Environmental Impact Study

0 The Gore Road

Prepared for

Trinity Field Inc.

8600 Dufferin Street, Vaughan, Ontario L4K 5P5

October 30, 2025
Project No. P2025-1047

Prepared by

GeoProcess Research Associates Inc.
133 King Street West
PO Box 65506 DUNDAS
Dundas, ON L9H 6Y6

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1. Introduction

GeoProcess Research Associates Inc. (GeoProcess) has been retained by Trinity Field Inc. to complete an Environmental Impact Study for the lands located 0 The Gore Road in Caledon, Ontario, herein referred to as the "Subject Property". The "Study Area" is defined as the Subject Property plus an additional 120 metres (m) of adjacent lands. Refer to Map 1 for these boundaries and property location. It is our understanding that the Subject Property is the proposed site of a residential development consisting of 566 housing units.

The Subject Property falls under the Town of Caledon Official Plan and the Region of Peel Official Plan. This EIS establishes the extent and function of the Natural Heritage System (NHS) within the Study Area based on field studies and policy conformity of the Town of Caledon, Peel Region, Toronto Region Conservation Authority (TRCA), and the Province of Ontario. It has been prepared to assess potential negative impacts that the proposed development may have on the NHS, recommend mitigation measures, and provide an analysis of the required buffers and developable limit of the Subject Property to protect or enhance existing natural heritage features and functions.

1.1. Study Area

The Subject Property is approximately 44 hectares (ha) in size and is situated directly along Mayfield Road and The Gore Road in Caledon, Ontario. It is approximately 680 meters northeast of Centerville Creek Road. Located within the West Humber River Subwatershed, the West Humber River sits less than 100 meters northeast of the Property boundary. Numerous headwater drainage features are present onsite, crossing through the Property before ultimately converging with the West Humber River.

As per the Region of Peel Official Plan, the Study Area is part of the Urban System, belonging to the 2051 New Urban Area. The Study Area and Subject Property are designated as "Urban Area" on Schedule B1 of the OP and contain areas designated as 'Natural Features and Areas' as well as 'Permanent and intermittent Streams' features in Schedule D3. The Study Area falls under the jurisdiction of the Toronto Region Conservation Authority (TRCA) and contains numerous TRCA-regulated areas surrounding the headwater drainage features that cross the Property, as well as encompassing the West Humber River and its associated river valley.

2. Policy Context

Land use is regulated by various agencies given authority through acts, legislation, and regulations. These intergovernmental agencies establish and implement policy frameworks to govern their respective jurisdictions as they relate to natural heritage, water, fisheries, urban/rural development, municipal infrastructure, and other environmental features. The policies in this section will cover the relevant statutes, regulations, policies, and plans regulating development within the Study Area to provide an understanding of regulated features, prohibited activities, and development opportunities.

2.1. Fisheries Act (1985)

The Fisheries Act is a federal legislation which aims to manage and protect Canada's aquatic ecosystem including fish and fish habitat. The federal department of Fisheries and Oceans Canada (DFO) is the enforcing agency regulating land use and related activities under the Fisheries Act (1985). Where aquatic species may be present, especially species of special concern, activities near or in water must be permitted by the DFO. The Act protects fish and fish habitat such that:

> "*No person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat*" *(Section 35 (1))*.
>
> *Fish habitat is defined by the Act as "water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas*".

The Fisheries Act requires that all development and related activities avoid Harmful Alteration, Disruption, or Destruction of fish habitat (HADD) unless authorized by Fisheries and Oceans Canada (DFO). If mitigation measures cannot be applied, and residual effects will cause a HADD, then provisions under the Act may apply (i.e., approval(s) may need to be secured through DFO). Any waterbody or watercourse that contains fish or any other area on which fish depend directly or indirectly to carry out their life processes, as described in the Fisheries Act, is provided protection under the Act.

There are no fish-bearing watercourses identified within the Subject Property and the policies of the Fisheries Act are not applicable.

2.2. Species At Risk Act (2002)

The Species at Risk Act (2002) is a federal statute passed to prevent the disappearance of wildlife species in Canada through the recovery of wildlife species that are extirpated, endangered, or threatened due to anthropogenic activity and to manage species of special concern to prevent them from becoming endangered or threatened. Activities in proximity to species protected under the Species At Risk Act (SARA) are subject to regulatory approval from the appropriate enforcing authority such as the DFO for aquatic species at risk.

There are species protected under the SARA (2002) identified within the Study Area and the policies of the SARA have been adopted where applicable.

2.3. Endangered Species Act (2007)

The Endangered Species Act (ESA) (2007) was amended on June 5, 2025, through the passing of Bill 5 and is to be replaced with the Species Conservation Act, 2025 at a later date. The purpose of the ESA (2007) is to provide protection and conservation to species at risk while considering social and economic factors for sustainable economic growth in Ontario. The protected species and their habitat are designated by the Committee on the Status of Species at Risk in Ontario (COSSARO) as endangered, threatened, extirpated, or of special concern and the Government of Ontario adds species to the protection list based on COSSARO recommendations. These designations are defined as:

Endangered: A species shall be classified as an endangered species if it lives in the wild in Ontario but is facing imminent extinction or extirpation.

Threatened: A species shall be classified as a threatened species if it lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening to lead to its extinction or extirpation.

Extirpated: A species shall be classified as an extirpated species if it lives somewhere in the world, lived at one time in the wild in Ontario, but no longer lives in the wild in Ontario.

Under the amended ESA, for the purposes of protection under the Act, habitat does not include places where the species formerly occurred or has the potential to be reintroduced unless existing members of the species depend on that area. The ESA defines habitat as the following:

For animal species: habitat is a dwelling place that is occupied or habitually occupied for breeding, rearing, staging, wintering or hibernating, and the area immediately around a dwelling place.

For vascular plant species: habitat is the surrounding critical root zone.

For all other species: habitat is an area on which any member of a species directly depends in order to carry on its life processes

The ESA (Subsection 9(1)) outlines the prohibitions regarding harm to species and states that:

"No person shall,

(a) kill, harm, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species;

(b) possess, transport, collect, buy, sell, lease, trade or offer to buy, sell, lease or trade,

(i) a living or dead member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species,

(ii) any part of a living or dead member of a species referred to in subclause (i),

(iii) anything derived from a living or dead member of a species referred to in subclause (i); or

(c) sell, lease, trade or offer to sell, lease or trade anything that the person represents to be a thing described in subclause (b) (i), (ii) or (iii)."

Clause 10 (1)(a) of the ESA also states that:

"No person shall damage or destroy the habitat of

- a species that is listed on the Species at Risk in Ontario list as an endangered or threatened species.
- a species that is listed on the Species at Risk in Ontario List as an extirpated species, if the species is prescribed by the regulations for the purpose of this clause. 2007, c. 6, s. 10 (1)."

There are three applicable regulations under the ESA, 2007; O. Reg. 230/08 - the Species at Risk in Ontario (SARO) List, O. Reg. 242/08 (General), and O. Reg 830/21 (Exemptions – Barn Swallow, Bobolink, Eastern Meadowlark and Butternut). These regulations identify which species and habitats receive protection and provide direction on their current implementation under the ESA.

Prior authorization or issuance of permit from the MECP and/or the Ministry of Natural Resources (MNR) is required to carry out activities that would otherwise be prohibited or regulated under the ESA unless exempt under Ontario Regulation 242/08.

2.4. Provincial Planning Statement (2024)

The Provincial Planning Statement (PPS) 2024 is administered under Section 3 of the *Planning Act*. It became effective October 20, 2024, and replaces the Provincial Policy Statement 2020. The PPS applies to planning decisions made on or after that date. It provides policy direction for land use and development within the Province of Ontario and provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment. The policies of the PPS may be complemented by provincial and municipal plans and policies.

The PPS defines eight natural heritage features and provides planning polices for each, listed below. The function of natural heritage features and areas is further clarified by the definition of a Natural Heritage System, which is *"a system made up of natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems."*

- Significant wetlands
- Coastal wetlands
- Fish habitat
- Significant woodlands
- Significant valleylands
- Habitat of endangered species and threatened species
- Significant Wildlife Habitat
- Significant Areas of Natural and Scientific Interest (ANSIs)

Section 4.0 and 5.0 of the PPS deal with development and site alteration and where these activities shall not be permitted. Section 4.0 policies surround the conservation of biodiversity and protection of the health of the Great Lakes, natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits. Section 5.0 directs development away from areas of natural or human-made hazards to mitigate risks to public health or safety, and property damage from natural hazards, including the risks that may be associated with the impacts of a changing climate.

Policies in Section 4.1 are particularly relevant as they surround development and site alteration in and adjacent to natural heritage features. These policies and select others are outlined below in

Table 1. Applicable Policies of the Provincial Planning Statement

Policy Number	Policy
(4.1 - Natural Heritage) 4.1.2	The diversity and connectivity of natural features in an area and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or where possible, improved, recognizing linkages between and among *natural heritage features and areas*, *surface water features* and *ground water features*.
4.1.3	*Natural heritage systems* shall be identified in Ecoregions 6E & 7E, recognizing that *natural heritage systems* will vary in size and form in *settlement areas, rural areas*, and *prime agricultural areas*.
4.1.4	*Development* and site alteration shall not be permitted in: a) *significant wetlands* in Ecoregions 5E, 6E and 7E; and, b) *significant coastal wetlands.*
4.1.5	Development and site alteration shall not be permitted in: a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E; b) *significant woodlands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and St. Marys River); c) *significant valleylands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and St. Marys River); d) *significant wildlife habitat*; e) *significant areas of natural and scientific interest*; and f) *coastal wetlands* in Ecoregions 5E, 6E and 7E that are not subject to policy 4.1.4(b) unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.
4.1.6	*Development* and *site alteration* shall not be permitted in *fish habitat* except in accordance with *provincial and federal requirements.*
4.1.7	*Development and site alteration* shall not be permitted in *habitat of endangered species and threatened species*, except in accordance with *provincial and federal requirements*.
4.1.8	*Development* and *site alteration* shall not be permitted on *adjacent lands* to the *natural heritage features and areas* identified in policies 4.1.4, 4.1.5 and 4.1.6 unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated that there will be no *negative impacts* on the natural features or on their *ecological functions*.
(4.2 - Water) 4.2.2	*Development* and *site alteration* shall be restricted in or near *sensitive surface water features* and *sensitive ground water features* such that these features and their related *hydrologic functions* will be protected, improved or restored which may require mitigative measures and/or alternative development approaches.
(5.2 - Natural Hazards) 5.2.1	Development shall generally be directed to areas outside of: a) *hazardous lands* adjacent to the shorelines of the *Great Lakes - St. Lawrence River System* and *large inland lakes* which are impacted by *flooding hazards, erosion hazards* and/or *dynamic beach hazards*; b) *hazardous lands* adjacent to *river, stream* and *small inland lake systems* which are impacted by *flooding hazards* and/or *erosion hazards*; and c) *hazardous sites.*

Policy Number	Policy
5.2.4	Planning authorities shall prepare for the impacts of a changing climate that may increase the risk associated with natural hazards.

2.5. Region of Peel Official Plan (2022)

As of July 1, 2024, the Region of Peel Official Plan (Peel OP) constitutes an official plan of Peel's lower-tier municipalities. As such, the Town of Caledon is now responsible for the interpretation and implementation of the Peel OP. Under Schedule E-1, the Property is identified as part of the Urban System, belonging to the 2051 New Urban Area. Under Schedule D-1, the area directly northeast of the Property, beyond The Gore Road, is designated Prime Agricultural Area.

As per Schedule C-1 and Schedule C-2 of the Region of Peel OP, the Subject Property borders an area designated as a Core Area of the Greenlands System. Section 2.14.5 of the Greenlands System in the Region of Peel Official Plan outlines what is included within the Greenlands System:

> *"a) Core Areas, which are designated and shown generally on Schedule C-2, which are protected, restored and enhanced in this Plan and in the local municipal official plans*
>
> *b) Natural Areas and Corridors, which will be interpreted, protected, restored, and enhanced and shown, as appropriate, in the local municipal official plans;*
>
> *c) Potential Natural Areas and Corridors, which will be interpreted, protected, restored, and enhanced and shown, as appropriate, in the local municipal official plans. Potential Natural Areas and Corridors will be analyzed to determine their functional role in supporting and enhancing the ecological integrity of the Greenlands System;*
>
> *d) The Natural Heritage System overlay of the Growth Plan and the key natural heritage features and key hydrologic features, which will be protected in accordance with the Plan;*
>
> *e) The Natural Heritage System overlay of the Greenbelt Plan and the key natural heritage features and key hydrologic features, which will be protected in accordance with the Plan;*
>
> *f) Urban River Valleys of the Greenbelt Plan, which will be protected and, where appropriate, restored, in accordance with the policies of this Plan;*
>
> *g) The Natural Core Areas and Natural Linkage Areas land use designations of the Oak Ridges Moraine Conservation Plan and the key natural heritage features and key hydrologic features, which will be protected in accordance with the Plan; and,*
>
> *h) The Escarpment Natural Area and Escarpment Protection Area land use designations of the Niagara Escarpment Plan and the key natural heritage features and key hydrologic features, which will be protected in accordance with the Plan."*

2.6. Future Caledon Official Plan (2024)

The Town of Caledon's Future Caledon Official Plan (2024) was adopted by Council on March 26, 2024. On October 22, 2025, the Minister of Municipal Affairs and Housing issued a decision to approve Future Caledon OP with modifications. The Official Plan contains principles, goals, objectives, and policies to help guide future land use within the municipality.

The policies of the OP aim to promote a systems approach to identify, protect, enhance, and restore the Natural Environment System. A Preliminary Natural Environment System has been established within Caledon's New Urban Areas, and it will be studied further through the required secondary planning and development approval processes.

The OP identifies that the Natural Features and Areas designation (as shown on Schedules D1, D2a, D2b, and D3) correspond to the Core Areas of the Greenlands System as identified and protected in the Region of Peel Official Plan. The features under this designation include the following:

- Provincially Significant Wetlands
- Woodlands meeting one or more of the criteria for Core Area woodland on Table 1 of the Region of Peel Official Plan
- Significant valleylands
- Environmentally Sensitive or Significant Areas
- Provincial Life Science Areas of Natural and Scientific Interest
- Escarpment Natural Area designation of the Niagara Escarpment Plan
- Valley and stream corridors meeting one or more of the criteria for Core Area
- Valley and stream corridors in Table 2 of the Region of Peel Official Plan

The Plan further designates other natural heritage features as Supporting Features and Areas which correspond to the Natural Areas and Corridors and Potential Natural Areas and Corridors of the Greenlands System as identified and protected in the Region of Peel Official Plan. These designated Supporting Features and Areas include the following:

a) Evaluated non-provincially significant wetlands
b) unevaluated wetlands
c) Woodlands meeting one or more of the criteria for a Natural Areas and Corridors woodland in Table 1 of the Region of Peel Official Plan
d) Cultural woodlands and cultural savannahs within the Urban System meeting one or more of the criteria for a Potential Natural Area and Corridor woodland in Table 1 of the Region of Peel Official Plan
e) Any other woodland greater than 0.5 hectares that does not meet the criteria for a Natural Areas and Corridors woodland in Table 1 of the Region of Peel Official Plan

f) Significant wildlife habitat meeting one or more of the criteria in the Ministry of Northern Development, Mines, Natural Resources and Forestry significant wildlife habitat technical guide, but located outside of an applicable Provincial plan area

g) fish habitat

h) Habitat of aquatic species at risk

i) Habitat of endangered species and threatened species

j) Regionally significant Life Science Areas of Natural and Scientific Interest

k) Provincially significant Earth Science Areas of Natural and Scientific Interest

l) Regionally significant Earth Science Areas of Natural and Scientific Interest

m) The Escarpment Protection Area designation of the Niagara Escarpment Plan

n) Any other valley and stream corridor that have not been defined as meeting one or more of the criteria for Core Area valley and stream corridors in Table 2 of the Region of Peel Official Plan

o) Sensitive head water areas and sensitive groundwater discharge areas

p) Sensitive groundwater recharge areas

q) Enhancement areas

r) Linkages

s) Vegetation protection zones identified in Provincial plans and buffers outside of Provincial plan areas

t) Savannahs

u) Alvars

Permitted uses in lands designated as Supporting Features and Areas must be in accordance with Provincial Plans and regulatory requirements under the Conservation Authorities Act, otherwise, no development or site alteration will be permitted within the Supporting Features and Areas unless demonstrated that there will be no negative impacts on the feature or their ecological functions and/or hydrologic functions and that:

- There is no reasonable alternative location, and development is directed away to the greatest extent possible.
- Impact is minimized if avoidance is not possible.
- Any impact to the feature or its function is mitigated through restoration or enhancement to the greatest extent possible.
- Where ecosystem compensation is determined to be appropriate and feasible, including for essential infrastructure, it may be considered in accordance with Town ecosystem compensation guidelines.

Policy 13.4.5 states that d*evelopment or site alteration will not be permitted in fish habitat except in accordance with Federal and Provincial requirements*…following a screening to determine the presence of fish habitat and d*evelopment will not be permitted in habitat of endangered species and threatened species, except in*

accordance with Provincial and Federal requirements...in compliance with the Endangered Species Act (policy 13.11.1 and 13.11.2).

The Plan identifies potential enhancement areas on Schedule D2a and D2b and where retained, they shall be planted and left as natural self-sustaining vegetation (policy 13.4.11).

The OP acknowledges that Linkages have not been identified but potential linkages are mapped on Schedules D2a and D2b and the OP requires that the establishment of ecologically appropriate linkages shall be screened in an EIS.

On Schedule B2 of the Future Caledon OP, the Wildfield Village Secondary Plan (WVSP) area is noted as part of the "New Urban Area 2051". Schedule B4 denotes proposed land uses for the New Urban Area; the WVSP area, includes "New Community Area" and 'Natural Features and Areas'. The Study Area and Subject Property are designated as "Urban Area" on Schedule B1 of the OP and contain areas designated as 'Natural Features and Areas' as well as 'Permanent and intermittent Streams' features in Schedule D3. The nearby West Humber River and its valley are designated 'Natural Heritage System (a component of Protected Countryside).

Based on the policies of the OP, the management of the Natural Environment System in the New Community Areas will be guided by a net benefit mitigation hierarchy which requires that the outcome exceeds no negative impact and achieves a net positive outcome.

2.6.1. Decision with Respect to the New Town of Caledon Official Plan (2025)

The Future Caledon Official Plan (2024) discussed in the previous section was approved on October 22, 2025, by the Minister of Municipal Affairs and Housing with modifications. These modifications are not reflected in the OP as of the date of issuing this report. The modifications were reviewed and used in support of the OP where applicable as it relates to the natural heritage system and its governing policies.

2.7. O. Reg. 41/24 Prohibited Activities, Exemptions and Permits (2024)

Ontario Regulation 41/24 (effective April 1, 2024), issued under the *Conservation Authorities Act* (CA Act), replaced all 36 individual Conservation Authority regulations with a single, province-wide regulation. This regulation emphasizes public safety and removes the "pollution" and "conservation of land" tests for permitting. Conservation Authorities may grant permission for development if, in their opinion, the proposal will not affect flood control, erosion, dynamic beaches, or unstable soil/bedrock, and will not create conditions that could jeopardize health, safety, or property in the event of a natural hazard.

Section 28(1) of the CA Act prohibits the following activities within a Conservation Authority's jurisdiction:

> (1) the alteration of watercourses or wetlands, and
>
> (2) development within hazardous lands, wetlands, river/stream valleys, Great Lakes/inland lake shorelines subject to flooding/erosion/dynamic beach hazards, and other areas designated by regulation.

