Trillium	6	3				S5	G5			X	x	x	
MONOCOTYLEDONS	Melanthiaceae	*Trillium grandiflorum*	White Trillium	5	3				S5	G5			X	x	x	
MONOCOTYLEDONS	Poaceae	*Bromus inermis*	Smooth Brome		5		-3	4	SNA	G5TNR			X	x		x
MONOCOTYLEDONS	Poaceae	*Dactylis glomerata*	Orchard Grass		3		-1	3	SNA	GNR			X	x		x
MONOCOTYLEDONS	Poaceae	*Phalaris arundinacea var. arundinacea*	Reed Canary Grass	0	-3	T		P	S5	GNR			X			x
MONOCOTYLEDONS	Poaceae	*Phleum pratense ssp. pratense*	Common Timothy		3		-1		SNA	GNR			X			x
MONOCOTYLEDONS	Smilacaceae	*Smilax herbacea*	Herbaceous Carrionflower	5	0				S4?	G5			X	x	x	
MONOCOTYLEDONS	Xanthorrhoeaceae	*Hemerocallis fulva*	Orange Daylily		5		-3	4	SNA	GNR			X		x	
MONOCOTYLEDONS	Xanthorrhoeaceae	*Hemerocallis liliioasphodelus*	Yellow Daylily		5		-1		SNA	GNR			X			x
PTERIDOPHYTES	Athyriaceae	*Athyrium filix-femina var. angustum*	Northeastern Lady Fern	4	0	T			S5	G5T5			X		x	
PTERIDOPHYTES	Cystopteridaceae	*Cystopteris species*	Bladder Fern Species	5	-3	T			S5	G5			X	x		
PTERIDOPHYTES	Dennstaedtiaceae	*Pteridium aquilinum var. latiusculum*	Eastern Bracken Fern	2	3				S5	G5T			X	x	x	
PTERIDOPHYTES	Dryopteridaceae	*Dryopteris intermedia*	Evergreen Wood Fern	5	0				S5	G5			X	x	x	
PTERIDOPHYTES	Dryopteridaceae	*Polystichum acrostichoides*	Christmas Fern	5	3				S5	G5			X	x		
PTERIDOPHYTES	Onocleaceae	*Matteuccia struthiopteris var. pensylva*	Ostrich Fern	5	0	T			S5	G5			X	x	x	
PTERIDOPHYTES	Osmundaceae	*Osmunda claytoniana*	Interrupted Fern	7	0	T			S5	G5			R7	x	x	
PTERIDOPHYTES	Pteridaceae	*Adiantum pedatum*	Northern Maidenhair Fern	7	3				S5	G5			X	x	x	

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	STATISTICS															
	Species Diversity															
	Total Number of Species:	150														
	Native Species:	101	67%													
	Exotic Species:	49	33%													
	S1-S3 Species:	1	1%													
	S4 Species:	10	10%													
	S5 Species:	89	88%													
	Floristic Quality Assessment (FQA)															
	Mean Co-efficient of Conservatism (CC)	4.2														
	CC 0 - 3 = lowest sensitivity	32	32%													
	CC 4 - 6 = moderate sensitivity	60	59%													
	CC 7 - 8 = high sensitivity	10	10%													
	CC 9 - 10 = highest sensitivity	0	0%													
	Floristic Quality Index (FQI)	42														
	Weedy & Invasive Species															
	Mean Weediness Index (Oldham et al):	-1.7														
	-1 = low potential invasiveness	21	43%													
	-2 = moderate potential invasiveness	15	31%													
	-3 = high potential invasivenss	9	18%													
	Mean Exotic Rank (Urban Forest Associates):	3														
	Category 1	6	12%													
	Category 2	6	12%													
	Category 3	6	12%													
	Category 4	7	14%													
	Potentially Invasive (P)	2	4%													
	Wetland Species															
	Mean Wetness Index	2.5														
	Upland	38	25%													
	Facultative upland	76	51%													
	Facultative	23	15%													
	Facultative wetland	12	8%													
	Obligate wetland	1	1%													