The Subject Property is within Toronto and Region Conservation Authority (TRCA) jurisdiction and is proximal to TRCA-regulated features that fall just outside the property boundary.

2.7.1. The Living City Policies for Planning and Development in the Watershed of the Toronto and Region Conservation Authority (TRCA)

The Living City Policies for Planning and Development in the Watershed of the Toronto and Region Conservation Authority (Living City Policies) provides guidelines for development and related activities within TRCA's jurisdiction. Under the Living City Policies, the following apply to the Subject Property:

Watercourse

- Headwater drainage features (HDFs) within TRCA's watersheds shall be identified and managed in accordance with TRCA's "Evaluation, Classification and Management of Headwater Drainage Features Guideline".
- Alterations to watercourses through such activities as realignment, channelization, filling and enclosure shall not be permitted to create additional area to accommodate or facilitate new development and intensification.
- Watercourse alterations may be permitted where it has been demonstrated to the satisfaction of TRCA and meet several criteria including but not exhaustive of the following:
    - All feasible options and methods have been explored to address the hazard while reducing the risk to public safety.
    - There will be no impacts on flooding, erosion or slope instability to upstream, downstream or adjacent properties.

Wetlands

- Development and interference will not be permitted within provincially significant wetlands.
- Development within regulated areas shall be set back 30 metres from provincially significant wetlands and wetlands on the Oak Ridges Moraine or wetlands within the Niagara Escarpment Plan Area, and 10 metres for all other wetlands.

The TRCA-regulated features within the Study Area include headwater drainage features, one provincially significant wetland and two non-significant wetlands.

2.8. Greenbelt Plan (2017)

The Greenbelt Plan, which came into effect on July 1, 2017, was created to protect against the loss and fragmentation of agricultural lands, provide permanent protections to natural heritage and water resource systems, protection of culture, recreation, and tourism resources, and to build resilience to climate change.

Under the Greenbelt Plan, lands designated as Protected Countryside receive environmental protections. As described within Section 3.2.2 of the Greenbelt Plan (2017), new developments and/or site alterations must show that there are no negative impacts on the key natural heritage features or key hydrologic features of their functions .Lands designated as Protected Countryside under the Greenbelt Plan are located to the northeast of the Property, just beyond Gore Road. These lands are not within 120 meters of the Subject Property.

3. Methodology

The following provides the methodologies followed to complete the background studies and execute the field program designed to characterize the natural heritage features and their functions within the Study Area.

3.1. Background Studies

Literature and data pertaining to the Subject Property were reviewed and evaluated to obtain natural heritage and background planning policy information. A list of documents and information sources consulted to support this study are provided below:

- Peel Region Official Plan (2022)
- Town of Caledon Official Plan (2024 Consolidation)
- Future Caledon Official Plan (2024 Draft)
- TRCA Regulation Mapping 2024
- *Endangered Species Act (2007)* and Species at Risk in Ontario List (O. Reg. 230/08)
- Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits (April 2024)
- Natural Heritage Information Centre (NHIC) database information, 1 km x 1 km squares: 17PJ0052, 17PJ0152, 17PJ0153, 17PJ0053
- Ontario Breeding Bird Atlas (OBBA) and eBird
- Ontario Reptile and Amphibian Atlas
- Ontario Butterfly and Moth Atlases
- iNaturalist- NHIC Rare Species of Ontario
- Fisheries and Oceans Canada (DFO) Aquatic Species at Risk Map

3.2. Field Work

GEI conducted field studies as part of the Wildfield Village Local Subwatershed Study to characterize and inventory the natural heritage features and wildlife activity of the Subject Property and surrounding landscape. Naming conventions for survey stations and features identified by GEI staff were retained for consistency in this report. A summary of the field work details is provided below in Table 2.

Table 2. Completed Field Work

Activity	Timing	Date	Staff
Floristic Studies	Spring (May-June)	May 9, 2022	Leslie, J.
	Summer (July-August)	July 14 and 19, 2022	
	Fall (September-October)	September 15, 2022	

Amphibian Surveys	Visit 1 (>5°C) Visit 2 (>10°C) Visit 3 (>17°C)	April 25, 2022, May 2, 2022, June 16, 2022	Williamson, L., Nieroda, M.
Breeding Bird Surveys and Barn Swallow Surveys	Visit 1 Visit 2	May 31 to June 2, 2022 June 21 to 23, 2022	Burke, P.
Bat Habitat Assessment	-	April 21, 2022	Leslie, J.
Headwater Drainage Feature Assessment	Round 1 (March-April) Round 2 (late April-May) Round 3 (July-mid-September)	March 24, 2021, May 18, 2022, August 3, 2022	Nieroda, M., Lee, E., Brunelle, P., Fleming, D., Love, S.

3.2.1. Ecological Land Classification

An Ecological Land Classification (ELC) with a three-season botanical inventory of all floristic species was completed on May 9, 2022, July 14, 2022, July 19, 2022, and September 15, 2022. Vegetation communities were first identified using via desktop survey using aerial imagery and then further refined in the field. Vegetation community types were confirmed, sampled and revised, if necessary, using the sampling protocol of the Ecological Land Classification (ELC) for 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 results of this assessment are found in Section 4.4, and Map 3.

3.2.2. Botanical Inventory

The botanical surveys performed by GEI were completed across the entire WVSP area. A complete list of the plant species identified within the WVSP can be found in Appendix A. This plant list provides the provincial status of all plant species based on the NHIC (2023) Ontario Species List. Identification of potentially sensitive native plant species is based on their assigned coefficient of conservatism (C-value) as determined by Oldham et al. (1995). This C-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 C-value of 9 or 10 generally exhibit a high degree of fidelity to a narrow range of habitat parameters.

3.2.3. Amphibian Surveys

Amphibian surveys were completed by GEI in 2022, following the Great Lakes Marsh Monitoring Program protocol (MMP and BSC, 2000). This required three (3) visits between mid-April and the end of June under proper weather conditions. Surveys were conducted 30 minutes following local sunset and completed by midnight under conditions of light winds, no rain, and air temperatures of 5°C, 10°C, and 17°C or higher for each of the three visits, respectively.

Each station was surveyed for three minutes and calling amphibians, if present, were identified, and calling activity was assigned a code from one of the following options which indicate increasing abundance:

X no calls

1. individuals of one species can be counted, calls not simultaneous
2. some calls of one species simultaneous, numbers can be reliably estimated
3. full chorus, calls continuous and overlapping (not countable)

Amphibians located within the 100 m station semi-circle were identified as "within station". All other species were recorded as incidental records heard outside of the station. Results and analysis of these surveys are presented in Section 4.5.1 and Map 3.

3.2.4. Breeding Bird Surveys

Breeding bird surveys were undertaken on two separate dates by GEI following protocols set forth in the Ontario Breeding Bird Atlas (OBBA) (Cadman et al. 2007), the Ontario Forest Bird Monitoring Program (Cadman et al. 1998), and the Marsh Monitoring Program (Bird Studies Canada 2014 and 2016).

Surveys were conducted at least ten days apart under appropriate weather conditions between dawn and five hours after dawn. Point count stations were located in various habitat types within the Study Area and combined with area searches to determine the presence, variety, and abundance of bird species. Each point count station was surveyed for 10 minutes, recording birds within and outside of the 100 m station radius. All species recorded on a point count were observed for signs of breeding behaviour and mapped to provide specific spatial information. Additional incidental observations were also noted. The level of breeding evidence (using *Ontario Breeding Bird Atlas* [OBBA] protocols) was determined after both surveys. Results and analysis of these surveys are presented in Section 4.5.2 and Map 3.

During breeding bird surveys, vegetation was assessed for potential presence of Species at Risk Habitat. If suitable habitat was identified, or SAR encountered, standard protocols were utilized (in consultation with the Ministry of Natural Resources; MNRF).

3.2.1. Bat Habitat Assessment

GEI conducted bat habitat assessment (snag) surveys following the MNRF survey guidelines outlined in "Bats and Bat Habitats: Guidelines for Wind Power Projects" (MNR, 2011). ELC mapping was used to identify target ELC communities which included Deciduous forests (FOD), Mixedwood Forests (FOM), Coniferous Forests (FOC), Deciduous Swamp (SWD), Mixedwood Swamps (SWC, and residential/disturbed areas. Surveys were conducted during the leaf-off period on days with good visibility.

An inventory of all trees with a DBH of ≥10cm was completed to assess the presence of potential bat SAR habitats in the target ELC communities. In addition, survey efforts targeted Oak and Maple trees to inspect for suitable maternity roost habitat for the Tri-coloured Bat (*Perimyotis subflavus*) specifically. Information recorded for identified roost trees included tree species, DBH, approximate height of tree, decay class, canopy cover, and the number, height, and type (e.g., cavity, crevice, sloughing bark, etc.) of the top three potentially suitable roost sites. The location of each inventoried roost tree was subsequently surveyed using a handheld GPS unit (+/- 3 m accuracy)

The results of the inventory were used to assess the quality of the survey area, where communities with ≥10 cavities/ha providing the greatest potential for bat maternity roost habitat in accordance with MNFR guidelines.

3.2.2. Bat Acoustic Monitoring

Where suitable snag trees were identified during the bat habitat assessment survey, accurate placement of acoustic data collectors was undertaken by GEI. Acoustic surveys are used to determine the absence or presence of SAR bats within suitable treed habitats. Two Wildlife Acoustics Song Meter SM4BAT recorders were deployed for 10 nights starting June 10, 2022, within the Deciduous Swamp (SWD3-2) and the Cultural Woodland (CUW1) located on the western property border. The recorder microphones were elevated approximately 2 m above the ground to reduce background noise and echo. The acoustic data collector was set to record audio files from sunset to sunrise (subject to triggering).

3.2.3. Headwater Drainage Feature Assessment

A Headwater Drainage Feature (HDF) field assessment was completed following the 2014 protocol for HDF assessment developed by the Toronto and Region Conservation Authority and the Credit Valley Conservation Authority, in conjunction with the Ministry of Natural Resources and Forestry. On March 24, 2021, GEI completed a site visit to characterize the HDFs shortly after the spring freshet, a second site visit was completed in early spring (May 18, 2022) to determine the hydrologic condition of each HDF, and a third site visit occurred on August 3, 2022 for features found to be flowing during the second visit.

3.2.4. Species at Risk Screening and Assessment

An assessment and screening of potential Species at Risk (SAR) was conducted for the Subject Property based on Federal and Provincial status. Following the MECP Client's Guide to Preliminary SAR Screening (2019), this screening was based on a review of the Natural Heritage Information Centre, regional species list, atlases (i.e. OBBA, butterfly, moth, and reptile and amphibian), and citizen science databases (i.e. iNaturalist, eBird). Data sources utilized for the screening are described in Appendix B.

3.2.5. Significant Wildlife Habitat Screening and Assessment

A screening for Significant Wildlife Habitat (SWH) following the Ministry of Natural Resources and Forestry Significant Wildlife Habitat Technical Guide (2000) and Significant Wildlife Habitat Criteria Schedule for EcoRegion 6E and 7E (2015) was conducted for the Study Area. Potential SWH identified was assessed by GEI during the field studies. The results of this assessment are found in Section 6 and Appendix C.

3.2.6. Wetland Evaluation

A wetland evaluation following the Ontario Wetland Evaluation System (OWES) for Southern Ontario (MNRF 2022) considers several factors related to ecosystem and human utility values. The evaluation uses a scoring system where points are tallied within four categories; biological, social, hydrological, and special features. A wetland is considered provincially significant when the wetland achieves a total score of 600 or more points or achieves a score of 200 or more points in either the biological component or special features component.

For wetlands smaller than 2 ha that are currently classified as Provincially Significant, a full evaluation would be automatically conducted upon client request. For all other unevaluated wetlands smaller than 2 ha, GEI initially screened them to determine if a full evaluation was warranted. If the rationale for a full evaluation existed, GEI completed it following the OWES protocol and their field data. If no rationale was found, the wetlands were not evaluated and were designated as non-provincially significant. According to correspondence between GEI and the MNRF, any of the non-evaluated wetlands already listed in the LIO database would retain their "unevaluated" classification because the MNRF does not have a specific designation for them; if they are not in the LIO database, those wetlands would remain excluded.

The limits of wetlands and driplines were staked by TRCA, the Town of Caledon, and GEI on November 7, 2023 (Map 4). Due to the late season, TRCA requested to revisit and re-stake the SWD3-2 during the appropriate growing season, which occurred on September 20, 2024.

4. Existing Conditions

4.1. General Landscape Position

The Subject Property is a predominantly agricultural plot of land bordered by neighbouring farm fields to the northwest and west. Mayfield Road borders the Property to the southeast, and The Gore Road borders the Property directly to the northeast. A medium-density residential community is present beyond Mayfield Road. Deciduous and mixed woodlands, low-density residential plots, and the West Humber River are present beyond The Gore Road to the east.

4.2. Physiography and Geology

The Study Area is within the South Slope physiographic region (Chapman and Putnam, 1987). This region has a smooth, sloping landscape consisting of drumlinized clay till plain. The fine-grained soils of this region have a lower infiltration rate than the neighbouring Oak Ridges Moraine, leading to increased runoff. Bedrock geology in the Study Area belongs to the Georgian Bay Formation which consists of shale, limestone, dolostone, and siltstone dating back to the Ordovician Period.

4.3. Natural Heritage Systems

The natural heritage system for the Study Area is associated with areas identified in the Schedules of the Future Caledon Official Plan (2024) and TRCA regulated areas (Map 2), as well as LIO-identified features. These areas were investigated via field studies. The primary natural heritage system features are hydrologic features including wetlands and drainage features associated with the downstream West Humber River.

4.3.1. Hydrologic Features

The Silver Maple Mineral Deciduous Swamp present along the northwestern Property boundary was evaluated in 2022 under the Ontario Wetland Evaluation System and found to meet the criteria to be considered provincially significant. This wetland was surveyed and found to provide habitat to terrestrial crayfish, Wood Thrush, and Black Ash, all of which are provincially significant species. This wetland is approximately 0.44 hectares and is surrounded by a buckthorn deciduous shrub thicket community.

4.3.2. West Humber River

The West Humber River travels through the large, forested area to the northeast of the Property. The numerous headwater drainage features on the Property all travel towards, and ultimately discharge into, the West Humber River. The West Humber River is a tributary of the greater Humber River, which ultimately feeds into Lake Ontario.

4.4. Vegetation Communities

4.4.1. Ecological Land Classification

The results of the ELC are presented below and shown on Map 4. A full botanical inventory of the WVSP area can be found in Appendix A. Thirteen vegetation communities were identified within the Study Area.

Table 3. Ecological land classification communities

ELC Code and Classification	Community Description	S-Rank (NHIC, 2024)
CUM1: Mineral Cultural Meadow	Three mineral cultural meadow communities were identified across the Study Area. This community type results from anthropogenic-based disturbances and contains less than 25% tree and shrub cover.	N/A
MAM2-2: Reed-Canary Grass Mineral Meadow Marsh	Located in the southeast of the Property, connected to a cultural meadow community. Also located just beyond the southwest corner Property boundary. These communities lacked well-defined canopy and understory layers but infrequently included tree willow species such as Hybrid Crack Willow (*Salix x fragilis*), Corkscrew Willow (Salix *matsudana*), Peachleaf Willow (*Salix amygdaloides*). Reed Canarygrass was the dominant species throughout the ground layer, with additional grass and forb species sparsely throughout, including Fowl Bluegrass (*Poa palustris*), Panicled Aster (*Symphyotrichum lanceolatum*), Narrow-leaved Cattail (*Typha angustifolia*), and Creeping Bentgrass (*Agrostis stolonifera*).	S5
THDM2-6: Buckthorn Deciduous Shrub Thicket	Five shrub thicket communities were present across the Study Area. These communities lacked a well-defined canopy layer, but infrequently included Basswood (*Tilia americana*), Green Ash (*Fraxinus pennsylvanica*), Sugar Maple (*Acer saccharum*), and Manitoba Maple (*Acer negundo*). The shrub layer was dominated by mature European Buckthorn (*Rhamnus cathartica*), with occasional observations of Chokecherry (*Prunus virginiana*) and Showy Fly Honeysuckle (*Lonicera x bella*). Common ground layer species included Mayapple (*Podophyllum peltatum*), Yellow Trout Lily (*Erythronium americanum*), Yellow Avens (*Geum aleppicum*), Wild Strawberry (*Fragaria virginiana*), and Virginia Waterleaf (*Hydrophyllum virginianum*).	N/A

ELC Code and Classification	Community Description	S-Rank (NHIC, 2024)
SWD3-2: Silver Maple Deciduous Swamp	A deciduous swamp community located on the northern Property border, containing and adjacent to numerous different plant communities. The canopy consisted of Silver Maple (*Acer saccharinum*), Basswood (*Tilia americana*), White Elm (*Ulmus americana*), and Green Ash (*Fraxinus pennsylvanica*). Endangered species Black Ash (*Fraxinus nigra*) was present in the sub-canopy. Understory vegetation consisted of canopy species saplings, as well as European Buckthorn (*Rhamnus cathartica*), Showy Fly Honeysuckle (*Lonicera x bella*), and Cottony Willow (*Salix eriocephala*). The ground layer commonly included Eastern Star Sedge (*Carex radiata*), Hop Sedge (*Carex lupulina*), Fowl Mannagrass (*Glyceria striata*), and Bittersweet Nightshade (*Solanum dulcamara*). A few areas within the community had surface water approximately 15 cm in depth in the spring months.	S5
MAS2-1: Cattail Mineral Shallow Marsh	A shallow cattail marsh located within the Silver Maple Deciduous Swamp. This community lacked well-defined canopy and understory layers, though Peachleaf Willow (*Salix amygdaloides*) occurred infrequently. The ground layer was dominated by dense growth of Narrow-Leaved Cattail (*Typha angustifolia*) and Blue Cattail (*Typha x glauca*). Other common ground species included Small Duckweed (*Lemna minor*), Reed Canarygrass (*Phalaris arundinacea*), Bittersweet Nightshade (*Solanum dulcamara*), Fringed Willowherb (*Epilobium ciliatum*), Fowl Bluegrass (*Poa palustris*), and Common Water Parsnip (*Sium sauve*). This community had moist soil from spring through fall, with some features having standing water up to 40 cm in the spring and 18 cm in the summer.	S5

ELC Code and Classification	Community Description	S-Rank (NHIC, 2024)
CUW1: Mineral Cultural Woodland Ecosite	Two cultural woodland communities were identified within the Study Area, one located approximately 25 meters west of the Property boundary and another located approximately 112 meters west of the property, adjacent to a THDM2-6 community. The canopy in this community consisted of Trembling Aspen (*Populus tremuloides*) and infrequent Golden Weeping Willow (*Salix x sepulcralis*). The sub-canopy was abundant in Trembling Aspen and White Mulberry (*Morus alba*). Understory vegetation included European Buckthorn (*Rhamnus cathartica*), Showy Fly Honeysuckle (*Lonicera x bella*), Black Raspberry (*Rubus occidentalis*) and North American Red Raspberry (*Rubus idaeus ssp. strigosus*). The ground layer was of moderate density and included Wild Strawberry (*Fragaria virginiana*), White Avens (*Geum canadense*), Common Dandelion and Elecampane (*Inula helenium*).	N/A
SA: Shallow Water	A shallow water community present within CUM1-1, approximately 65 meters from Property boundary. This community type contains standing water at all times of year and lacks any tree or shrub cover.	N/A
MAM2: Mineral Meadow Marsh	A meadow marsh community located approximately 45 meters east of the Property. This community type is seasonally inundated with water and typically dominated by grasses or forbs.	N/A

ELC Code and Classification	Community Description	S-Rank (NHIC, 2024)
MAM2-10: Mixed Forb Mineral Meadow Marsh	A meadow marsh community located in the southeast corner of the Property, sharing borders with MAM2-2 and THDM2-6 communities. This community lacked well-defined canopy and understory layers but did infrequently contain Hybrid Crack Willow (*Salix x fragilis*), Manitoba Maple (*Acer negundo*), and Peachleaf Willow (*Salix amygdaloides*). The ground layer was abundant in Panicled Aster (*Symphyotrichum lanceolatum*), with less frequent species including Reed Canarygrass (*Phalaris arundinaca*), Creeping Thistle (*Cirsium arvense*), Creeping Bentgrass (*Agrostis stolonifera*), and New England Aster (*Symphyotrichum novae-angliae*).	S4S5
CUW: Cultural Woodland	A cultural woodland community located just beyond the northeastern border of the Property, between two residential areas. This community type results from, or is maintained by, cultural or anthropogenic-based disturbances and has canopy tree cover ranging between 35% and 60%.	N/A
FOM: Mixed Forest	A mixed forest community located just beyond the northeastern border of the Property, separated from FOD7 community by the West Humber River. This community type has canopy tree cover greater than 60%, with both conifer and deciduous tree species significant in the species composition.	N/A
FOD7: Fresh – Moist Lowland Deciduous Forest Ecosite	A deciduous forest community located just beyond the northeastern border of the Property, separated from FOM community by the West Humber River. This community type contains a variety of moisture-loving deciduous tree species in the canopy, and occurs on lower slopes and bottomlands, floodplains in particular.	N/A

ELC Code and Classification	Community Description	S-Rank (NHIC, 2024)
HR: Hedgerow	Although not an official ELC community, hedgerows can contain trees or plants of interest and provide habitat and corridors for wildlife. Four hedgerows were identified within the Study Area.	N/A

4.5. Wildlife Surveys

4.5.1. Amphibian Surveys

GEI completed amphibian surveys following the Marsh Monitoring Protocol and temperature requirements. Survey stations are provided on Map 3, and the results are in Table 5. Data for round 3 at stations P11-1 and P11-2 was not included in the Wildfield Village Secondary Plan Local Subwatershed Study.

A total of four amphibian species were heard calling within the Subject Property during the three rounds of call count surveys. The species heard calling were the American Toad (*Anaxyrus americanus*), The Western Chorus Frog (*Pseudacris triseriata*), the Green Frog (*Lithobates clamitans*), and the Wood frog (*Lithobates sylcaticus*). No full choruses were heard from any of the listed species during surveys. All four species are provincially ranked S5 (common and secure) or S4 (apparently common and secure).

Table 5. Amphibian Call Survey Results

Visit	Time-frame	Air Temp (°C)	Humidity (%)	Wind (Beau-fort)	Precip	Cloud Cover (10ths)	Species Calling (Call Code-# of Individuals)		Background Noise (Code – Notes)	Water Present
							In Station	Out of Station		
Station P11-1, feature MAMM2-10										
1 (>5°C)	20:30-23:30	12	100	1	Light Showers	10	-	-	-	Yes
2 (>10°C)	21:00-23:15	10	85	1	None	8	-	-	-	No
3 (>17°C)	No Data									
Station P11-2, feature THDM2-6										
1 (>5°C)	20:30-23:30	N12	100	1	Light Showers	10	-	-	-	Yes
2 (>10°C)	21:00-23:15	10	85	1	None	8	-	-	-	No
3 (>17°C)	No Data									
Station P11-3, feature MAS2-1										
1 (>5°C)	20:30-23:30	N12	100	1	Light Showers	10	CHFR1-1 WOFR1-2	-	-	Yes
2 (>10°C)	21:00-23:15	10	85	1	None	8	-	-	-	Yes

Visit	Time-frame	Air Temp (°C)	Humidity (%)	Wind (Beau-fort)	Precip	Cloud Cover (10ths)	Species Calling (Call Code-# of Individuals)		Background Noise (Code – Notes)	Water Present
							In Station	Out of Station		
3 (>17°C)	21:15-23:00	27	36	3	None	0	-	-	-	No
Station P13-2, feature SA										
1 (>5°C)	20:30-23:30	N12	100	1	Light Showers	10	AMTO1-1 WOFR1-3	-	-	Yes
2 (>10°C)	21:00-23:15	10	85	1	None	8	GRFR1-2	-	-	Yes
3 (>17°C)	21:15-23:00	27	36	3	None	0	GRFR1-2	-	-	Yes
Station P13-3, feature SWD3-2										
1 (>5°C)	20:30-23:30	N12	100	1	Light Showers	10	-	-	-	Yes
2 (>10°C)	21:00-23:15	10	85	1	None	8	-	-	-	Yes
3 (>17°C)	21:15-23:00	27	36	3	None	0	-	-	-	Yes

4.5.2. Breeding Bird Surveys

Breeding bird surveys were conducted by GEI on two separate dates within the Study Area under suitable conditions between 5 am and 10 am as per OBBA protocols (Table 6). One Point Count Station was established within the Deciduous Swamp located on the western property boundary. Four Species at risk were found in the Study Area: the Bobolink, Eastern Meadowlark, Barn Swallow, and Upland Sandpiper.

Table 6. BBS Survey Conditions

Visit Date	Visit Time	Temp (˚C)	Humidity (%)	Cloud Cover (10^{ths})	Wind Speed [Beaufort scale]	Rain	Noise Code (1-5)
May 30 and June 2, 2022	05:15-09:30	21	69	0.5	1	None	N/A
June 21 and 23, 2022	05:20-09:30	17	82	5	3	None	N/A

The breeding bird survey results for all seven Parcels (Parcels 3, 4, 8, 11, 13, 14, and 19) surveyed in 2022 are presented together with no information relating observations to point count stations, and no information

on the number of individuals observed. The species observations presented in Table 6 will therefore include observations made in all seven Parcels participating in 2022 and will not include the number of observations of each species. There are twenty-two point count stations between the seven Parcels, with only one (PC22) located on the Subject Property (Parcel 11). The SAR-specific observations were recorded on a Parcel-by-Parcel basis, and those presented in the discussion below will only include observations of SAR made in Parcel 11 or beyond the Study Area.

Species heard and or observed within the search area were recorded and the highest level of breeding evidence (using Ontario Breeding Bird Atlas [OBBA] protocols) was determined after completion of both surveys (Table 4). Species at Risk in Ontario (SARO) and Committee on the Status of Endangered Wildlife in Canada (COSEWIC) rankings were attributed to each species.

Table 4. GEI Breeding Bird Species list

Common Name	*Scientific Name*	Species Code	Provincial Status (SRank)	Global Status (GRanks)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Anseriformes								
Anatidae								
Canada Goose	*Branta canadensis*	CANG	S5	G5	-	-	Yes	OB-X
Mallard	*Anas platyrhynchos*	MALL	S5	G5	-	-	Yes	PR-P
Columbiformes								
Columbidae								
Rock Pigeon	*Columba livia*	ROPI	SNA	G5	-	-	No	PO-H
Mourning Dove	*Zenaida macroura*	MODO	S5	G5	-	-	No	CO-FY
Charadriiformes								
Charadriidae								
Killdeer	*Charadrius vociferus*	KILL	S4B	G5	-	-	No	CO-DD
Scolopacidae								
Upland Sandpiper	*Bartramia longicauda*	UPSA	S2B	G5	-	-	Yes	PR-P
Spotted Sandpiper	*Actitis macularius*	SPSA	S5B	G5	-	-	Yes	PR-A
Laridae								
Ring-billed Gull	*Larus delawarensis*	RBGU	S5	G5	-	-	Yes	OB-X

Common Name	*Scientific Name*	Species Code	Provincial Status (SRank)	Global Status (GRanks)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Gaviiformes								
Ardeidae								
Great Blue Heron	*Ardea herodias*	GBHE	S4	G5	-	-	Yes	OB-X
Accipitriformes								
Accipitridae								
Cooper's Hawk	*Accipiter cooperii*	COHA	S4	G5	NAR	NAR	Yes	PO-H
Red-tailed Hawk	*Buteo jamaicensis*	RTHA	S5	G5	-	NAR	Yes	PO-H
Piciformes								
Picidae								
Downy Woodpecker	*Dryobates pubescens*	DOWO	S5	G5	-	-	No	PO-H
Northern Flicker	*Colaptes auratus*	NOFL	S5	G5	-	-	Yes	PR-P
Falconiformes								
Falconidae								
American Kestrel	*Falco sparverius*	AMKE	S4	G5	-	-	Yes	PO-H
Passeriformes								
Tyrannidae								
Great Crested Flycatcher	*Myiarchus crinitus*	GCFL	S5B	G5	-	-	No	PO-H
Eastern Kingbird	*Tyrannus tyrannus*	EAKI	S4B	G5	-	-	No	PR-T
Eastern Wood-pewee	*Contopus virens*	EWPE	S4B	G5	SC	SC	Yes	PO-S
Willow Flycatcher	*Empidonax traillii*	EIFL	S4B	G5	-	-	Yes	PR-T
Eastern Phoebe	*Saynoris pheobe*	EAPH	S5B	G5	-	-	No	PR-V
Vireonidae								
Warbling Vireo	*Vireo gilvus*	WAVI	S5B	G5	-	-	No	PR-T
Red-eyed Vireo	*Vireo olivaceous*	REVI	S5B	G5	-	-	No	PO-S
Corvidae								

Common Name	*Scientific Name*	Species Code	Provincial Status (SRank)	Global Status (GRanks)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Blue Jay	*Cyanocitta cristata*	BLJA	S5	G5	-	-	No	PR-T
American Crow	*Corvus brachyrhynchos*	AMCR	S5	G5	-	-	No	PR-T
Common Raven	*Corvus corax*	CORA	S5	G5	-	-	No	OB-X
Alaudidae								
Horned Lark	*Eremophila alpestris*	HOLA	S4	G5	-	-	No	CO-NE
Hirundinidae								
Tree Swallow	*Tachycineta bicolor*	TRES	S4S5B	G5	-	-	No	PO-H
Cliff Swallow	*Petrochelidon pyrrhonota*	CLSW	S4S5B	G5	-	-	Yes	PO-H
Barn Swallow	*Hirundo rustica*	BARS	S4B	G5	SC	SC	No	CO-AE
Paridae								
Black-capped Chickadee	*Poecile atricapillus*	BCCH	S5	G5	-	-	No	PR-T
Sittidae								
Red-breasted Nuthatch	*Sitta canadensis*	RBNU	S5	G5	-	-	Yes	PO-H
Troglodytidae								
House Wren	*Troglodytes aedon*	HOWR	S5B	G5	-	-	No	PR-T
Polioptilidae								
Blue-gray Gnatcatcher	*Polioptila caerulea*	BGGN	S4B	G5	-	-	No	PO-S
Turdidae								
Wood Thrush	*Hylocichla mustelina*	WOTH	S4B	G4	THR	THR	Yes	PR-T
American Robin	*Turdus migratorius*	AMRO	S5	G5	-	-	No	CO-FY
Mimidae								

Common Name	*Scientific Name*	Species Code	Provincial Status (SRank)	Global Status (GRanks)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Brown Thrasher	*Toxostoma rufum*	BRTH	S4B	G5	-	-	Yes	PR-T
Northern Mockingbird	*Mimus polyglottos*	NOMO	S4	G5	-	-	No	PR-P
Sturnidae								
European Starling	*Sturnus vilgaris*	EUST	SNA	G5	-	-	No	CO-FY
Bombycillidae								
Cedar Waxwing	*Bombycilla cedrorum*	CEDW	S5	G5	-	-	No	PR-P
Passeridae								
House Sparrow	*Passer domesticus*	HOSP	SNA	G5	-	-	No	CO-AE
Fringillidae								
House Finch	*Haemorhous mexicanus*	HOFI	SNA	G5	-	-	No	PO-H
Pine Siskin	*Spinus pinus*	PISI	S5	G5	-	-	No	OB-X
American Goldfinch	*Spinus tristis*	AMGO	S5	G5	-	-	No	PR-P
Passerellidae								
Chipping Sparrow	*Spizella passerina*	CHSP	S5B,S3N	G5	-	-	No	PR-T
Field Sparrow	*Spizella pusilla*	FISP	S4B,S3N	G5	-	-	Yes	PO-S
Vesper Sparrow	*Pooecetes gramineus*	VESP	S4B	G5	-	-	Yes	CO-DD
Savannah Sparrow	*Passerculus sandwichensis*	SASP	S5B,S3N	G5	-	-	Yes	CO-CF
Song Sparrow	*Melospiza melodia*	SOSP	S5	G5	-	-	No	CO-CF
Swamp Sparrow	*Melospiza georgiana*	SWSP	S5B,S4N	G5	-	-	No	PO-S
Icteridae								

Common Name	*Scientific Name*	Species Code	Provincial Status (SRank)	Global Status (GRanks)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Bobolink	*Dolichonyx oryzivorus*	BOBO	S4B	G5	THR	THR	No	PR-T
Eastern Meadowlark	*Sturnella magna*	EAME	S4B, S5N	G5	THR	THR	No	PR-T
Baltimore Oriole	*Icterus galbula*	BAOR	S4B	G5	-	-	No	PR-T
Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	S5	G5	-	-	No	CO-CF
Brown-headed cowbird	*Molothrus aeter*	BHCO	S5	G5	-	-	No	CO-FY
Common grackle	*Quiscalus quiscula*	COGR	S5	G5	-	-	No	PR-P
Parulidae								
Common Yellowthroat	*Geothlypis trichas*	COYE	S5B,S3N	G5	-	-	No	PR-T
American Redstart	*Setophaga ruticilla*	AMRE	S5B	G5	-	-	No	PO-S
Yellow Warbler	*Setophaga petechia*	YEWA	S5B	G5	-	-	No	PO-S
Cardinalidae								
Northern Cardinal	*Cardinalis cardinalis*	NOCA	S5	G5	-	-	No	PR-T
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	RBGR	S5B	G5	-	-	No	PO-S

In the species columns, Breeding Evidence (BE) was identified for each species based on the highest level of BE observed.

**The S-rank is a subnational conservation status rank for species in Ontario. The S-rank system is used to describe how rare a species is in the province with S1 species being extremely rare and S5 species being demonstrably secure.*

Table 5. Species Ranking System

Rank System	Code	Meaning
OBBA Breeding Level		

Possible	**H**	Species observed in breeding season in suitable nesting habitat.
	S	Singing male present or breeding calls heard in breeding season in suitable habitat.
Probable	**P**	Pair observed in their breeding season in suitable habitat.
	T	Permanent territory presumed through registration of territorial song or presence of adult bird in breeding habitat on at least 2 days, one week or more apart at the same place.
	D	Courtship or display between a male and female, or two males including courtship feeding and copulation.
	V	Visiting probable nest site.
	A	Agitated behavior or anxiety calls of adults.
	B	Brood patch on adult female or cloacal protuberance on adult male.
	N	Nest building or excavation of nest hole.
Confirmed	**DD**	Distraction display or injury feigning.
	NU	Used nest or eggshell found (occupied/laid during atlas period).
	FY	Recently fledged young or downy young.
	AE	Adults leaving or entering nest site in circumstances indicating occupied nest.
	FS	Adult carrying faecal sac.
	CF	Adult carrying food for young.
	NE	Nest containing eggs.
	NY	Nest with young seen or heard.
NHIC S-Rank		
SH	Possibly Extirpated (Historical); species occurred historically and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years.	
S1	Critically Imperiled. Extremely rare in Ontario; usually 5 or fewer occurrences in the province.	
S2	Imperiled. Very rare in Ontario; usually between 6 and 20 occurrences in the province.	
S3	Vulnerable. Rare to uncommon in Ontario; usually between 21 and 60 occurrences in the province; may have fewer occurrences, but with some extensive examples remaining.	
S4	Apparently secure. Considered to be common in Ontario. It denotes a species that is apparently secure, with over 80 occurrences in the province.	
S5	Secure. Indicates that a species is widespread in Ontario. It is demonstrably secure in the province.	
?	Indicates some uncertainty with the classification due to insufficient information.	
SNR	Not Ranked.	
SNA	Not Applicable, a conservation status rank is not applicable because the species is not a suitable target for conservation activities.	
COSEWIC/ESA & SARA Rankings		
SC	Special Concern.	
END	Endangered.	
THR	Threatened.	
EX	Extirpated.	

A total of fifty-two (52) bird species were observed within the seven Parcels surveyed in 2022 by GEI. Six species at risk (SAR) were observed, the Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Sturnella magnus*), Barn Swallow (*Hirundo Rustica*), Wood Thrush (*Hylocichla mustelina*), Eastern Wood-pewee (*Contopus virens*), and the Upland Sandpiper (*Bartramia longicauda*), and two non-native species were observed, the European Starling (*Sturnus vulgaris*), and the House Sparrow (*Passer domesticus*). Of the six SAR observed during surveys only the Wood Thrush was observed in Parcel 11.

The highest level of breeding evidence obtained during surveys was "confirmed" breeding (OBBA, 2001); this evidence was obtained for eleven species, due to observations of recently fledged young (FY), adults carrying food (CF), performance of distraction displays or feigning injury (DD), and adults entering or exiting a nest site (AE). Twenty-two species were observed exhibiting "probable" breeding behaviour as pairs observed in their breeding season in suitable habitat (P), exhibiting agitated behaviour or anxiety calls (A), and singing in permanent territory during both rounds of surveys (T). Fourteen summer residents were observed singing (S) in suitable habitat (H) during the breeding season, indicating "possible' breeding evidence (OBBA, 2001). The remaining five bird species are considered non-breeders, flyovers, or migrants. Seven additional species were observed only on surrounding lands.

A total of forty-six (98%) 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). Six bird species are considered provincially rare (S1- S3; NHIC 2024) and are discussed in the sections below.

The following Species at Risk were observed within the Subject Property (Parcel 11 only) in 2022:

4.5.2.1. Bobolink: Threatened in Ontario

Eleven individuals were observed during round one, and seven were observed during round two on non-participating hayfields east of The Gore Road. Probable breeding was observed in the hayfields beyond the Study Area and were determined by GEI staff to provide suitable breeding habitat. No suitable habitat was observed within the Subject Property

4.5.2.2. Eastern Meadowlark: Threatened in Ontario

Three individuals were observed during round one, and four observed during round two on non-participating hayfields east of The Gore Road. GEI staff observed probable breeding evidence and determined that the hayfield beyond the Study Area provide suitable breeding habitat. No suitable habitat was observed within the Subject Property.

4.5.2.3. Barn Swallow: Special Concern in Ontario

Foraging individuals were observed flying over multiple Parcels, including Parcel 11 during both rounds of surveys, however, no other breeding evidence or suitable structures were observed on the Subject Property.

4.5.2.4. Wood Thrush: Special Concern in Ontario

One male was observed on the Subject Property within the Mineral Deciduous Swamp (SWD3-2) at point count PC22 during both rounds of surveys. GEI staff observed this male exhibiting probable breeding evidence and determined that the swamp and adjacent woodland provide suitable breeding habitat for this species.

4.5.2.5. Eastern Wood-pewee

One individual was heard during round one from the large woodland associated with the West Humber River located north and east of The Gore Road. Based on the possible breeding evidence heard from beyond the

Study Area, GEI staff determined that suitable habitat may be present in the forests of the West Humber River. No suitable habitat was observed within the Subject Property.

4.5.1. Bat Habitat Assessment

One bat habitat assessment was conducted on April 21, 2022, by GEI. The surveys identified two vegetation communities on the Subject Property as meeting the minimum density criteria for habitats of significant for bats (>10 suitable roosting trees per hectare): the Mineral Cultural woodland (CUW1) and the Silver Maple Mineral Deciduous Swamp (SWD3-2).