Common Name	Species Code	Scientific Name	Provincial Status (S Rank)	Global Status (G Rank)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Galliformes								
Phasianinae								
Wild Turkey	WITU	*Meleagris gallopavo*	S5	G5			X	PO-H
Columbiformes								
Columbidae								
Mourning Dove	MODO	*Zenaida macroura*	S5	G5				PO-H
Trochilidae								
Ruby-throated Hummingbird	RTHU	*Archilochus colubris*	S5B	G5				PO-H
Suliformes								
Phalacrocoracidae								
Double-crested Cormorant	DCCO	*Phalacrocorax auritus*	S5B, S4N	G5	NAR	NAR		OB-X
Pelecaniformes								
Ardeidae								
Green Heron	GRHE	*Butorides virescens*	S4B	G5			X	OB-X
Great Blue Heron	GBHE	*Ardea herodias*	S5	G5				OB-X
Cathartiformes								
Accipitriformes								
Accipitridae								
Red-tailed Hawk	RTHA	*Buteo jamaicensis*	S5	G5	NAR	NAR	X	PO-H
Piciformes								
Picidae								
Red-bellied Woodpecker	RBWO	*Melanerpes carolinus*	S5	G5				PO-H
Yellow-bellied Sapsucker	YBSA	*Sphyrapicus varius*	S5B, S3N	G5			X	PR-A
Downy Woodpecker	DOWO	*Dryobates pubescens*	S5	G5				PR-T
Hairy Woodpecker	HAWO	*Dryobates villosus*	S5	G5				PO-H
Northern Flicker	NOFL	*Colaptes auratus*	S5	G5				PO-H
Passeriformes								
Tyrannidae								
Great Crested Flycatcher	GCFL	*Myiarchus crinitus*	S5B	G5				PO-H
Eastern Kingbird	EAKI	*Tyrannus tyrannus*	S4B	G5				PO-H
Eastern Wood-Pewee	EAWP	*Contopus virens*	S4B	G5	SC	SC	X	PR-T
Vireonidae								
Red-eyed Vireo	REVI	*Vireo olivaceus*	S5B	G5				PR-T
Corvidae								
Blue Jay	BLJA	*Cyanocitta cristata*	S5	G5				PR-T
American Crow	AMCR	*Corvus brachyrhynchos*	S5	G5				PO-H
Hirundinidae								
Tree Swallow	TRES	*Tachycineta bicolor*	S4S5B	G5				PO-H
Northern Rough-winged Swallow	NRWS	*Stelgidopteryx serripennis*	S4B	G5			X	OB-X
Paridae								
Black-capped Chickadee	BCCH	*Poecile atricapillus*	S5	G5				PR-T
Sittidae								
Red-breasted Nuthatch	RBNU	*Sitta canadensis*	S5	G5			X	PO-H
White-breasted Nuthatch	WBNU	*Sitta carolinensis*	S5	G5				PR-A
Troglodytidae								
House Wren	HOWR	*Troglodytes aedon*	S5B	G5				PR-P
Turdidae								
Veery	VEER	*Catharus fuscescens*	S5B	G5			X	PR-A
Wood Thrush	WOTH	*Hylocichla mustelina*	S4B	G4	THR	THR	X	PR-A
American Robin	AMRO	*Turdus migratorius*	S5	G5				PR-T
Fringillidae								
Purple Finch	PUFI	*Haemorhous purpureus*	S5	G5				PO-S
American Goldfinch	AMGO	*Spinus tristis*	S5	G5				PR-T