With respect to SAR bats, the CUW1 and SWD3-2 communities contain features that may be used by SAR bats. The results of the bat habitat assessment are presented in Table 6 and Map 3.

Table 6. Bat Habitat Assessment Results

Vegetation Community Code	Community Type	Approx. Area Size (ha)	Survey Type (transect/plot)	# of snag trees observed at ≥25 cm DBH	# of snag trees observed at ≥10 cm DBH	SWH Density (# of snag trees/ha ≥25cm DBH)
CUW1 adjacent to SWD3-2	Mineral Cultural Woodland	0.54	Transect	2	2	11.76
SWD3-2	Silver Maple Mineral Deciduous Swamp	0.8	Transect	10	10	12.5

4.5.2. Bat Acoustic Monitoring Results

Acoustic data collection surveys were conducted from June 10th to June 20th 2022, for a total of ten nights by GEI. Two acoustic monitors were installed within the Study Area based on the results of the bat habitat analysis: one in the SWD3-2 community and the other in the adjacent CUW1 community (Map 4). The acoustic data collectors were set to record audio files from sunset to sunrise (subject to triggering).

Acoustic data analysis resulted in the identification of three (3) bat species, all of which are listed as species at risk provincially and federally. The Big Brown Bat (*Eptesicus fuscus*), Hoary Bat (*Lasiurus cinereus*), and Silver-haired Bat (*Lasionycteris noctivagans*), were confirmed to be present in the SWD3-2 and CUW1 communities (Table 7).

Table 7. Bat Acoustic Survey Results

Date	SM4 ID	ELC Community	SPECIES CODE									
			NOBA	UNCA	LACI	LANO	EPFU	LABO	PESU	MYLU	MYSE	MYLE
June 10-20, 2022	WILD2	SWD3-2	-	71	53	116	63	0	0	0	0	0
June 10-20, 2022	WILD3	CUW1 adjacent to SWD3-2	-	105	72	91	57	0	0	0	0	0

NOBA: no bats, UNCA: unidentified calls, LACI: Hoary Bat, LANO (Silver-haired Bat, EPFU: Big Brown Bat, LABO: Eastern Red Bat, PESU: Tri-coloured Bat, MYLU: Little Brown Bat, MYSE: Long-eared Bat, MYLE: Small-footed Bat

Recorder WILD2 recorded a total of 303 calls, of which 232 were identifiable. Recorder WILD3 recorded a total of 325 calls, of which 220 were identifiable. Between the two recorders 628 calls were recorded, with 452 calls being identifiable to species including 125 Hoary Bat, 207 Silver-haired Bat, and 120 Big Brown Bat. The Silver-haired bat had the highest number of identifiable calls in both ELC communities surveyed.

4.6. Headwater Drainage Feature Assessment

Headwater drainage features are defined as non-permanent (intermittent or ephemeral) drainage features that may lack a defined bed or banks (CVC and TRCA 2014). Several HDFs exist on the property that feed into the West Humber River and its tributaries (Map 3). TRCA policy mandates that regulated HDFs be identified and managed in accordance with their Evaluation, Classification and Management of Headwater Drainage Features Guideline (CVC and TRCA 2014). The Town of Caledon also requires an HDF assessment as part of their natural heritage review process. Appropriate management recommendations is required to protect or mitigate the HDFs and their ecological functions from any proposed development.

GEI completed three rounds of surveys between 2021 (Round 1-March 24), 2022 (Round 2-May 18; Round 3- August 3) and 2024 (Round 1-April 10; Round 2-May 31; Round 3-August 14). GEI identified seven HDF segments within the Subject Property.

4.6.1. HDF Classification and Evaluation

The 2014 HDF Guidelines provide a classification system for the HDF features based on the field data collected. The classification involves a four-step process which considers hydrology, riparian vegetation, fish habitat, and terrestrial habitat. These four classification steps are then used to assign a recommended management approach. Table 8 below summarizes the classification for each of the HDFs on the property from field work completed by GEI.

Table 8. Headwater Drainage Feature Classification for HDFs on Subject Property

Drainage Feature Segment	Step 1. Hydrology	Step 2. Riparian	Step 3. Fish Habitat	Step 4. Terrestrial Habitat	Management Recommendation
H5S4-1	This feature was identified as a watercourse by TRCA. It is proposed to be moved and realigned as a natural channel in the environment block.				
H5S4-2	FT – 7 (swale) While majority of the feature is a swale, it is acknowledged that the downstream section of H5S4 within the hedgerow is observed to have more definition FC-4 (Round 1; 2021 and 2024) FC-2 (Round 2; 2022) FC-4 (Round 2; 2024) FC-1 (Round 3; 2022 and 2024) **Valued** – Reach was flowing or holding standing water during spring assessments and was dry by summer. This feature displays intermittent flow.	**Limited** – Cropped Cropped (agricultural) vegetation is located on either side of the reach. It is acknowledged that the downstream section of H5S4 passes through a hedgerow composed of scattered small shrubs and cultural meadow vegetation (Hawthorn (*Crataegus spp.*), *Malus spp.* and Manitoba Maple (*Acer negundo*) with Reed-canary grass (*Phalaris arundinacea*) and Perennial Rye (*Lolium perenne*)	**Contributing** – No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Limited** – As per Table 7 of the HDFA Guidelines, swales provide limited terrestrial function.	**Mitigation**
H5S4A	FT – 7 (swale) FC-4 (Round 1; 2021 and 2024) FC-2 (Round 2; 2022 and 2024) FC-1 (Round 3; 2022 and 2024)	**Limited** – Cropped Cropped (agricultural) vegetation is located on either side of the reach.	**Contributing** – No direct fish habitat is present. This feature provides allochthonous	**Limited** – As per Table 7 of the HDFA Guidelines, swales provide limited terrestrial function.	**Mitigation**

Drainage Feature Segment	Step 1. Hydrology	Step 2. Riparian	Step 3. Fish Habitat	Step 4. Terrestrial Habitat	Management Recommendation
	Valued – Reach was flowing or holding standing water during spring assessments and was dry by summer. This feature displays intermittent flow.		material transport to downstream habitat		
H15S2	FT-7 (swale) FC-1 (Round 1; 2024) **Limited**- Reach was observed to be dry during early spring assessment. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.	**Limited** – Cropped Cropped (agricultural) vegetation is located on either side of the reach.	**Contributing**– No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Limited** – As per Table 7 of the HDFA Guidelines, swales provide limited terrestrial function.	**No Management Requirement**
H15S1	FT-7 (swale) FC-1 (Round 1; 2024) **Limited**- Reach was observed to be dry during early spring assessment. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.	**Limited** – Cropped Cropped (agricultural) vegetation is located on either side of the reach.	**Contributing**– No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Limited** – As per Table 7 of the HDFA Guidelines, swales provide limited terrestrial function.	**No Management Requirement**
H12A1	FT-7 (swale)	**Limited** – Cropped	**Valued** – This feature provides seasonal fish	**Limited** – As per Table 7 of the	**Mitigation***

Drainage Feature Segment	Step 1. Hydrology	Step 2. Riparian	Step 3. Fish Habitat	Step 4. Terrestrial Habitat	Management Recommendation
	FC-1 (Round 1; 2022) FC-2 (Round 1; 2024) FC-1 (Round 2; 2024) **Contributing** – Reach was holding standing water during early spring and was dry by late spring. Wetland occurs upstream.	Cropped (agricultural) vegetation is located on either side of the reach.	habitat. One Brook Stickleback was incidentally observed within the feature during April 2024 HDFA surveys.	HDFA Guidelines, swales provide limited terrestrial function.	(based on presence of upstream wetland)
H12A1-1	FT: 7 (Wetland) FC – 2 (Round 1; 2024) FC – 2 (Round 2; 2024) FC – 2 (Round 3; 2024) **Important**- Reach is holding standing water throughout the year.	**Important** – Feature type is wetland.	**Contributing**– No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Limited** – The wetland provides breeding amphibian habitat. Calling amphibians were recorded during Amphibian Call Count Surveys.	**Protection**
H12S1	FT-7 (swale) FC-1 (Round 1; 2022) FC-2 (Round 1; 2024) FC-1 (Round 2; 2024) **Limited** – Reach was holding standing water during early spring and was dry by late spring. No recharge function - the soil conditions are fine textured with low	**Limited** – Cropped Cropped (agricultural) vegetation is located on either side of the reach.	**Contributing**– No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Limited** – As per Table 7 of the HDFA Guidelines, swales provide limited terrestrial function.	**No Management Requirement**

Drainage Feature Segment	Step 1. Hydrology	Step 2. Riparian	Step 3. Fish Habitat	Step 4. Terrestrial Habitat	Management Recommendation
	hydraulic conductivity, generally favouring runoff over recharge.				

*H12A1 – Expected ability to mitigate HDF and direct fish habitat functions by: a) continuing to convey flows to the appropriate downstream habitat; b) creating compensation wetland at Compensation Area 2 to provide direct fish habitat for a tributary associated with the same main branch that is known to support fish (i.e. within approximately 400m of the fish observation at H12A1); c) help mitigate hydrology (slower release from the wetland); and d) improve direct fish habitat functions (insects, organic materials, as well as coarse sediment through alluvium deposits in the wetland outlet reach) compared to existing conditions of H12A1 which is ploughed-through and planted with row crops.

[1]FT: Flow Types (1-defined natural channel, 2-channelized, 3-multi-thread, 4-no defined feature, 5-tile drainage, 6-wetland, 7-swale, 8-roadside ditch, 9-online pond outlet)

[2]FC: Flow Conditions (1-no surface water, 2-standing water, 3-interstitial flow, 4-surface flow minimal, 5-surface flow substantial)

4.7. Wetland Evaluation

4.7.1. Significant Wetlands

Wetland communities were assessed under the Ontario Wetland Evaluation System (OWES) (MNRF 2022). Wetland units smaller than 2 ha were evaluated if there was rationale to warrant a full evaluation. If rationale did not exist, the wetlands were not evaluated and treated as non-significant. Five wetlands were located within the Study Area (Map 4). Of these five wetlands, two had sufficient rationale and were evaluated, of which only the Silver Maple Mineral Deciduous Swamp (SWD3-2) met the criteria to be considered provincially significant. This wetland had a score of 231 under the Special Features component, influenced by the presence of provincially significant species including terrestrial crayfish, Wood Thrush, and Black Ash.

The Silver Maple Mineral Deciduous Swamp (SWD3-2) is associated with a Mineral Cultural Woodland (CUW1) and Buckthorn Deciduous Shrub Thickets (THDM2-6) surrounded by agricultural fields. The OWES report identified four locally rare plant species, one endangered species (Black Ash- *Fraxinus nigra*) and species of Special Concern (Wood Thrush and Terrestrial Crayfish).

4.7.2. Other Wetlands

Three other wetlands (non-significant) were identified within the Study Area as Cattail Mineral Shallow Marsh (MAS2-1) and Reed Canary Grass Mineral Meadow Marsh (MAM2-2), and one candidate significant wetland was identified as a shallow aquatic (SA). These wetlands were small in size (<2 ha) to meet the OWES size criteria or were evaluated as non-significant.

The Caledon Official Plan states that:

> "New development will not be permitted in Other Wetlands unless it can be demonstrated that such development will not result in the degradation of ecosystem integrity, to the satisfaction of the Town, the Conservation Authority, the Ministry of Natural Resources and Forestry, or other delegated authority".

The Study Area is located outside of the Greenbelt Plan Area therefore a 30 m buffer applies for significant wetlands and a 10 m buffer applies for non-significant wetlands using the staked wetland boundary following the natural heritage buffers outlined in the Wildfield Village Secondary Plan.

4.7.3. Feature Based Water Balance

Wetland Screening and Water Balance Risk Assessment

Wetland screening and water balance risk evaluation was completed in the Local Subwatershed Study to identify which individual wetlands will have hydrologic changes and be at risk for negative impacts to their form and/or function based on the proposed development. From the screening and evaluation, wetlands identified to be at risk for negative impacts to their form and/or function, were assessed to first identify options to avoid impacts. Where impacts are not avoidable for a given wetland, a feature based water balance assessment was completed by GEI.

Continuous Simulation Hydrologic Modelling

The feature based water balance assessment included continuous simulation hydrologic modelling (including, pre-development, post-development without mitigation, and post-development with mitigation to assess suitable options to maintain pre-development wetland hydrology post-development.

As part of the Phase 1 Local Subwatershed Study, the existing drainage areas for the wetlands were determined by GEI and SCS Consulting Group Ltd. and the areas were modelled in continuous simulation mode to determine runoff volumes. The rainfall data used in the continuous modelling was obtained from the TRCA and spans from May 1986 to October 2007. The time to peak was calculated for the wetlands using the Uplands Method. The remaining model parameters for each wetland drainage area, including Curve Number (CN), Initial Abstraction (Ia), percent imperviousness, soil types and land cover were obtained from the parent subcatchment in the erosion exceedance model, as outlined in the Local Subwatershed Study.

Table 9 provides a summary of the existing conditions average annual runoff to wetlands within the Study Area.

Table 9. Existing Conditions Wetland Average Annual Runoff Volume

Wetland ID	Drainage Area (ha)	Average Annual Runoff Volume (ha-m)
8, 33, 34	4.49	161.2
10_11	54.88	1970.1
12	1.04	89.4

As noted, *the continuous simulation hydrology model for medium- and high-risk wetlands currently lacks sufficient monitoring data for calibration. While monitoring is underway, only one to two years of field data have been collected, which is not enough to provide a valuable model calibration at this time. In accordance with Town correspondence and TRCA SWM Criteria, calibration is a requirement for subsequent study and must be completed before Draft Plan approval once a minimum of one year of monitoring data is available.*

4.7.3.1. Monitoring

Surface Water Monitoring

A baseflow and surface water level monitoring program is being carried out using nested piezometers, staff gauges and data loggers installed in or near the tributaries and wetlands to evaluate groundwater elevations and baseflow conditions in the nearby surface water features. Seepage meter testing was also conducted to gather quantitative data on potential baseflow to determine the groundwater baseflow conditions to surface water features, potential impacts of development, and completion of a feature-based water balance.

The surface monitoring data is included in Table 10 below which was acquired from Table 3.13 in Appendix C3 of the Local Subwatershed Study by SCS and GEI. Additional wetland monitoring is planned to begin in spring 2026 to support feature-based water balance analyses required for retained wetlands 8_9, 33 and 34.

Wetland Surface Water Monitoring

To calibrate the wetland feature based water balance hydrologic modelling, surface water levels and groundwater-surface water interactions are to be monitored within the retained wetlands 8_9, 33 and 34 in Spring 2026. A topographic survey of the wetland areas will also be completed. Monitoring locations and methods are being coordinated between SCS and GEI to ensure information is obtained for the feature-based water balance model calibration and to fulfill ecological monitoring requirements of the retained wetlands.

Table 10. Hydrological Function Table from Table 3.13 in Appendix C3 of the Local Subwatershed Study

Wetland ID	Wetland Category	ELC Community	Groundwater Elevation Range (Height Above+/Below Feature-)	Surface Water Elevation Range (Height Above Feature)	Vertical Hydraulic Gradient (+Upward Flow/-Downward Flow)	Hydrostratigraphy	Wetland Classifications
8_9	Wetlands to be retained	Cattail Mineral Shallow Marsh	-0.8 to -3.1m	0.4 to dry	Average: 0.04 Max: 1.18 Min: -0.47	Clay and Silt Glacial Till (Halton Till)	SW Dominant, Groundwater supported (aquitard)
10_11	Wetlands to be retained	Forb Mineral Meadow Marsh	1.9 to -0.2m	0.5 to dry	Average: -0.03 Max: 0.03 Min: -0.44	Clay and Silt Glacial Till (Halton Till) / Silty Sand Glacial Till (Newmarket Till)	SW Dominant, Groundwater supported (aquitard)
12	Wetlands to be removed	Reed Canary Grass Mineral Meadow Marsh	0.3 to 2.9m	Not evaluated	Not evaluated	Clay and Silt Glacial Till (Halton Till)	SW Dominant, Groundwater supported (aquitard)

33	Wetlands to be retained	Shallow Aquatic	0.2 to 2.5m	Not evaluate	Average: 0.04 Max: 1.18 Min: -0.47	Clay and Silt Glacial Till (Halton Till)	SW Dominant, Groundwater supported (aquitard)
34	Wetlands to be retained	Cattail Mineral Shallow Marsh	-0.5 to -1.2m	0.6 to dry	Average: 0.04 Max: 1.18 Min: -0.47	Clay and Silt Glacial Till (Halton Till)	SW Dominant, Groundwater supported (aquitard)

5. Species at Risk Screening

The Endangered Species Act, 2007, S.O. 2007 was passed to protect the biodiversity of Ontario by using the best available scientific, community, and indigenous traditional knowledge and the precautionary principle as its doctrine. The purpose of the Act is to identify species at risk, protect species at risk and their habitats, and promote the recovery of species at risk and stewardship activities that assist in these goals. The Committee on the Status of Species at Risk in Ontario (COSSARO) functions to maintain an up-to-date database of information pertaining to species in Ontario and their classification. COSSARO advises the Minister of the Environment, Conservation and Parks, who makes and files a regulation that lists all plant and animal species classified by COSSARO as extirpated, endangered, threatened, or of special concern. This regulation is the Species at Risk in Ontario List (Ontario Regulation 230/08). Ontario Regulation 242/08 provides general policies concerning exemptions and habitat specifications for those listed SAR species.

5.1. SAR Long List

A Long List of potential SAR was developed for the Study Area based on Provincial and Federal status. Following the MECP Client's Guide to Preliminary SAR Screening (2019), this screening was based on a review of the Natural Heritage Information Centre (NHIC) database (Atlas ID: 17PJ0052, 17PJ0152, 17PJ0153, 17PJ0053), the regional species list, atlases (Ontario Breeding Bird, Butterfly, Moth, Reptile and Amphibian; Atlas Square:17PJ05), citizen science databases (i.e. iNaturalist and eBird), and any additional sources provided by the MECP. Descriptions of the various data sources are included in Appendix B. Observations of SAR within these squares do not necessarily represent observations within the boundaries of the Study Area. The SAR Long List is provided in below for data sources acquired on October 3rd, 2025 and October 5th, 2025.