Common Name	Species Code	Scientific Name	Provincial Status (S Rank)	Global Status (G Rank)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Passerellidae								
Grasshopper Sparrow	GRSP	*Ammodramus savannarum*	S4B	G5	SC	SC	X	PR-T
Chipping Sparrow	CHSP	*Spizella passerina*	S5B, S3N	G5				PR-A
Clay-colored Sparrow	CCSP	*Spizella pallida*	S4B	G5			X	PO-S
Field Sparrow	FISP	*Spizella pusilla*	S4B, S3N	G5			X	PR-T
Vesper Sparrow	VESP	*Pooecetes gramineus*	S4B	G5			X	PR-T
Savannah Sparrow	SAVS	*Passerculus sandwichensis*	S5B, S3N	G5			X	PO-S
Song Sparrow	SOSP	*Melospiza melodia*	S5	G5				PR-T
Eastern Towhee	EATO	*Pipilo erythrophthalmus*	S4B, S3N	G5			X	PO-S
Icteridae								
Eastern Meadowlark	EAME	*Sturnella magna*	S4B, S3N	G5	THR	THR		PR-T
Baltimore Oriole	BAOR	*Icterus galbula*	S4B	G5				CO-FY
Common Grackle	COGR	*Quiscalus quiscula*	S5	G5				PO-H
Parulidae								
Ovenbird	OVEN	*Seiurus aurocapilla*	S5B	G5			X	PO-S
Mourning Warbler	MOWA	*Geothlypis philadelphia*	S5B	G5				PR-T
Common Yellowthroat	COYE	*Geothlypis trichas*	S5B	G5				PO-S
American Redstart	AMRE	*Setophaga ruticilla*	S5B	G5				PR-T
Chestnut-sided Warbler	CSWA	*Setophaga pensylvanica*	S5B	G5				PR-T
Black-throated Blue Warbler	BTBW	*Setophaga caerulescens*	S5B	G5			X	PR-A
Pine Warbler	PIWA	*Setophaga pinus*	S5B, S3N	G5				PR-T
Cardinalidae								
Scarlet Tanager	SCTA	*Piranga olivacea*	S5B	G5			X	PR-T
Northern Cardinal	NOCA	*Cardinalis cardinalis*	S5	G5				PO-S
Rose-breasted Grosbeak	RBGR	*Pheucticus ludovicianus*	S5B	G5				CO-CF
Indigo Bunting	INBU	*Passerina cyanea*	S5B	G5				PR-A

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Species Common Name and Scientific Name: Chesser, R. T., K. J. Burns, C. Cicero, J. L. Dunn, A. W. Kratter, I. J. Lovette, P. C. Rasmussen, J. V. Remsen, Jr., D. F. Stotz, B. M. Winger, and K. Winker. 2018. Check-list of North American Birds (online). American Ornithological Society. Available online: http://checklist.aou.org/taxa

Species Code: Consistent with the American Ornithologists' Union. 2018. Species 4-Letter-Codes. Available online: http://www.birdsontario.org/atlas/codes.jsp?lang=en&pg=species

Highest Breeding Evidence: Codes assigned for breeding evidence are consistent with the Ontario Breeding Bird Atlas (OBBA). 2018. Breeding Evidence Codes. Available online: http://www.birdsontario.org/atlas/codes.jsp?lang=en&pg=breeding&sortorder=aou

S ranks: Provincial ranks are from the Natural Heritage Information Centre; S1 (critically imperiled), S2 (imperlied), S3 (vulnerable), S4 (apparently secure), S5 (secure); ranks were updated using NHIC species list 2021. Available to download from: https://www.ontario.ca/page/get-natural-heritage-information

G ranks: Global ranks are from the Natural Heritage Information Centre; G1 (extremely rare), G2 (very rare), G3 (rare to uncommon), G4 (common), G5 (very common); ranks were updated using NHIC species list 2021. Available to download from: https://www.ontario.ca/page/get-natural-heritage-information

SARO (MECP): Ontario Species at Risk as listed by the Committee on the Status of Species at Risk in Ontario (from Ontario Regulation 230/08 Species at Risk in Ontario website: https://www.ontario.ca/laws/regulation/080230/); END - Endangered; THR - Threatened; SC - Special Concern; NAR - Not at Risk

COSEWIC: Assessed Species at Risk at the national level as listed by the Committee on the Status of Endangered Wildlife in Canada (from COSEWIC: https://wildlife-species.canada.ca/species-risk-registry/sar/index/default_e.cfm); END - Endangered, THR - Threatened, SC - Special Concern, NAR - Not at Risk

SWH Indicator Species: SWH refers to Significant Wildlife Habitat as defined by the MNRF (2015) Significant Wildlife Habitat Criteria Schedules for Ecoregions 7E and 6E (as appropriate for the Subject Lands). SWH indicator species are identified in this table and any potential SWH is discussed in the text of this report. Available online: http://www.townofnemi.on.ca/wp-content/uploads/2016/02/NEMI-OP-App-C-schedule-6e-jan-2015-access-ver-final-s.pdf