Table 11. Screening Results

Species		Status		
Common Name	**Scientific Name**	**S_Rank**	**SARO**	**SARA**
Birds				
Bank Swallow[2,3]	*Riparia riparia*	S4B	THR	THR
Barn Swallow[3]	*Hirundo rustica*	S4B	SC	THR
Bobolink[3]	*Dolichonyx oryzivorus*	S4B	THR	THR
Chimney Swift[2,3]	*Chaetura pelagica*	S3B	THR	THR
Eastern Meadowlark[1,2,3]	*Sturnella magna*	S4B,S3N	THR	THR
Eastern Wood-pewee[3]	*Contopus virens*	S4B	SC	SC
Grasshopper Sparrow[3]	*Ammodramus savannarum*	S4B	SC	-
Horned Grebe[2]	*Podiceps auritius*	S1B,S3B,S4M	SC	-
Lesser Yellowlegs[2]	*Tringa flavipes*	S3S4B,S5M	THR	-
Peregrine Falcon[2]	*Falco peregrinus*	S4	SC	-
Red-headed Woodpecker[3]	*Melanerpes erythrocephalus*	S3	END	END
Wood Thrush[1,3]	*Hylocichla mustelina*	S4B	SC	THR
Amphibians and Reptiles				
Eastern Milksnake[5]	*Lampropeltis triangulum*	S4	NAR	SC
Midland Painted Turtle[5]	*Chrysemys picta marginata*	S4	-	SC
Western Chorus Frog – Great Lakes – St. Lawrence – Canadian Shield population[1,5]	*Pseudacris maculata pop. 1*	S4	NAR	THR
Snapping Turtle[5,6]	*Chelydra serpentina*	S4	SC	SC
Insects				
Monarch[4]	*Danaus plexippus*	S4B,S2N	SC	END
Fish and Molluscs				
Redside Dace[1]	*Clinostomus elongatus*	S1	END	THR

Sources: [1] NHIC Database, [2] eBird Database, [3] Ontario Breeding Bird Atlas, [4] Ontario Butterfly Atlas, [5] Ontario Reptile and Amphibian Atlas, [6]iNaturalist

5.2. SAR Assessment

Based on the screening, in combination with vegetation communities and other environmental features observed during field work, the following species were identified for further assessment:

Possibly Occurring

- Barn Swallow (*Hirundo rustica*)
- Bobolink (*Dolichonyx oryzivorus*)
- Eastern Milksnake (*Lampropeltis triangulum*)
- Snapping Turtle (*Chelydra serpentina*)
- Red Side Dace (*Clinostomus elongatus*)

Confirmed Presence

- Black Ash (*Fraxinus nigra*)
- Midland Painted Turtle (*Chrysemys picta marginata*)
- Western Chorus Frog – Great Lakes – St. Lawrence Population (*Pseudacris triseriata pop. 1*)
- Wood Thrush (*Hylocichla mustelina*)

5.2.1. Possibly Occurring

An assessment of the above list found that the Study Area has the potential to provide habitat for the species described below.

Barn Swallow (*Hirundo rustica*)
The Barn Swallow is ranked 'S4B' (breeding population apparently secure) in Ontario and is listed as Special Concern under the Species at Risk in Ontario (SARO) list and threatened under the federal Species at Risk Act (SARA). This species is a medium-sized songbird with metallic blue colouring on the upper wings, buff to red-brown breast feathers, and a distinct, deeply forked tail. This species displays sexual dimorphism, with males having more vibrant colouring overall and more deeply forked tail feathers.

Barn Swallows have a preference for human-made structures as nesting habitat, and are attracted to open structures with unpainted, rough-cut wood where they can build their nests. This species is threatened by habitat loss, loss of quality and quantity of insect prey due to increased use of pesticides, and a variety of indirect threats such as climate change.

Barn Swallows were observed foraging generally over a nearby parcel also belonging to the WVSP area during both rounds 1 and 2 of breeding bird surveys, indicating that it is possible that the species could use nearby properties for aerial foraging.

Bobolink (*Dolichonyx oryzivorus*)
The Bobolink is ranked 'S4B' (breeding population apparently secure) in Ontario and is listed as Threatened under both SARO and SARA. This species is a medium-sized songbird that displays sexual dimorphism. In the nonbreeding season, males and females resemble each other, with both sexes displaying tan colouring

with dark brown streaking on the back and flanks. During the breeding season, breeding males are black with white streaking on the back and a yellowish patch on the back of the head.

The Bobolink is a grassland species, and with the loss of native prairies and meadows over time, have begun to occupy hayfields as well. This species nests on the ground, and as such is threatened by mowing of hay during the breeding period, which can inadvertently kill nesting adults, fledgling birds, and eggs. Additional threats include habitat loss and degradation, pesticide exposure, and human persecution.

During round one of 2024 breeding bird surveys, eight male Bobolinks were observed singing from within or just outside of station p9-2, a survey station outside of the Study Area but also belonging to the WVSP area. This confirms that Bobolink are present in the area, and thus could possibly occur in the farm fields on the Property.

Eastern Milksnake (*Lampropeltis triangulum*)
The Eastern Milksnake is ranked 'S4' (apparently secure) in Ontario and is listed as Special Concern under Schedule 1 of the federal Species at Risk Act (SARA). It is a non-venomous constrictor snake with brightly coloured variable patterning and glossy, smooth scales. This species is threatened by a variety of factors, including habitat loss and degradation, road mortality, and persecution by humans.

Although no Eastern Milksnakes were reported during field studies, this species was flagged during the desktop Species at Risk screening by the Ontario Reptile and Amphibian Atlas. Given this species' use of open and edge habitats, including farm fields and forest edges, for thermoregulation, it is possible that Eastern Milksnake could occur onsite. No snakes were observed during the single round of visual snake surveys performed in 2021 at transect ST-3 along the western Property boundary.

Snapping Turtle (*Chelydra serpentina*)
The Snapping Turtle is ranked 'S4' (apparently secure) in Ontario and is listed as Special Concern under both SARO and SARA. This species is Canada's largest freshwater turtle species, and is distinguished by their large, dark shells and long, triangular-shaped tails. Hatchlings have pronounced ridges along the length of their shell that smooth out with age. Threats to this species include slow maturation rates, nest predation, road mortality, and loss of habitat.

Although this species was not observed during field work or the dedicated turtle basking surveys, multiple Midland Painted Turtles were observed in the Cattail Mineral Shallow Marsh (MAS2-1) on site, indicating that the Study Area does provide turtle habitat. It is not uncommon for Snapping Turtles to occupy similar habitat to Midland Painted Turtles, making their presence a possibility.

Red Side Dace (*Clinostomus elongatus*)
The Red Side Dace is ranked 'S1' (critically imperiled) in Ontario and is listed as Endangered under both SARO and SARA. This species is a member of the minnow family. Adult Red Side Dace display a bright red and bright yellow stripe across their body, with their colours further intensifying during spring spawning season. Red Side Dace are typically found in pools and slow-moving areas of streams and headwaters with a gravel bottom. Threats to this species include residential development, alteration to stream flows, encroachment by invasive species, pollution from stormwater, and other non-point source pollution.

Red Side Dace are known to occur in the West Humber River, which sits less than 100 meters northeast of the Property, upstream of the Headwater Drainage Features (HDFs) present on site. No Red Side Dace were observed on the Property during the fish sampling surveys performed in 2024.

5.2.2. Confirmed Presence

Four species at risk were observed on site by GEI staff during field surveys. The sections below describe the implications of their presence within the Subject Property.

Black Ash (*Fraxinus nigra*)
The Black Ash is ranked 'S4' (apparently secure) in Ontario and is listed as Endangered under SARO. This species is a broad-leaved hardwood tree with compound leaflets. It can be distinguished from other native ash species by its sessile leaflets and distinct gap between the lateral and terminal buds. Historically, this species has been widespread in southern and central Ontario in wet or at least seasonally flooded acidic substrates but has been in stark decline since the introduction of Emerald Ash Borer, which is the main threat to this species.

During floristic surveys, Black Ash were observed in the sub-canopy of the Silver Maple Deciduous Swamp community that crosses over the northwest Property boundary (SWD3-2 on Map 4).

Midland Painted Turtle (*Chrysemys picta marginata*)
The Midland Painted Turtle is ranked 'S4' (apparently secure) in Ontario and is listed as Special Concern under SARA. This is a small to medium-sized turtle species with a smooth, dark green to black upper shell with red markings on the outer shell edges. The lower shell is yellow to tan with a dark central blotch. Midland Painted Turtles occupy slow moving, relatively shallow and well-vegetated wetlands and water bodies. Threats to this species include road mortality, habitat loss and degradation, invasive species, and nest predation.

Seven Midland Painted Turtles were observed during turtle basking surveys at station BS1 in the Cattail Mineral Shallow Marsh (MAS2-1) community on the Property.

Western Chorus Frog – Great Lakes – St. Lawrence – Canadian Shield population (*Pseudacris triseriata pop. 1*)
The Great Lakes – St. Lawrence – Canadian Shield population of the Western Chorus Frog is ranked 'S4' (apparently secure) in Ontario and is listed as Threatened under SARA. This species is a small tree frog with three dark lines along its back and one larger line on each flank. The Western Chorus Frog can range in colour from brown, to grey, to olive, but is most easily recognized by its distinct creaking call in the spring. Threats to this species include loss of habitat and breeding sites due to suburban expansion and alteration in farming practices, and exposure to chemical contaminants.

One Western Chorus Frog was heard calling at station p11-3 belonging to the Cattail Mineral Shallow Marsh (MAS2-1) community on the Property.

Wood Thrush (*Hylocichla mustelina*)
The Wood Thrush is ranked 'S4B' (breeding population apparently secure) in Ontario and is listed as Special Concern under SARO and Threatened under SARA. It is a medium-sized songbird with rusty-brown upper parts and white, speckled underparts. Males and females of this species are similar in appearance. The Wood

Thrush occupies mature deciduous and mixed forests, preferring moist stands of trees with a well-developed understory. Threats to this species include loss of habitat, over-browsing of nesting vegetation by deer, and parasitic behaviour from brown-headed cowbirds.

One male Wood Thrush was detected on both rounds of breeding bird surveys performed in the Mineral Swamp Deciduous Swamp (SWD3-2) present within the Study Area. These survey results provided probable breeding evidence in suitable breeding habitat for the Wood Thrush.

6. Significant Wildlife Habitat Screening

Significant Wildlife Habitat (SWH) is considered natural heritage and is protected as per Section 2.1 of the Provincial Policy Statement, 2014. The Significant Wildlife Habitat Technical Guide (OMNRF, 2000) aids in land use planning by providing the identification, description, and prioritization of significant wildlife habitat in Ontario. The associated Ecoregion Criteria Schedules are used to further provide detailed criteria for assessing and confirming SWH within Ontario. The Study Area is located in two Eco-Regions: 6E and 7E; therefore both the 6E and 7E Criterion Schedules were used to assess Significant Wildlife Habitat.

Significant (and/or sensitive) Wildlife Habitat features and functions as described within the OMNRF Significant Wildlife Habitat Ecoregion Criteria Schedule for Regions 6E & 7E (OMNRF, 2015) were reviewed and evaluated for the Study Area. The documented groups wildlife habitat into five main categories:

- Seasonal concentration areas of animals
- Rare vegetation communities or specialized habitats for wildlife
- Specialized Habitat for Wildlife
- Habitat for species of conservation concern
- Animal movement corridors

The full screening found in Appendix C consisted of a review of the ELC codes and habitat criteria for candidate SWH. Any SWH on the Subject Property or adjacent lands was noted in Column 4 and a rationale was provided in Column 5. In the case of potential SWH, Confirmed Defining Criteria Studies were reviewed, and applicable mitigation measures (in summary form) were also provided in Column 5.

6.1. Screening

The results of the assessment indicated the presence of candidate and confirmed SWH within four of the five categories, including:

- **Seasonal Concentration Areas of Animals**
    - Potential for Bat Maternity Colonies
    - Potential for Turtle Wintering Areas
- **Specialized Habitat for Wildlife**
    - Potential for Amphibian Breeding Habitat (Woodland)

- Potential for Amphibian Breeding Habitat (Wetlands)

- **Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)**
  - Confirmed Terrestrial Crayfish
  - Confirmed Special Concern and Rare Wildlife Species
- **Animal Movement Corridors**
  - Potential for Amphibian Movement Corridors

7. Proposed Development

The proposed site plan will occupy an approximate area of 41.29 ha, with 11.84 ha of that land going towards Stormwater Management Ponds as associated enhancement, Parks, Open Space and Environmental Protection Areas, and the remaining 29.45 ha going towards residential development. The proposed residential development includes the creation of a main roadway and entrance via Mayfield Road (Map X) in a north-south direction as well as concrete curbing/sidewalk, asphalt drive aisle and parking, and landscaped areas. A minimum 30 m Vegetation Protection Zone (VPZ) is proposed from the edge of the Deciduous Woodland located on the western property boundary which represents the limits of the Environmental Protection Block as staked with the TRCA in 2024

7.1. Natural Heritage System Buffers

The TRCA confirmed the wetland and woodland driplines associated with the Cultural Woodland and adjacent Deciduous Swamp located on the western property boundary and the wetland located on the eastern corner of the property (Map 4). The development limits in Map 5 are governed by the 30 m wetland buffer that is associated with the wetland on site, the 10 m woodland buffer associated with the adjacent woodland, and the 10 m riparian and wetland buffer associated with the eastern wetland.

In the proposed development Watercourse H5S4A and HDF H5S4 are proposed to be re-created in the environmental block with flow being maintained to the watercourse located in Block 397 (Environmental Protection Area) via Low Impact Development (LID) measures such as rear yard infiltration trenches and roof leaders to Wetland via Foundation Drain Collector. The watercourse will receive a 10 m setback once within the boundaries of the eastern Environmental Protection Area.

7.2. Landscape Connectivity

Landscape connectivity has been integrated into the design through the co-location of the park and two large stormwater blocks in the southeast corner of the property. This area will include open passive use areas, naturalised vegetation and provide space for wildlife to move between protected natural areas within the plan. Hydrologic connections are maintained from the Provincially Significant Wetland to the external connection points through a clean water third-pipe system.

The landscape connection narrows in an area of approximately 150 m between the park and the protected Provincially Significant Wetland. In this area, the boulevard has been increased in width and is proposed to be vegetated.

7.3. Stormwater Management

The proposed Stormwater Management (SWM) Plan will include a treatment train of the following LID measures and SWM controls:

- Rear yard infiltration trenches;
- Clean water collector pipes to existing and constructed wetland features;
- End-of-pipe SWM facilities; and
- Additional LIDs – which can be evaluated through the Site Plan Applications for medium density blocks

The end-of-pipe SWM Ponds will be located in blocks 394 and 395 will cover 3.24 and 3.02 ha respectively.

7.4. Sanitary Sewer Servicing Requirements

No existing sanitary sewers are present within the Study Area or on adjacent arterial roads. An existing 1200 mm diameter sanitary sewer is located on The Gore Road approximately 615 m south of Mayfield Road. It is proposed that the Subject Property will be serviced via several connections to a future wastewater main on The Gore Road at collector road intersections and at Mayfield Road. The sanitary sewer system will be designed in accordance with the Region of Peel and MECP criteria including but not limited to:

- Residential Sanitary Generation Rate: 290 L/c/d;
- Commercial Sanitary Generation Rate: 270 L/emp/ha;
- Population Density:

1. Single detached: 4.2 person/unit,
2. Semi-detached: 4.2 person/unit,
3. Townhouse: 3.4 person/unit,
4. Large Apartment (greater than 1 bedroom): 3.1 person/unit,
5. Small Apartment (less than or equal to 1 bedroom): 1.7 person/unit,

- Peaking Factor: Harmon (Max. 4.0);
- Infiltration Rate: 0.26 L/s/ha;
- Minimum Pipe Size: 200 mm diameter;
- Minimum Pipe Cover: 2.5 m below centerline road elevation;
- Minimum Actual Velocity: 0.75 m/s, and
- Maximum Velocity: 3.0 m/s.

7.5. Watermain Servicing Requirements

There are existing watermains on several arterial roads surrounding the Subject Property including: a 200 mm diameter watermain on The Gore Road; and a 300 mm diameter watermain, 600 mm diameter watermain, and 750 mm diameter watermain on Mayfield Road. Water servicing for the Subject Property will be provided by the distribution mains planned by the Region with connections to the existing distribution mains on Mayfield Road and the future distribution main on The Gore Road.

The watermain system will be designed in accordance with the Region of Peel and MECP criteria including but not limited to:

- Residential water usage rate: 280 L/c/d;
- Commercial water usage rate: 300 L/emp/ha;
- Population Density:

6. Single detached: 4.2 person/unit,
7. Semi-detached: 4.2 person/unit,
8. Townhouse: 3.4 person/unit,
9. Large Apartment (greater than 1 bedroom): 3.1 person/unit,
10. Small Apartment (less than or equal to 1 bedroom): 1.7 person/unit,

- Minimum Pipe Size: 150 mm diameter;
- Minimum Pipe Depth: 1.7 m, and
- Maximum Hydrant Spacing: 150 m.

7.6. Grading

The proposed development grading has been developed to match the existing surrounding grades, and provide conveyance of stormwater runoff, including external drainage. The site grading will be subject to further grading design at the detailed design stage of the project. All grading will be confined to the development limits which have been identified and confirmed by the TRCA.

7.7. Maintenance Requirements

For snow and ice maintenance during the winter, it is recommended that sand or other salt alternatives be used on pathways and roads for de-icing. Using salt alternatives avoids chloride contaminants from entering the surrounding Natural Heritage System. Snow storage cannot be places within the Environmental Protection Areas nor open spaces.

8. Environmental Impact Assessment

Impacts on the various natural heritage features associated within and adjacent to the Subject Property were considered in the impact analysis. Table 10 presents the natural heritage components considered in this

assessment, the proposed activity associated with that component, potential short-term and long-term impacts, recommended mitigation measures, and if any residual effects are anticipated. Potential impacts were assessed using field-collected data and secondary source information, including an overlay of the proposed site plan.

8.1. Impact Summary Table

Feature and Function	Proposed Activity	Potential Impacts	Recommended Mitigation	Residual Effects
			Short-Term Impacts	
Natural Heritage System (NHS)	Grading, Servicing & Development	Release of dust as a result of construction activities.	Implement dust suppression measures during site grading when conditions are dry or strong winds are anticipated.	Impacts from dust to the surrounding landscape should be minimal. No residual effects expected.
Breeding Birds	Site Clearing/ Tree Removal	Impacts to nests and nesting birds	Vegetation and tree clearing should not occur between April 1-September 30th as per the Migratory Birds Convention Act (1994). If clearing is to occur during the nesting season, a nest survey should be completed by a qualified bird biologist 48 hours prior to the proposed works to identify any nest which are not to be disturbed until the young have fledged. Nests are not to be disturbed until the young have fledged or until the nest is deemed inactive. Education of contractors on wildlife encounters.	Tree clearing is limited to hedgerows. No residual impacts are anticipated if the timing restriction is adhered to.
Surrounding habitats	Grading, Servicing & Development	Release of petroleum products or other contaminants into surrounding habitats.	To prevent contaminant runoff into the nearby natural heritage features, equipment maintenance and refuelling need to be controlled to prevent any discharge of petroleum products. Vehicular maintenance and refuelling should be conducted at least 30 m from the Woodland and Core Area. Construction material, excess material, construction debris, and empty containers should be stored in one location with proper containment and spill control measure in place.	No residual effects are expected if mitigation measures are followed.
Local and migrating wildlife	Grading, Servicing & Development	Noise from construction works on local and migrating wildlife.	Limited measures can be employed as a certain level of construction noise will occur. Limit construction activities at sunrise and sunset during the active spring breeding bird season.	Noise impacts to wildlife may occur; however, as the majority of the wildlife found within the local landscape is tolerant of disturbances, they are anticipated to return to the area once construction activities end. No residual effects are expected.
Surrounding habitat	Grading, Servicing & Development	Soil compaction and rutting outside of the construction zone	Install fencing to delineate where the extent of the development footprint is limited.	Minimal residual effects anticipated.