COMMON NAME	SCIENTIFIC NAME	Provincial Status (S RANK)	Global Status (G RANK)	SARO (MECP)	COSEWIC (Federal)	Local Status Halton	Local Status Hamilton	Local Status TRCA	Regional Status Region of Waterloo	Local Status CVC	Niagara Region CA Status	SWH Indicator Species 6E	SWH Indicator Species 7E
ODONATA													
Boreal Bluet	*Enallagma boreale*	S5	G5			HR	m						
Four-spotted Skimmer	*Libellula quadrimaculata*	S5	G5								C		
Common Whitetail	*Plathemis lydia*	S5	G5								C		
BUTTERFLIES													
Tawny-edged Skipper	*Polites themistocles*	S5	G5								C		
Hobomok Skipper	*Poanes hobomok*	S5	G5										
Black Swallowtail	*Papilio polyxenes*	S5	G5								H		
Eastern Tiger Swallowtail	*Papilio glaucus*	S5	G5										
Cabbage White	*Pieris rapae*	SNA	G5										
Silvery Blue	*Glaucopsyche lygdar*	S5	G5								C		
Common Ringlet	*Coenonympha tullia*	S5	G5								R		
BUMBLE BEES													
Two-spotted Bumble Bee	*Bombus bimaculatus*	S5	G5										
Common Eastern Bumble Bee	*Bombus impatiens*	S5	G5										
Northern Amber Bumble Bee	*Bombus borealis*	S5	G4G5										
AMPHIBIANS													
American Toad	*Anaxyrus americanus*	S5	G5					L4	X		W	X	X
BIRDS											L		
Killdeer	*Charadrius vociferus*	S4B	G5					L4					
American Crow	*Corvus brachyrhynchos*	S5	G5					L5			C		
Bobolink	*Dolichonyx oryzivorus*	S4B	G5	THR	THR			L2					
MAMMALS													
Eastern Chipmunk	*Tamias striatus*	S5	G5					L4					
Eastern Gray Squirrel	*Sciurus carolinensis*	S5	G5					L5					
White-tailed Deer	*Odocoileus virginianus*	S5	G5					L4				X	X
SUMMARY													
Total Odonata:	*3*												
Total Butterflies:	*7*												
Total Other Arthropods	*3*												
Total Amphibians:	***1***												
Total Reptiles:	*0*												
Total Birds:	*0*												
Total Breeding Birds:	*3*												
Total Mammals:	*3*												
SIGNIFICANT SPECIES													
Global:	*0*												
National:	*0*												
Provincial:	*0*												
Regional:	*0*												
Local:													

COMMON NAME	SCIENTIFIC NAME	Provincial Status (S RANK)	Global Status (G RANK)	SARO (MECP)	COSEWIC (Federal)	Local Status Halton	Local Status Hamilton	Local Status TRCA	Regional Status Region of Waterloo	Local Status CVC	Niagara Region CA Status	SWH Indicator Species 6E	SWH Indicator Species 7E
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													
Area: Minimum patch size for area-sensitive species (ha)													
H- highly significant in Hamilton Region (i.e. rare)													
m- moderately significant in Hamilton Region (i.e. uncommon)													
L1- extremely rare locally (Toronto Region)													
L2- very rare locally (Toronto Region)													
L3- rare to uncommon locally (Toronto Region)													
HR- rare in Halton Region, highly significant													
HU- uncommon in Halton Region, moderately significant													
REFERENCES													
COSSARO Status													
Endangered Species Act, 2007 (Bill 184). Species at Risk in Ontario List (O. Reg. 230/08). Accessed October 7, 2016.													