Feature and Function	Proposed Activity	Potential Impacts	Recommended Mitigation	Residual Effects
Adjacent Woodland	Grading, Servicing and Development	Damage to woodland edge trees. Erosion and sedimentation release to the woodland.	Due to grading that has occurred, additional grading will be required up to the property limit, which is within the VPZ. The limits of the woodland are setback from the property line; therefore, silt fencing is to be installed along the property limit to ensure construction activities and sediment do not migrate to the adjacent NHS. Avoid construction during high-volume rain events or significant snow melts/thaws. Construction should resume once soils have stabilized to avoid the risk of erosion, soil compaction, or the potential for sediment release into nearby natural features/watercourses.	Inspection of the erosion and sediment controls (e.g. silt fences, sediment traps, outlets, vegetation, etc.) by a qualified environmental professional (i.e. CAN-CISEC designation or approved equivalent) with follow-up reports to the governing municipality should ensure proper implementation throughout the development. Fencing should be left in place until after construction works are complete and the site has sufficiently stabilized/ re-vegetated. No residual effects are expected.
Long-Term Impacts				
Local and migrating wildlife	Development	Light pollution	Lights directed downward will reduce the amount of ambient light issuing from the Subject Property. It is recommended that downward-casting lighting is used across the site. Lighting along the backside of the building that faces the Core Area should be minimized. The building's interior lighting should be reduced after business hours. Whenever possible, task lighting should be used, especially from sunset to sunrise.	Due to the overall size of the proposed development, it is likely to create some additional ambient light pollution. If mitigation measures are implemented, the overall impact of light pollution on wildlife and insects can be reduced. The shielding and downward casting lights, closing window coverings at night, and using task lighting are good steps to reducing impacts. There will likely be some impact due to night-time lighting as all outdoor lighting will not be eliminated. Given the urban landscape, ambient night lighting impacts are anticipated to minor.
Breeding Birds	Development	Bird Strikes/ Deaths	New developments close to natural areas with glass surfaces pose a threat to birds. Birds can see through glass and what is reflected on glass, but not the glass itself. There are several options to reduce bird strikes depending on whether the treatments are before or after the glass has been installed. 1) Pre-Installation measures include: exterior window coverings (i.e. shutters or muntins), installation of awnings and overhangs, avoiding the installation of vegetation on the interior of the	Bird-friendly measures are recommended for installation in the entire building. There is the potential for residual negative impact on the local and migrating avian population from bird strikes. For more information on bird strikes and bird-friendly building design, visit FLAP Canada's website.

Feature and Function	Proposed Activity	Potential Impacts	Recommended Mitigation	Residual Effects
			building adjacent to exterior facing windows, grade-level ventilation grates should have a porosity no greater than 20 mm x 20 mm or 40 mm x 10 mm. 2) Post-installation Solutions: install deterrent measures on the outside of the windows like decals, ribbon, tape. Turn off lights at night during migration periods. Bright lights can draw migrating birds off course, delaying their migration	
Woodland, ESA	Snow Storage	Salt run-off	Snow will be stored internally to the development or removed to an external snow storage facility. Meltwater will be captured and treated within the stormwater system.	Snow storage is not permitted within the VPZ or any natural areas. Through the capture of meltwater into the SWM system, there is a low likelihood that sodium-enriched water will be discharged into the surrounding natural environment. Minimal residual effects are expected.
Regulated Wetland	Development	Increase in impervious cover	With the construction of the proposed development, there is a potential for increased surface water runoff and a reduction in infiltration.	
Surrounding Habitat	During Construction	Movement of invasive species to and from the site	Machinery is a major vector for spreading terrestrial invasive species into new areas as they may spread seeds or plant parts to other properties. Contractors are to follow Clean Equipment Protocol for Industry (2013) as laid out by the Ontario Invasive Plants Council.	No invasive plant species were found on-site during floristic surveys. Minimal residual effects are expected while adhering to the recommended mitigation measures.
HDFs	Removal of HDF	Mitigation and Conservation Level HDF's are proposed for removal with compensation.	Mitigation of the hydrologic connection of the HDF features is provided through a third pipe clean water system to maintain flows to downstream protected and off site features. Landscape connectivity is maintained through the co-location of the park and two large stomwater blocks. Additional vegetated boulevard width is provided between the Provincially Significant Wetland and the park block. Installation of suitable turtle nesting material in the buffer to the wetland will decrease turtle movement into the community.	Long term residual effects on the downstream hydrological features are not anticipated based on the third pipe clean water system. Wildlife movement through the site will be maintained for most species based on the landscape connectivity provided in the plan.

Feature and Function	Proposed Activity	Potential Impacts	Recommended Mitigation	Residual Effects
Wetland and Woodland	Wildlife/Human Interactions	Encroachment, dumping and spread of invasive species.	A minimum 30 m Vegetation Protection Zone (setback) is recommended to be planted surrounding the western natural heritage feature, and a 10 m Vegetative Protection Zone is recommended to be planted surrounding the eastern natural heritage feature. Planting should be done with native trees and shrubs within the Subject Property. This will help to mitigate the impacts of vegetation removal within the site to support wildlife habitats as well as act as a buffer for both environmentally sensitive areas.	Plant species identified within the Study Area are common and secure within Ontario and Canada, and the majority are identified as non-native and/or invasive species. Residual effects of vegetation removal are anticipated to be minor due to their cultural influence. Opportunities for native planting with the VPZ will serve to improve the ecological functions of the Environmental protection blocks (which cover the environmentally sensitive areas) adjacent to the proposed development in the east and west. No residual impacts are anticipated.

8.2. Direct Impact Assessment

Direct impacts are those that are directly attributed to the proposed development activities, often occurring during the construction phase or associated with physically altering the landscape, removal of vegetation communities, or changes to the surface and groundwater systems. Construction activities including grading, servicing, and site development can cause short-term direct impacts to surrounding habitats and possible local and migrating wildlife. The following potential impacts were considered, and appropriate mitigation measures are identified below in Section 9.

The proposed development will result in the alteration of the central portion of the Subject Property where residences and agricultural fields currently exist. Vegetation and tree removals outside of defined setbacks are proposed to prepare the land for construction. The potential direct impacts identified for the proposed development include:

- Increase in dust levels during construction. Fine sediments and particulate matter could be distributed throughout the NHS through saltation (e.g. movement of sediment via wind).
- Transport of sediment to the adjacent Bowmanville Creek, resulting in sedimentation of the watercourse and impacts to aquatic habitats.
- Increase in noise levels impacting local and migrating wildlife. Noise can reduce the ability of wildlife to hear other individuals, which can be particularly problematic during breeding season.
- Edge impacts on the NHS due to dumping, soil compaction, and removal or introduction of non-native vegetation.
- Vegetation and tree removal, consequently removing wildlife habitat.
- Change in surface runoff to the adjacent natural heritage features due to grade change and addition of impermeable surfaces.
- Contaminant runoff to the adjacent natural heritage features due to changes in land use.

Based on the existing disturbances in the area and the condition of the site, the proposed Vegetation Protection Zone (VPZ) surrounding the Deciduous Swamp and associated Woodland and eastern Wetland will decrease the impact of changes to the adjacent NHS composition, structure, and function. The removal of headwater drainage features has been considered and mitigation in the form of maintaining hydrologic connections and landscape connectivity reduce the impact of these removals.

8.3. Indirect Impact Assessment

Indirect impacts are those which occur as a secondary result of the proposed activity, and not necessarily as a direct result of the activity. These are usually associated with effects such a population growth or density changes or alterations or additions to road networks. In the case of this proposed development, induced impacts are expected due to the increase in road density and expansion of existing road area, as well as an increase in population density in the area. There will be an increase in the number of people at the site including an increase in traffic coming and going to the site. Overall, this has the potential to increase wildlife/traffic interactions, which could have a negative impact if road mortality increases. However, given the slow speeds vehicles will be travelling within the Subject Property compared to The Gore Road and

Mayfield Road, traffic induced wildlife mortality will likely be low, but it is very hard to predict if this will be a measurable impact or not. Additionally, the placement of the proposed linkage feature on a residential road will likely significantly increase road mortality of aquatic species attempting to reach the West Humber River such as turtles and amphibians. Finally, the noise generated from traffic coming and going from the site may increase the ambient noise level.

There is also the potential for anthropogenic disturbance within the NHS in the form of informal trails and garbage dumping. To avoid these impacts, the implementation of fencing and native plants along the development interface will reduce access opportunities for those entering and using the site.

Light pollution may increase by introducing artificial light sources such as streetlights, porch lights, and security lights. These lights can cause problems for nocturnal wildlife, such as birds, insects, and mammals, disrupting their behavior, and interfering with their natural cycles. Impacts may be mitigated through the strategic placement of lighting so that it is directed away from the natural heritage system, by providing educational materials to the residents regarding best practices for living near nature, and by using lights that do not emit blue, green, or white light (i.e. selecting warmer tones).

8.4. Cumulative Impacts

Cumulative impacts are the cumulation of changes to the environment due to past, present, and reasonably foreseeable future impacts. Cumulative impacts on the adjacent natural heritage system are difficult to predict and isolate from existing influences. The Subject Property and surrounding landscape have experienced ongoing disturbance from historical and current land use, including agricultural practices within the property and to the southwest and northwest, and suburban and commercial in the south and southeast across Mayfield Road. These activities have resulted in the loss of natural features; however, fragmented portions of natural features remain within the Subject Property and significant portions of natural features exist across The Gore Road to the east.

The Deciduous Swamp and open Shallow Aquatic features on the western property boundary and riparian wetland in the eastern corner of the Subject Property will experience changes as a result of land use changing from agricultural to residential. The Subject Property is largely fragmented, however, wildlife passage is possible along HDF H12A1 which facilitates movement from within the property into the adjacent West Humber River.

It is expected that the proposed development will not significantly alter the surrounding natural heritage features, but some changes to form and function are expected due to the shift from agricultural land use to suburban land use. And some changes to wildlife populations is also expected because of the development further fragmenting the local NHS. Implementing mitigation measures and a continuous linkage feature will ensure that possible cumulative impacts are minimal and decrease the amount of stress put on the NHS.

9. Mitigation Measures and Recommendations

The following mitigation measures are recommended to avoid and minimize impacts. The measures have two distinct intended outcomes: mitigation to reduce the impact on the natural heritage system and mitigation to reduce the impact of active construction.

9.1. Vegetation Protection Zone

The Subject Property boundaries overlap with significant natural heritage features on the western border and in the eastern property corner. These features will receive 30 m and 10 m setbacks respectively. Vegetative Protection Zones (VPZ) will be established within the setback areas to protect the natural heritage features and their ecological functions from impacts of the proposed development and land use changes. The VPZs should be composed of self-sustaining native vegetation reflective of species present in the local area.

It is recommended that the VPZ surrounding the western feature be planted to mimic natural successional edges found around deciduous swamps and woodlands, and that the VPZ surrounding the eastern feature be planted to mimic natural successional edges around meadow marsh and thicket swamp habitats. Typically, a woodland edge is a gradient from grasses and forbs to shrubs and finally to larger trees (Figure 1). It is recommended that this transitional condition be established along the swamp and woodland edge through the implementation of buffer zone plantings.

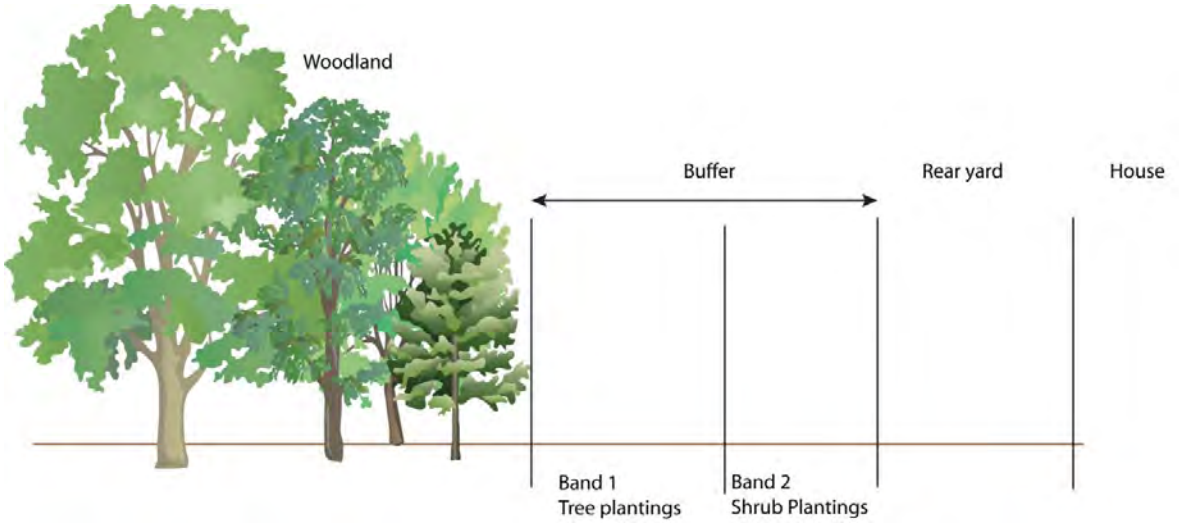

Figure 1. Proposed Buffer Planting Approach: Two Planting Bands of Trees and Shrubs

9.1.1. Monitoring

Monitoring of planted species in the 10 m VPZ should occur post-construction to:

- Ensure survivorship of species and assess individual plant health.
- Ensure the planting plan was implemented as designed.

Monitoring the VPZs is recommended to track the success of plantings and guide short- and long-term maintenance of all retained natural heritage features on the Subject Property. A monitoring schedule involving periodic site inspections by a qualified biologist or other environmental professional is recommended.

9.2. Natural Heritage System Measures

Before machinery is active on site, a visual search of the work area should be conducted before work commences each day, particularly for the period when most wildlife is active (generally April 1st to October 31st). Visual inspections will aim to locate snakes, turtles, and other ground-dwelling wildlife such as small mammals. Visual searches should also include inspection of machinery and equipment left in the work area overnight before starting equipment. Other measures include:

- Minimize outdoor lighting and direct it down and away from natural areas. A particular effort should be made to avoid the instillation of lights along the rear of the build adjacent to the woodland, and to shield any outdoor lights within the parking lot, effectively reducing lighting directed towards the natural areas. It is also recommended that outdoor light is not left on all night.
- Inspection by a qualified person(s) to conduct regular monitoring of all sediment and erosion measures implemented to ensure they are in working order. Any deficiencies observed are to be recorded and immediately reported to the site contractor.
- Architectural considerations to minimize bird strikes, which could include window glazing, frosting or etching, UV-treated glass, or exterior window coverings (i.e. shutters or muntins).
- Store snow in an area where snow melt water will flow away from the woodland and into the stormwater collection system where it will receive treatment.
- Treat stormwater for quality and quantity control as prescribed by the MOE. Direct runoff from rooftops and yards toward the watercourse where possible and maintain the water balance of the watercourse and wetland 43.
- Provide a vegetated protection zone (VPZ) to the woodlands, wetlands and riparian areas. A fence should be installed along the interface of the setbacks and the development to discourage the dumping of refuse and creation of informal trails.
- Provide native plantings reflective of the local area within the VPZ.
- Plantings should be concentrated within the floodplain, wetland and woodland setbacks to enhance and protect the associated features.
- A resident information package should be prepared and administered that will provide details to the residents that back on to the wetland and natural heritage areas about the natural areas and ways they can reduce their impacts on it.

9.3. Construction Measures

General construction-related mitigation measures include the following:

- Clearing of vegetation within the Subject Property as part of site preparation should be conducted in late summer or winter months (September to March) so as not to coincide with breeding bird season. If clearing is to proceed within the breeding bird window, the Subject Property should be screened by a qualified bird biologist to determine if any migratory songbirds are nesting within the work zone. Any identified nests are to be protected until it is confirmed that the young have fledged from the nest.

- Construction activities should be limited at sunrise and sunset when birds are most active during the breeding bird season to reduce construction noise impacts.
- Implementation of the erosion and sediment control plan is recommended to prevent releases of sediment into the adjacent natural areas.
- Inspection by a qualified person(s) to conduct regular monitoring of all sediment and erosion measures to ensure they are in good working order. Any deficiencies observed are to be recorded and immediately reported to the site contractor.
- Topsoil removed during stripping is recommended to be stockpiled for reapplication post-construction.
- A construction work plan should designate specific locations for stockpiling of soils and other materials or outline the location of materials trucked offsite.
- Implementation of dust control measures is recommended to reduce dust impacts on the adjacent lands.

10. Policy Conformity

The proposed development conforms with the policies of the Town of Caledon Official Plan as it relates to Natural Heritage. Specifically, it refines the limits of and protects the Natural Heritage System with the required buffers applied to the Environmental Protection Areas. Planning, design, and construction measures identified for the Study Area will provide protection to the protection of natural features outlined in this EIS.

In conformance with policy 13.4.7 of the Official Plan, where Supporting Features and Areas are identified, this EIS has determined the extent of the supporting feature and area along with its ecological functions and relationship to nearby key natural heritage features, key hydrologic features and/or Natural Features and Areas. This study has also determined the treatment of the identified Supporting Features and Areas as in relation to development permitted under policy 13.4.2 and determines the conditions to be attached to the approval of the proposed development.

In conformity with policy 13.4.10, this EIS has evaluated potential enhancement areas identified on Schedules D2a and D2b and provided an appropriate location that provides a net benefit. The enhancement areas determined by this EIS have been proposed to be planted and left as natural self-sustaining vegetation in accordance with policy 13.4.11 of the Official Plan. In conformity with policy 13.4.13, this EIS has identified an appropriate location for a potential linkage.

Buffer widths have been by this EIS in conformity with policies 13.9.3 to 13.9.6 of the Future Caledon Official Plan.

11. Closing

This EIS included a policy review, biophysical surveys to document the existing ecological conditions, a review of the proposed site plan, and functional servicing report. From a natural heritage perspective, the proposed plan meets the requirements of the Town of Caledon Official Plan and with the implementation of the standard mitigation measures described can proceed without negative impacts to the natural environment.

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Environmental Impact Study

Prepared for Trinity Field Inc.

October 30, 2025

Prepared by:

Ian Roul, M.Sc.
Senior Ecologist

Disclaimer

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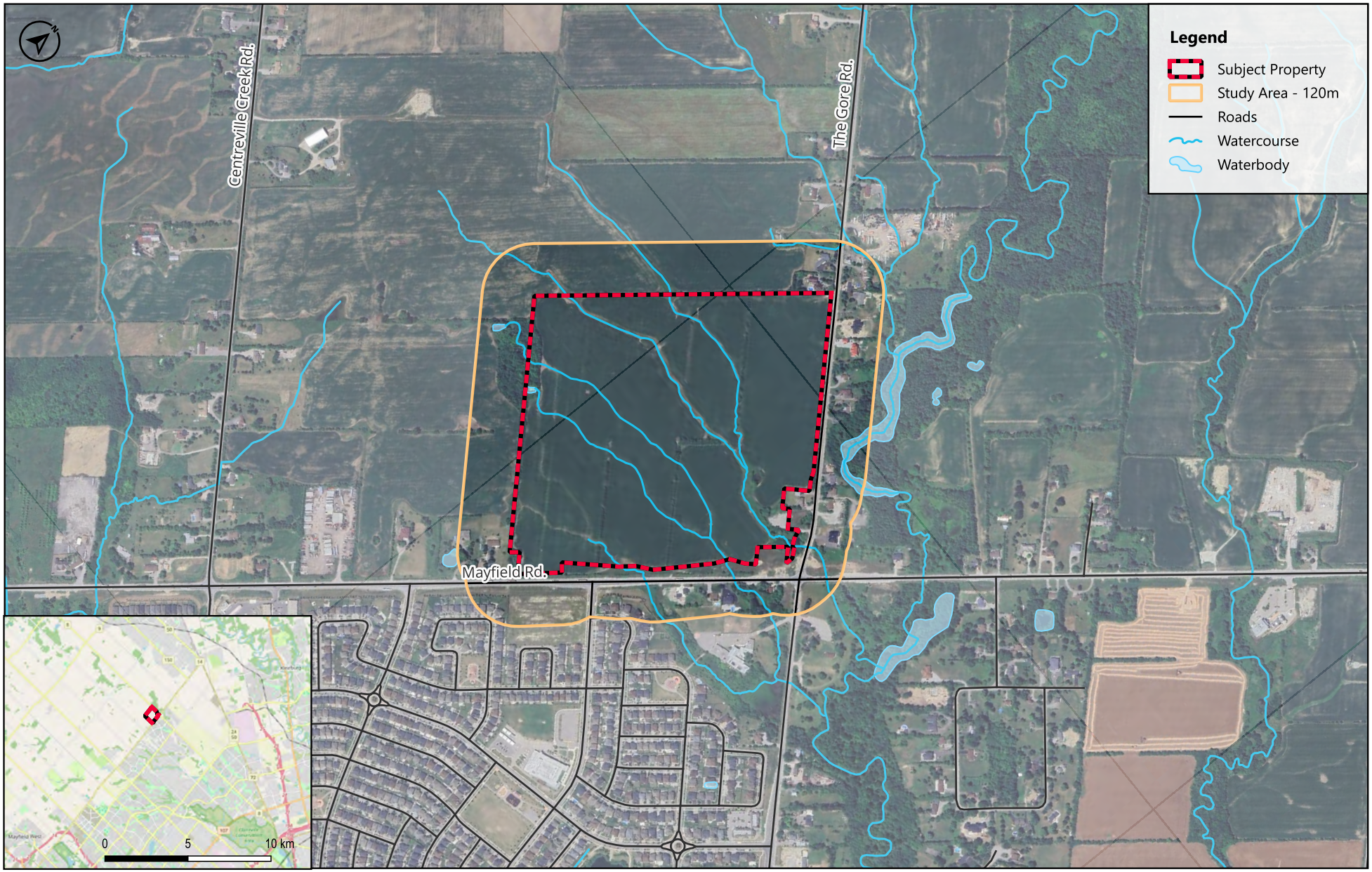
Maps



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NAD83 / UTM zone 17N (EPSG:26917)

Notes:
[1] Watercourse & Waterbody layer: Ontario Hydro Network
[2] Wetland layer: Provincially significant wetland as determined by the Ontario Wetland Evaluation System
[3] Road layer: Ontario Road Network
[4] Subject property boundary from Bousfield Inc.
[5] Base imagery: Google
[6] Inset map layers: Open Street Map (https://www.openstreetmap.org/copyright)

Map 1.