COMMON NAME	SCIENTIFIC NAME	Provincial Status (S RANK)	Global Status (G RANK)	SARO (MECP)	COSEWIC (Federal)	Local Status Halton	Local Status Hamilton	Local Status TRCA	Regional Status Region of Waterloo	Local Status CVC	Niagara Region CA Status	SWH Indicator Species 6E	SWH Indicator Species 7E
COSEWIC Status													
COSEWIC. 2016. Canadian Species at Risk. Committee on the Status of Endangered Wildlife in Canada.													
Local Status													
Dwyer, Jill K. 2003. Nature Counts Project Hamilton Natural Areas Inventory 2003. Species Checklists. Hamilton Naturalists Club.													
Halton Natural Areas Inventory. 2006. Volume 2 Species Checklists (ISBN 0-9732488-7-4).													
Region of Waterloo. 1996. Regionally Significant Breeding Birds.													
Toronto and Region Conservation Authority (TRCA). 2016. Revised Fauna Scores and Ranks, February 2016													
Hamilton Conservation Authority (HCA). 2014. Hamilton Natural Areas Inventory Project (3rd Edition).													
Significant Wildlife Habitat (SWH) Indicator Species													
Ministry of Natural Resources and Forestry (MNRF). 2015. Significant wildlife habitat criteria schedules for ecoregion 6E. Available at: https://dr6j45jk9xcmk.cloudfront.net/documents/4775/schedule-6e-jan-2015-access-ver-final-s.pdf.													
Ministry of Natural Resources and Forestry (MNRF). 2015. Significant wildlife habitat criteria schedules for ecoregion 7E. Available at: https://dr6j45jk9xcmk.cloudfront.net/documents/4776/schedule-7e-jan-2015-access-vers-final-s.pdf.													
Natural Heritage Information Center (NHIC). 2016. Onatrio Species List: All Species.													

Table 5: Significant Wildlife Habitat Assessment (6E)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	POTENTIAL FOR SWH TYPE PRESENCE?
1. SEASONAL CONCENTRATION AREAS				
Waterfowl Stopover and Staging Areas (terrestrial)	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Waterfowl Stopover and Staging Areas (aquatic)	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Shorebird Migratory Stopover Areas	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Raptor Wintering Areas	No – suitable upland ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Bat Hibernacula	No – Cave and Crevice communities are absent from the Subject Lands.	N/A	No	No – SWH type is not present
Bat Maternity Colonies	Yes – Forested (FOD) vegetation communities are present within the Subject Lands.	Additional studies would be required to confirm if habitat conditions are met.	No – Avoidance of woodland communities is recommended.	Yes – SWH type may be present; treated as Candidate SWH
Turtle Wintering Areas	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Reptile Hibernacula	Yes – ecosites are present on the Subject Lands.	A rock pile feature was identified in the FOD6-5.	No – Avoidance of woodland communities is recommended.	Yes – SWH type may be present; treated as Candidate SWH

Table 5: Significant Wildlife Habitat Assessment (6E)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	POTENTIAL FOR SWH TYPE PRESENCE?
Colonial Bird Nesting Sites (bank/cliff)	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Colonial Bird Nesting Sites (tree/shrubs)	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Colonial Bird Nesting Sites (ground)	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Migratory Butterfly Stopover Areas	No – suitable ecosites are not present within the Subject Lands.	No – The Subject Lands are located greater than 5 km away from Lake Ontario.	No	No – SWH type is not present
Migratory Landbird Stopover Areas	Yes – FO vegetation communities are identified within the Subject Lands.	No – The Subject Lands are located greater than 5 km away from Lake Ontario.	No	No – SWH type is not present
Deer Yarding Areas	No – Mapping from the MNRF LIO database did not depict any deer yarding areas on or adjacent to the Subject Lands.	N/A	No	No – SWH type is not present
Deer Winter Congregation Areas	No – Mapping from the MNRF LIO database did not depict any deer wintering areas on or adjacent to the Subject Lands.	N/A	No	No – SWH type is not present

Table 5: Significant Wildlife Habitat Assessment (6E)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	POTENTIAL FOR SWH TYPE PRESENCE?
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 – None identified through the background information review or site reconnaissance.	N/A	No	No – SWH type is not present
Other Rare Vegetation Types (S1 to S3 communities)	No – None identified thought the background information review or site reconnaissance.	N/A	No	No – SWH type is not present
2b. Specialized Wildlife Habitat				
Waterfowl Nesting Area	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Bald Eagle and Osprey Habitats	Yes – FO ecosites are present within the Subject Lands.	No permanent watercourses are present within the forested communities and no large stick nests were observed within the Subject Lands	Yes – breeding bird surveys were completed.	No – SWH type is not present.
Woodland Raptor Nesting Habitat	Yes – FO ecosites are present within the Subject Lands.	Yes – The south-most FO feature is a part of a large contiguous forest system and would meet the required woodland size and interior habitat size is not achieved.	Yes – breeding bird surveys were completed; however, none of the target raptors species were recorded.	No – SWH type is not present

Table 5: Significant Wildlife Habitat Assessment (6E)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	POTENTIAL FOR SWH TYPE PRESENCE?
Turtle Nesting Areas	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Seeps and Springs	Yes – Forested ecosites are present within the Subject Lands.	No evidence of seeps or springs was identified within the Subject Lands.	No	No – SWH type is not present
Woodland Amphibian Breeding Habitats (within or < 120m from woodland)	Yes – Forested ecosites with are present within the Subject Lands.	No vernal pools were identified within the Subject Lands.	No	No – SWH type is not present
Wetland Amphibian Breeding Habitats (wetland >120m from woodland)	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Woodland Area-Sensitive Bird Breeding Habitat	Yes – FO ecosites are present within the Subject Lands.	Yes – The south-most FO feature is a part of a large contiguous forest system and would meet the required woodland size and interior habitat size is not achieved.	Yes – breeding bird surveys were completed and several of the target bird species were recorded as probable and possible breeders. This includes: Veery, Black-throated Blue Warbler and Scarlet Tanager	Yes – SWH type is present in the southern most Forest Community since three of the listed wildlife species are probable or possible breeders within the Subject Lands.

Table 5: Significant Wildlife Habitat Assessment (6E)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	POTENTIAL FOR SWH TYPE PRESENCE?
3. SPECIES OF CONSERVATION CONCERN				
Marsh Bird Breeding Habitat	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Open Country Bird Breeding Habitat	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Shrub/Early Successional Bird Breeding Habitat	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
Terrestrial Crayfish	No – suitable ecosites are not present within the Subject Lands.	N/A	No, however no crayfish chimneys were identified during the field investigations.	No – SWH type is not present
Special Concern and Rare Wildlife Species (based on the Secondary Source Review – Section 3.0)				
(i) Common Nighthawk - SC	N/A	No – the preferred habitat types of the species (i.e., logged or burned-over areas, forest clearings, rock barrens, peat bogs, lakeshores, and mine tailing) are not present within the Subject Lands	No	No – SWH type is not present

Table 5: Significant Wildlife Habitat Assessment (6E)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	POTENTIAL FOR SWH TYPE PRESENCE?
(ii) Eastern Wood-Pewee - SC	N/A	Possibly – Forested ecosites are present within the Subject Lands.	Yes – Breeding bird surveys were completed, and the species was recorded in both Forested communities within the Subject Lands.	Yes – SWH type is present in both forests within the Subject Lands.
(iii) Grasshopper Sparrow - SC	N/A	No – Suitable grasslands habitats are not present within the Subject Lands	Yes – Breeding bird surveys were completed. This species was recorded outside of the Subject Lands but not within the Subject Lands.	No – SWH type is not present
(iv) Golden-winged Warbler - SC	N/A	No – While field edges, a preferred habitat type of the species, is present within the Subject Lands; the Subject Lands are not located within the known occurrence range of the species (MECP 2021).	Yes – Breeding bird surveys were completed, and the species was not present.	No – SWH type is not present
(v) Wood Thrush -SC	N/A	Possibly – Forested ecosites are present within the Subject Lands.	Yes – Breeding bird surveys were completed, and the species was recorded in both Forested communities within the Subject Lands.	Yes – SWH type is present in both forests within the Subject Lands.

Table 5: Significant Wildlife Habitat Assessment (6E)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	POTENTIAL FOR SWH TYPE PRESENCE?
(vi) Common Gallinule – S3B	N/A	No – Suitable wetlands are not present within the Subject Lands.	Yes – Breeding bird surveys were completed, and the species was not present.	No – SWH type is not present
(vii) Purple Martin – S3B	N/A	No – This species almost exclusively nests in artificial roosting boxes. No roosting boxes were present within the Subject Lands; therefore, the species is not expected to be present.	Yes – Breeding bird surveys were completed, and the species was not present.	No – SWH type is not present
(viii) Blue-winged Teal -S3B	N/A	No – Suitable wetlands are not present within the Subject Lands.	Yes – Breeding bird surveys were completed, and the species was not present.	No – SWH type is not present
(ix) Monarch - SC	No – suitable ecosites are not present within the Subject Lands.	N/A	No	No – SWH type is not present
(x) Lilypad Clubtail S3	N/A	No – suitable aquatic habitats are not present within the Subject Lands.	No	No – SWH type is not present
(xi) Snapping Turtle - SC	N/A	No – Suitable wetlands are not present within the Subject Lands.	No	No – SWH type is not present