Key Map

Environmental Impact Study
0 The Gore Road, Caledon

Trinison Management Corp.

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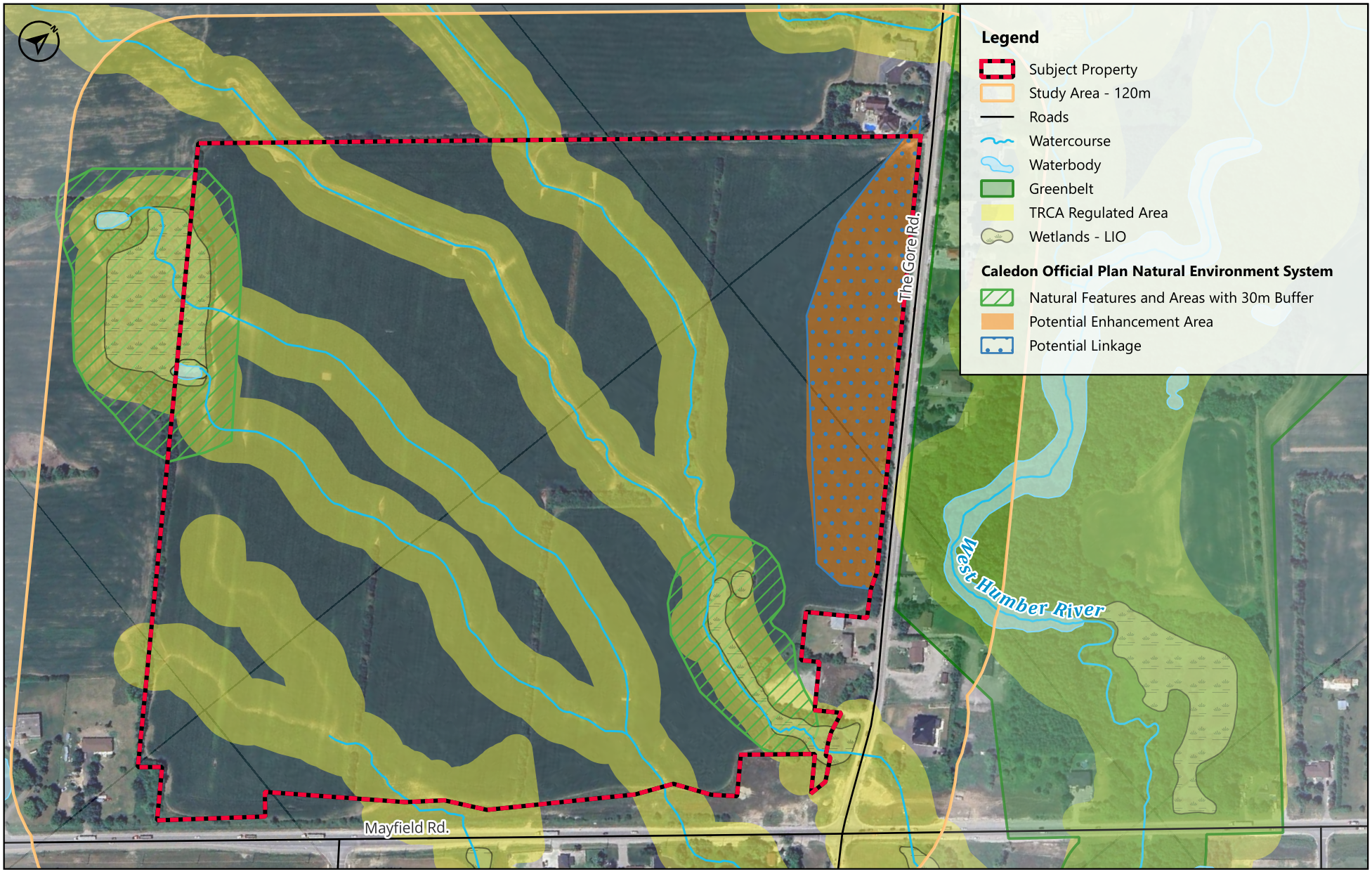

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CREATED BY: DH
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DATE: Oct 29, 2025

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NAD83 / UTM zone 17N (EPSG:26917)

Notes:
[1] Watercourse layer: Ontario Hydro Network
[2] Wetland layer:Wetland from Land Information Ontario
[3] Road layer: Ontario Road Network
[4] Subject property boundary from Bousfield Inc.
[5] Base imagery: Google
[6] Greenlands Areas Digitized from Town of Caledon Official Plan Schedules

Map 2.

Policy & Regulated Areas

Environmental Impact Study
0 The Gore Road, Caledon

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PROJECT NO.: P2025-1047
DATE: Oct 29, 2025

0 50 100 150 200 m

NAD83 / UTM zone 17N (EPSG:26917)

Notes:
[1] Watercourse layer: Ontario Hydro Network
[2] Road layer: Ontario Road Network
[3] Subject property boundary from Bousfield Inc.
[4] Base imagery: Google
[5] ELC, HDF, and Wetland data digitized from GEI mapping.

Map 3.

Surveys by GEI

Environmental Impact Study
0 The Gore Road, Caledon

Trinison Management Corp.

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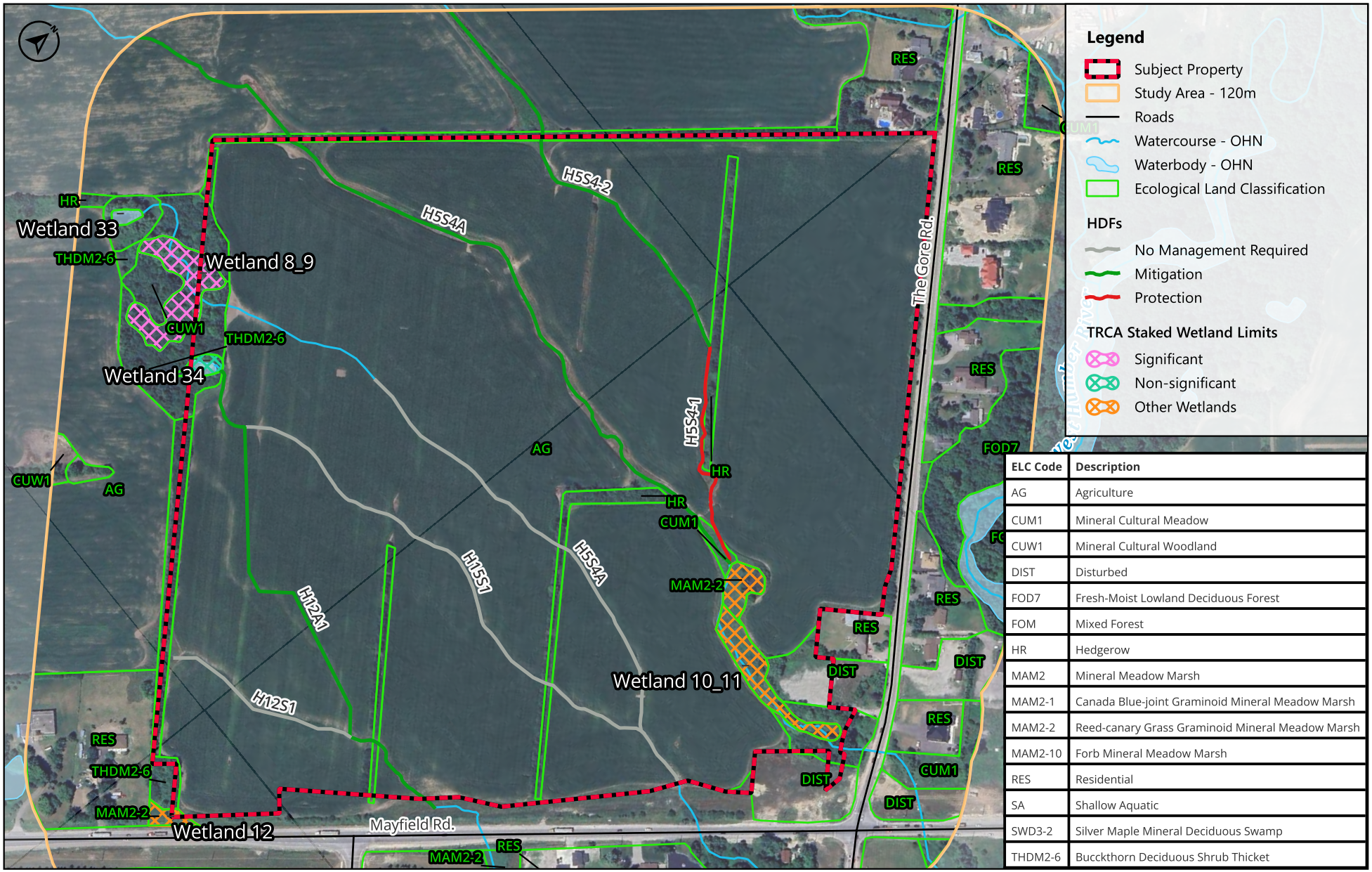

ELC Code	Description
AG	Agriculture
CUM1	Mineral Cultural Meadow
CUW1	Mineral Cultural Woodland
DIST	Disturbed
FOD7	Fresh-Moist Lowland Deciduous Forest
FOM	Mixed Forest
HR	Hedgerow
MAM2	Mineral Meadow Marsh
MAM2-1	Canada Blue-joint Graminoid Mineral Meadow Marsh
MAM2-2	Reed-canary Grass Graminoid Mineral Meadow Marsh
MAM2-10	Forb Mineral Meadow Marsh
RES	Residential
SA	Shallow Aquatic
SWD3-2	Silver Maple Mineral Deciduous Swamp
THDM2-6	Buckthorn Deciduous Shrub Thicket

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NAD83 / UTM zone 17N (EPSG:26917)

Notes:
[1] Watercourse layer: Ontario Hydro Network
[2] Road layer: Ontario Road Network
[3] Subject property boundary from Bousfield Inc.
[4] Base imagery: Google
[5] ELC, HDF, and Wetland data digitized from GEI mapping.

Map 4.

Ecological Land Classification (ELC)

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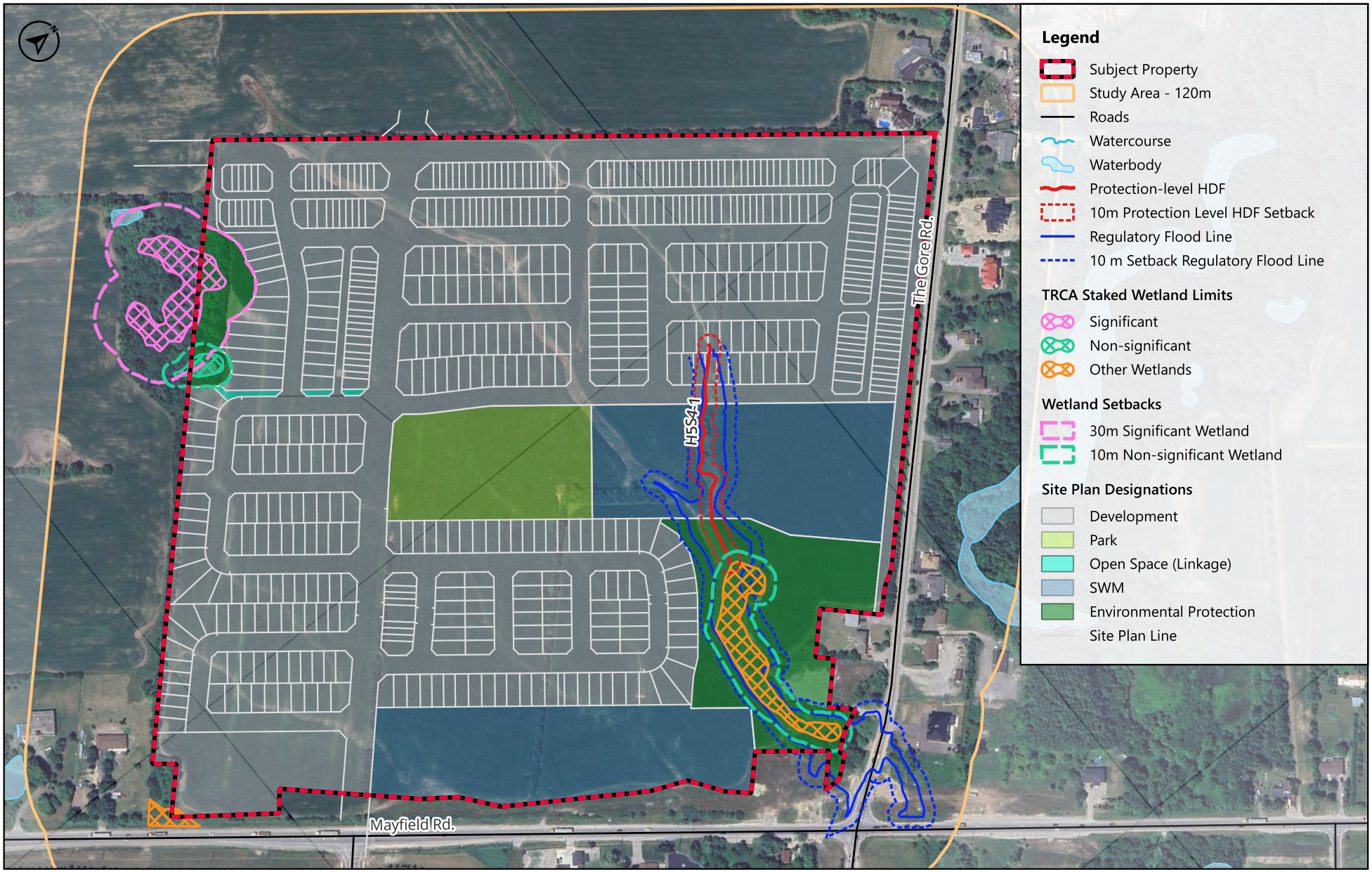

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PROJECT NO.: P2025-1047
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0 50 100 150 200 m

NAD83 / UTM zone 17N (EPSG:26917)

Notes:
[1] Watercourse layer: Ontario Hydro Network
[2] Road layer: Ontario Road Network
[3] Subject property boundary & Site Plan from Bousfield Inc.
[4] Base imagery: Google

Map 5.