Table 5: Significant Wildlife Habitat Assessment (6E)

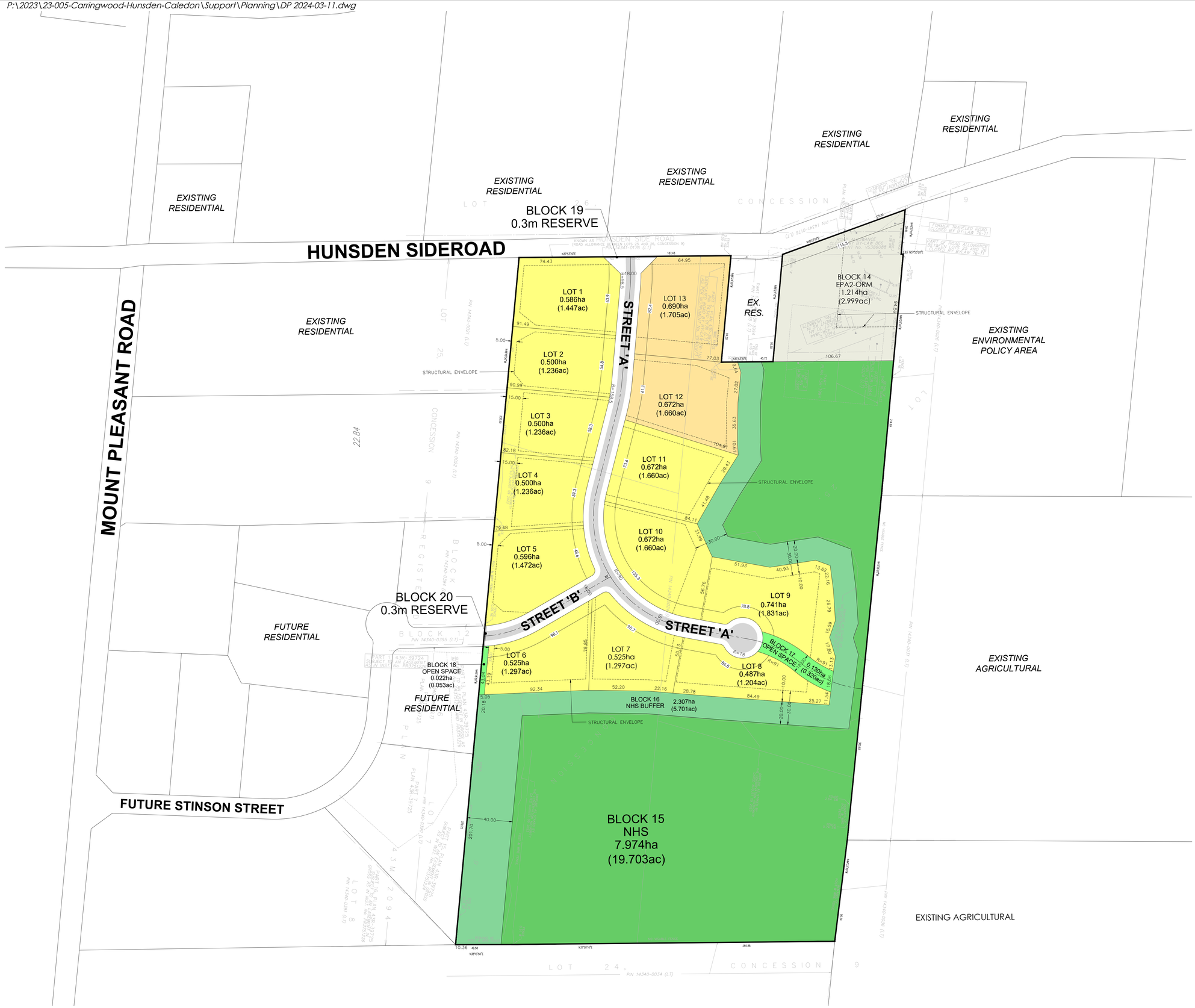
SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	POTENTIAL FOR SWH TYPE PRESENCE?
(xii) Nerveless Kuhlenberg's Sedge S3	NA	Possibly, this species prefers dry grasslands, open forests and commonly occurs on sand and acidic soil.	Yes – a botanical inventory was completed, and the species was not present.	No – SWH type is not present
4. ANIMAL MOVEMENT CORRIDORS				
Amphibian Movement Corridors	N/A	No	No	No – SWH type is not present

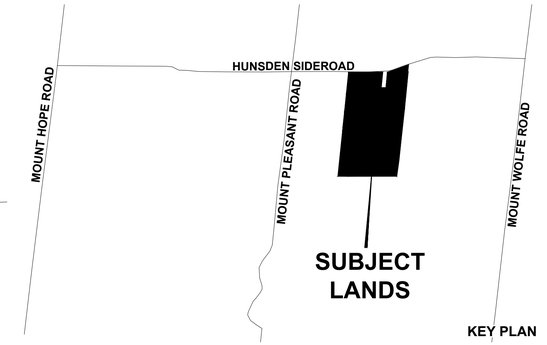
Ministry of Environment Conservation and Parks (MECP). 2021. Golden-winged Warbler Website. Available Online at https://www.ontario.ca/page/golden-winged-warbler

Appendix C

Draft Plan

P:\2023\23-005-Carringwood-Hunsden-Caledon\Support\Planning\DP 2024-03-11.dwg





KEY PLAN

DRAFT PLAN OF SUBDIVISION
SUZANNE WILSON
FILE # 21T-22004C

PART OF LOTS 25 AND 26, CONCESSION 9 (ALBION)
PART OF ROAD ALLOWANCE BETWEEN PARTS 25 AND 26, CONCESSION 9 (ALBION)
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

OWNERS CERTIFICATE
I HEREBY AUTHORIZE GLEN SCHNARR & ASSOCIATES INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE TOWN OF CALEDON FOR APPROVAL.

SIGNED: Suzanne Wilson — DATE: June 29, 2022
SUZANNE WILSON

SURVEYORS CERTIFICATE
I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE CORRECTLY AND ACCURATELY SHOWN.

SIGNED: G.T. Stidwill — DATE: July 6, 2022

GRANT T. STIDWILL, O.L.S.
J.D. BARNES LIMITED
401 WHEELABRATOR WAY, SUITE A
MILTON, ON
TEL.: (905) 875-9955
WEB: www.jdbarnes.com

ADDITIONAL INFORMATION
(UNDER SECTION 51(17) OF THE PLANNING ACT) INFORMATION REQUIRED BY CLAUSES A,B,C,D,E,F,G,J & L ARE SHOWN ON THE DRAFT AND KEY PLANS.

H) MUNICIPAL AND PIPED WATER TO BE PROVIDED
I) SANDY LOAM AND CLAY LOAM
K) SERVICED BY SEPTIC SYSTEMS.

LAND USE SCHEDULE

LAND USE	LOTS / BLOCKS	AREA (ha)	AREA (ac)	UNITS
ESTATE LOTS	1-11	6.303	15.575	11
BONUS ESTATE LOTS	12 & 13	1.362	3.365	2
EX. WILSON DWELLING PARCEL, EPA2-ORM	14	1.214	2.999	
NHS	15	7.974	19.703	
NHS BUFFER	16	2.307	5.701	
OPEN SPACE	17 & 18	0.151	0.373	
0.3m RESERVE	19 & 20	0.00	0.000	
18.0m LOCAL R.O.W. (LENGTH: 566m)		1.064	2.630	
TOTAL	20	**20.374**	**50.346**	**13**

NOTES
0.151093492328
-PAVEMENT ILLUSTRATION IS DIAGRAMMATIC
-EXISTING RESIDENCE TO REMAIN
-DAYLIGHT ROUNDINGS 5m UNLESS OTHERWISE NOTED
-DRIPLINE AS STAKED BY THE CONSERVATION AUTHORITY DATED AUGUST 09 2023
-STRUCTURAL ENVELOPE MINIMUM 30M FROM NHS BLOCK 15

SCALE 1:1500
(24 x 36)
MARCH 11, 2024

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