Site Plan and Natural Heritage System

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0 The Gore Road, Caledon

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Appendix A

Plant List

													LOCAL / REGIONAL STATUS			
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)	TRCA (TRCA April 2016)	GTA (Varga 2005)	AUTHORITY
DICOTYLEDONS	Amaranthaceae	Amaranthus retroflexus	Redroot Amaranth		3		-1		SNA	G5			X	L+	X	L.
DICOTYLEDONS	Amaranthaceae	Atriplex patula	Spear Saltbush		-3				SNA	G5			X	L+?	X	L.
DICOTYLEDONS	Anacardiaceae	Rhus typhina	Staghorn Sumac	1	3				SS	G5			X	L5	X	L.
DICOTYLEDONS	Anacardiaceae	Toxicodendron radicans var. rydbergii	Western Poison Ivy	2	0				SS	G5			X	L5	X	(Small ex Rydberg) Erskine
DICOTYLEDONS	Apiaceae	Cicuta bulbifera	Bulbous Water-Hemlock	5	-5	I			SS	G5			X	L4	X	L.
DICOTYLEDONS	Apiaceae	Daucus carota	Wild Carrot		5		-2		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Apiaceae	Sium suave	Common Water-Parsnip	4	-5	I			SS	G5			X	L4	X	Walter
DICOTYLEDONS	Apocynaceae	Asclepias syriaca	Common Milkweed	0	5				SS	G5			X	L5	X	L.
DICOTYLEDONS	Apocynaceae	Vincetoxicum rossicum	European Swallowwort		5			1	SNA	GNR			X	L+	X	(Kleopow) Barbaricz
DICOTYLEDONS	Asteraceae	Achillea millefolium	Common Yarrow		3		-1		SNA	G5			X	L+	X	L.
DICOTYLEDONS	Asteraceae	Ambrosia artemisiifolia	Common Ragweed	0	3				SS	G5			X	L5	X	L.
DICOTYLEDONS	Asteraceae	Arctium lappa	Great Burdock		3				SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Asteraceae	Arctium minus	Common Burdock		3		-2		SNA	G?T?			X	L+	X	(Hill) Bernh.
DICOTYLEDONS	Asteraceae	Artemisia biennis	Biennial Wormwood		-3		-1		SNA	G5			X	L+	X	Willd.
DICOTYLEDONS	Asteraceae	Bidens cernua	Nodding Beggarticks	2	-5	I			SS	G5			X	L5	X	L.
DICOTYLEDONS	Asteraceae	Bidens frondosa	Devil's Beggarticks	3	-3	I			SS	G5			X	L5	X	L.
DICOTYLEDONS	Asteraceae	Bidens vulgata	Tall Beggarticks	5	0	T			SS	G5			R1	L4	U	Greene
DICOTYLEDONS	Asteraceae	Carduus acanthoides ssp. acanthoides	Spiny Plumeless Thistle		5		-1		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Asteraceae	Cichorium intybus	Wild Chicory		5		-1		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Asteraceae	Cirsium arvense	Canada Thistle		3		-1	1	SNA	GNR			X	L+	X	(L.) Scop.
DICOTYLEDONS	Asteraceae	Cirsium vulgare	Bull Thistle		3		-1		SNA	G5			X	L+	X	(Savi) Tenore
DICOTYLEDONS	Asteraceae	Erigeron annuus	Annual Fleabane	0	3				SS	G5			X	L5	X	(L.) Pers.
DICOTYLEDONS	Asteraceae	Erigeron canadensis	Canada Horseweed	0	3				SS	G5			X	L5	X	(L.)
DICOTYLEDONS	Asteraceae	Eurybia macrophylla	Large-Leaved Aster	5	5				SS	G5			X	L5	X	(L.) Cassini
DICOTYLEDONS	Asteraceae	Euthamia graminifolia	Grass-Leaved Goldenrod	2	0				SS	G5			X	L5	X	(L.) Nutt.
DICOTYLEDONS	Asteraceae	Inula helenium	Elecampane		3	T	-2	4	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Asteraceae	Lactuca serriola	Prickly Lettuce		3		-1		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Asteraceae	Matricaria discoidea	Pineappleweed		3				SNA	G5			X	L+	X	de Candolle
DICOTYLEDONS	Asteraceae	Solidago altissima var. altissima	Tall Goldenrod	1	3				SS	GNR			X	L5	X	L.
DICOTYLEDONS	Asteraceae	Solidago flexicaulis	Zigzag Goldenrod	6	3				SS	G5			X	L5	X	L.
DICOTYLEDONS	Asteraceae	Solidago nemoralis var. nemoralis	Grey-Stemmed Goldenrod (var. nemora	2	5				SS	G5T?			X	L5	X	Aiton
DICOTYLEDONS	Asteraceae	Sonchus arvensis ssp. arvensis	Field Sow-Thistle		3				SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Asteraceae	Sonchus asper	Prickly Sow-Thistle		3		-1		SNA	GNR			X	L+	X	(L.) Hill
DICOTYLEDONS	Asteraceae	Symphyotrichum cordifolium	Heart-Leaved Aster	5	5				SS	G5			X	L5	X	(L.) G.L. Nesom
DICOTYLEDONS	Asteraceae	Symphyotrichum ericoides var. ericoides	White Heath Aster	4	3				SS	G5T5			X	L5	X	(L.) G.L. Nesom
DICOTYLEDONS	Asteraceae	Symphyotrichum lanceolatum ssp. lanc	Panicled Aster (ssp. lanceolatum)	3	-3	I			SS	G5T5			X	L5	X	(Willd.) G.L. Nesom
DICOTYLEDONS	Asteraceae	Symphyotrichum lateriflorum var. later	Calico Aster	3	0	T			SS	G5T5			X	L5	X	(L.) Á. & D. Löve
DICOTYLEDONS	Asteraceae	Symphyotrichum novae-angliae	New England Aster	2	-3				SS	G5			X	L5	X	(L.) G.L. Nesom
DICOTYLEDONS	Asteraceae	Taraxacum officinale	Common Dandelion		3		-2		SNA	G5			X	L+	X	F.H. Wiggers
DICOTYLEDONS	Asteraceae	Tripleurospermum inodorum	Scentless Chamomile		0		-1		SNA	GNR			X	L+	X	(L.) Schultz-Bip.
DICOTYLEDONS	Balsaminaceae	Impatiens capensis	Spotted Jewelweed	4	-3	I			SS	G5			X	L5	X	Meerburgh
DICOTYLEDONS	Berberidaceae	Podophyllum peltatum	May-Apple	5	3				SS	G5			X	L5	X	L.
DICOTYLEDONS	Betulaceae	Ostrya virginiana	Eastern Hop-Hornbeam	4	3				SS	G5			X	L5	X	(Miller) K. Koch
DICOTYLEDONS	Boraginaceae	Hydrophyllum virginianum var. virginia	Virginia Waterleaf	6	0				SS	G5			X	L5	X	L.
DICOTYLEDONS	Brassicaceae	Alliaria petiolata	Garlic Mustard		0		-3	1	SNA	G5			X	L+	X	(M. Bieb.) Cavara & Grande
DICOTYLEDONS	Brassicaceae	Erysimum cheiranthoides	Wormseed Wallflower		3		-1		S5?				X	L+	X	L.
DICOTYLEDONS	Brassicaceae	Lepidium campestre	Field Peppergrass		5		-1		SNA	GNR			X	L+	X	(L.) W.T. Aiton
DICOTYLEDONS	Brassicaceae	Sinapis arvensis	Corn Mustard		5		-1		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Brassicaceae	Thlaspi arvense	Field Pennycress		5		-1		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Caprifoliaceae	Dipsacus fullonum	Common Teasel		3		-1	3	SNA	G?T?			X	L+	X	L.
DICOTYLEDONS	Caprifoliaceae	Lonicera x bella	Showy Fly Honeysuckle		3		-3		SNA	GNR			X	L+	X	Zabel
DICOTYLEDONS	Caryophyllaceae	Dianthus armeria ssp. armeria	Deptford Pink		5		-1		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Celastraceae	Euonymus obovatus	Running Strawberry Bush	6	5				S4	G5			X	L3	X	Nutt.
DICOTYLEDONS	Convolvulaceae	Convolvulus arvensis	Field Bindweed		5		-1	3	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Cornaceae	Cornus alternifolia	Alternate-Leaved Dogwood	6	3				SS	G5			X	L5	X	L. f.
DICOTYLEDONS	Cornaceae	Cornus sericea	Red-Osier Dogwood	2	-3	I*			SS	G5			X	L5	X	L.
DICOTYLEDONS	Cucurbitaceae	Echinocystis lobata	Wild Cucumber	3	-3	T			SS	G5			X	L5	X	(Michx.) Torr. & A. Gray
DICOTYLEDONS	Euphorbiaceae	Euphorbia virgata	Leafy Spurge		5		-2		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Fabaceae	Lotus corniculatus	Garden Bird's-Foot Trefoil		3		-2	2	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Fabaceae	Medicago lupulina	Black Medick		3		-1	4	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Fabaceae	Medicago sativa ssp. sativa	Alfalfa (ssp. sativa)		5		-1	4	SNA	GNRTNR			X	L+	X	L.
DICOTYLEDONS	Fabaceae	Melilotus albus	White Sweet-Clover		3		-3	2	SNA	GNR			X	L+	X	Medik.
DICOTYLEDONS	Fabaceae	Robinia pseudoacacia	Black Locust		3		-3	2	SNA	G5			X	L+	X	L.
DICOTYLEDONS	Fabaceae	Trifolium hybridum	Alsike Clover		3		-1		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Fabaceae	Trifolium pratense	Red Clover		3		-2	4	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Fabaceae	Trifolium repens	White Clover		3		-1	4	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Fabaceae	Vicia cracca	Tufted Vetch		5		-1	2	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Fagaceae	Fagus grandifolia	American Beech	6	3				S4	G5			X	L4	X	Ehrhart
DICOTYLEDONS	Fagaceae	Quercus macrocarpa	Bur Oak	5	3	T			SS	G5			X	L4	X	Michaux
DICOTYLEDONS	Geraniaceae	Geranium robertianum	Herb-Robert	2	3		-2		SS	G5			X	L+?	X	L.
DICOTYLEDONS	Grossulariaceae	Ribes rubrum	European Red Currant		5	T	-2		SNA	G4G5			X	L+	X	L.
DICOTYLEDONS	Haloragaceae	Myriophyllum sp.	Water-Milfoil species													
DICOTYLEDONS	Hypericaceae	Hypericum perforatum ssp. perforatum	Common St. John's-Wort		5		-3	4	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Lamiaceae	Lycopus uniflorus	Northern Water-Horehound	5	-5	I			SS	G5			X	L5	X	Michaux
DICOTYLEDONS	Lamiaceae	Prunella vulgaris ssp. vulgaris	Common Self-Heal		0		-1		SS	G5T?			X	L+	X	L.
DICOTYLEDONS	Lythraceae	Lythrum salicaria	Purple Loosestrife		-5	I	-3	1	SNA	G5			X	L+	X	L.
DICOTYLEDONS	Malvaceae	Abutilon theophrasti	Velvetleaf		3		-1	3	SNA	GNR			X	L+	X	Medikus
DICOTYLEDONS	Malvaceae	Tilia americana	Basswood	4	3				SS	G5			X	L5	X	L.
DICOTYLEDONS	Montiaceae	Claytonia virginica	Eastern Spring Beauty	5	3	T			SS	G5			X	L3	X	L.
DICOTYLEDONS	Moraceae	Morus alba	White Mulberry		0		-3	1	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Oleaceae	Fraxinus americana	White Ash	4	3				S4	G5			X	L5	X	L.
DICOTYLEDONS	Oleaceae	Fraxinus nigra	Black Ash	7	-3	I			S4	G5	THR	THR	X	L4	X	Marshall
DICOTYLEDONS	Oleaceae	Fraxinus pennsylvanica	Red Ash	3	-3	T			S4	G5			X	L5	X	Marshall
DICOTYLEDONS	Onagraceae	Circaea canadensis ssp. canadensis	Canada Enchanter's Nightshade	2	3				SS	G5T5			X	L5	X	(L.) Hill
DICOTYLEDONS	Onagraceae	Epilobium ciliatum ssp. ciliatum	Northern Willowherb	3	-3	I*			SS	G5T?			X	L5	X	Raf.
DICOTYLEDONS	Onagraceae	Epilobium parviflorum	Small-Flowered Willowherb		3	T	-1		SNA	GNR			X	L+	X	Schreber
DICOTYLEDONS	Onagraceae	Oenothera parviflora	Small-Flowered Evening Primrose	1	3				SS	G4?			X	L3	X	L.
DICOTYLEDONS	Oxalidaceae	Oxalis stricta	European Wood-Sorrel	0	3				SS	G5			X	L5	X	L.
DICOTYLEDONS	Penthoraceae	Penthorum sedoides	Ditch-Stonecrop	4	-5	I			SS	G5			X	L4	X	L.
DICOTYLEDONS	Plantaginaceae	Plantago lanceolata	English Plantain		3		-1		SNA	G5			X	L+	X	L.
DICOTYLEDONS	Plantaginaceae	Plantago major	Common Plantain		3		-1		SNA	G5			X	L+	X	L.
DICOTYLEDONS	Polygonaceae	Fallopia convolvulus	Eurasian Black Bindweed		3		-1		SNA	GNR			X	L+	X	(L.) Á. Löve
DICOTYLEDONS	Polygonaceae	Persicaria hydropiper	Marshpepper Smartweed		-5	I			SNA	GNR			X	L+?	X	(L.) Delarbre
DICOTYLEDONS	Polygonaceae	Persicaria lapathifolia	Pale Smartweed	2	-3	T			SS	G5			X	L5	X	(L.) Delarbre
DICOTYLEDONS	Polygonaceae	Persicaria maculosa	Spotted Lady's-Thumb		-3	T	-1		SNA	G3G5			X	L+	X	Gray
DICOTYLEDONS	Polygonaceae	Persicaria pensylvanica	Pennsylvania Smartweed	3	-3	I			SS	G5			R3	L4	R	(L.) M. Gómez de la Maza
DICOTYLEDONS	Polygonaceae	Polygonum aviculare ssp. aviculare	Prostrate Knotweed		3		-1		S4?	GNRTNR			X	L+	X	L.
DICOTYLEDONS	Polygonaceae	Rumex crispus	Curled Dock		0	T	-2		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Portulacaceae	Portulaca grandiflora	Garden Portulaca		5				SNA	GNR				L+	X	Hooker
DICOTYLEDONS	Primulaceae	Lysimachia arvensis	Scarlet Pimpernel		3		-1		SNA	GNR			X	L+	X	(L.) U.Manns & Anderb.

													LOCAL / REGIONAL STATUS			
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)	TRCA (TRCA April 2016)	GTA (Varga 2005)	AUTHORITY
DICOTYLEDONS	Ranunculaceae	Actaea rubra ssp. rubra	Red Baneberry	6	3				S5	G5			X	L5	X	(Aiton) Willdenow
DICOTYLEDONS	Ranunculaceae	Ranunculus abortivus	Kidney-Leaved Buttercup	2	0				S5	G5			X	L5	X	L.
DICOTYLEDONS	Ranunculaceae	Ranunculus sceleratus	Cursed Buttercup	2	-5	I			S5	G5			X	L5	X	L.
DICOTYLEDONS	Rhamnaceae	Rhamnus cathartica	European Buckthorn		0	T	-3	1	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Rosaceae	Crataegus monogyna var. monogyna	English Hawthorn		3		-1	3	SNA	G5			X	L+	X	Jacquin
DICOTYLEDONS	Rosaceae	Crataegus punctata	Dotted Hawthorn	4	5				S5	G5			X	L5	X	Jacquin
DICOTYLEDONS	Rosaceae	Fragaria virginiana	Wild Strawberry	2	3				S5	G5			X	L5	X	Miller
DICOTYLEDONS	Rosaceae	Geum aleppicum	Yellow Avens	2	0	T			S5	G5			X	L5	X	Jacquin
DICOTYLEDONS	Rosaceae	Geum canadense	White Avens	3	0	T			S5	G5			X	L5	X	Jacquin
DICOTYLEDONS	Rosaceae	Geum fragaroides	Barren Strawberry	5	5				S5	G5			X	L4	X	(Michx.) Smedmark
DICOTYLEDONS	Rosaceae	Geum laciniatum	Rough Avens	4	-3	T			S4	G5			X	L4	U	Murray
DICOTYLEDONS	Rosaceae	Potentilla recta	Sulphur Cinquefoil		5		-2		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Rosaceae	Prunus serotina var. serotina	Black Cherry	3	3				S5	G5			X	L5	X	Ehrhart
DICOTYLEDONS	Rosaceae	Prunus virginiana var. virginiana	Chokecherry	2	3				S5	GST?			X	L5	X	L.
DICOTYLEDONS	Rosaceae	Rubus idaeus ssp. strigosus	North American Red Raspberry	2	3				S5	G5T5			X	L5	X	(Michaux) Focke
DICOTYLEDONS	Rosaceae	Rubus occidentalis	Black Raspberry	2	5				S5	G5			X	L5	X	L.
DICOTYLEDONS	Rosaceae	Rubus pubescens	Dewberry	4	-3	I*			S5	G5			X	L4	X	Raf.
DICOTYLEDONS	Rubiaceae	Galium aparine	Common Bedstraw	4	3				S5	G5			R4	L5	U	L.
DICOTYLEDONS	Rubiaceae	Galium mollugo	Smooth Bedstraw		5		-2	2	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Salicaceae	Populus deltoides ssp. deltoides	Eastern Cottonwood	4	0	T			S5	G5T5			X	L5	X	Bartram ex Marshall
DICOTYLEDONS	Salicaceae	Populus tremuloides	Trembling Aspen	2	0	T			S5	G5			X	L5	X	Michaux
DICOTYLEDONS	Salicaceae	Salix amygdaloides	Peach-Leaved Willow	6	-3	T			S5	G5			R6	L4	X	Andersson
DICOTYLEDONS	Salicaceae	Salix eriocephala	Cottony Willow	4	-3	T			S5	G5			X	L5	X	Michaux
DICOTYLEDONS	Salicaceae	Salix interior	Sandbar Willow	1	-3	T			S5	GNR			R5	L5	X	Rowlee
DICOTYLEDONS	Salicaceae	Salix matsudana	Corkscrew Willow						SNA	GNR				L+		Koidzumi
DICOTYLEDONS	Salicaceae	Salix petiolaris	Meadow Willow	3	-3	I			S5	G5			X	L4	X	J.E. Smith
DICOTYLEDONS	Salicaceae	Salix x fragilis	Hybrid Crack Willow			T	-3	3	SNA	GNA			XSR	L+	X	L.
DICOTYLEDONS	Salicaceae	Salix x sepulcralis	Golden Weeping Willow						SNA	GNA			XSR	L+	X	Simonkai
DICOTYLEDONS	Sapindaceae	Acer negundo	Manitoba Maple	0	0	T		1	S5	G5			X	L+?	X	L.
DICOTYLEDONS	Sapindaceae	Acer saccharinum	Silver Maple	5	-3	I			S5	G5			X	L4	X	L.
DICOTYLEDONS	Sapindaceae	Acer saccharum	Sugar Maple	4	3				S5	G5			X	L5	X	Marshall
DICOTYLEDONS	Sapindaceae	Acer x freemanii	Freeman's Maple	6	-5	I			SNA	GNA			XSR	L4	X	E. Murray
DICOTYLEDONS	Scrophulariaceae	Verbascum thapsus ssp. thapsus	Common Mullein		5		-2		SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Solanaceae	Solanum dulcamara	Bittersweet Nightshade		0	T	-2	3	SNA	GNR			X	L+	X	L.
DICOTYLEDONS	Ulmaceae	Ulmus americana	White Elm	3	-3	T			S5	G5			X	L5	X	L.
DICOTYLEDONS	Verbenaceae	Verbena hastata	Blue Vervain	4	-3	I			S5	G5			X	L5	X	L.
DICOTYLEDONS	Violaceae	Viola labradorica	Labrador Violet	3	0				S5	G5			X	L5	X	Schrank
DICOTYLEDONS	Violaceae	Viola sororia	Woolly Blue Violet	4	0	T			S5	G5			X	L5	X	Willdenow
DICOTYLEDONS	Vitaceae	Parthenocissus vitacea	Thicket Creeper	4	3				S5	G5			X	L5	X	(Knerr) Hitchcock
DICOTYLEDONS	Vitaceae	Vitis riparia	Riverbank Grape	0	0				S5	G5			X	L5	X	Michaux
GYMNOSPERMS	Pinaceae	Picea glauca	White Spruce	6	3	T			S5	G5			R3	L3	X	(Moench) Voss
MONOCOTYLEDONS	Alismataceae	Alisma triviale	Northern Water-Plantain	1	-5	I			S5	G5			X	L5		L.
MONOCOTYLEDONS	Araceae	Lemna minor	Small Duckweed	5	-5	I			S5	G5			X	L5	X	L.
MONOCOTYLEDONS	Araceae	Lemna trisulca	Star Duckweed	6	-5	I			S5	G5			R4	L3	U	L.
MONOCOTYLEDONS	Asparagaceae	Asparagus officinalis	Garden Asparagus		3		-1		SNA	GS?			X	L+	X	L.
MONOCOTYLEDONS	Asparagaceae	Convallaria majalis var. majalis	European Lily-Of-The-Valley		5		-2	3	SNA	G5			X	L+	X	L.
MONOCOTYLEDONS	Cyperaceae	Carex cristatella	Crested Sedge	3	-3	I			S5	G5			X	L5	X	Britton
MONOCOTYLEDONS	Cyperaceae	Carex gracillima	Graceful Sedge	4	3	T			S5	G5			X	L5	X	Schweinitz
MONOCOTYLEDONS	Cyperaceae	Carex intumescens	Bladder Sedge	6	-3	I			S5	G5			X	L4	X	Rudge
MONOCOTYLEDONS	Cyperaceae	Carex lupulina	Hop Sedge	6	-5	I			S5	G5			X	L4	X	Muhlenb. ex Willdenow
MONOCOTYLEDONS	Cyperaceae	Carex projecta	Necklace Sedge	5	-3	I			S5	G5			R4	L4	X	Mackenzie
MONOCOTYLEDONS	Cyperaceae	Carex radiata	Eastern Star Sedge	4	0	T			S5	G5			X	L5	X	(Wahlenb.) Small
MONOCOTYLEDONS	Cyperaceae	Carex retrorsa	Retrorse Sedge	5	-5	I			S5	G5			X	L4	X	Schweinitz
MONOCOTYLEDONS	Cyperaceae	Carex stipata var. stipata	Awl-Fruited Sedge	3	-5	I			S5	G5			X	L5	X	Muhlenb. ex Willdenow
MONOCOTYLEDONS	Cyperaceae	Carex vulpinoidea	Fox Sedge	3	-5	I			S5	G5			X	L5	X	Michaux
MONOCOTYLEDONS	Cyperaceae	Eleocharis obtusa	Blunt Spikerush	5	-5	I			S5	G5			U	L3	U	(Willd.) Schultes
MONOCOTYLEDONS	Cyperaceae	Schoenoplectus tabernaemontani	Soft-Stemmed Bulrush	5	-5	I			S5	G5			X	L4	X	(C.C. Gmelin) Palla
MONOCOTYLEDONS	Cyperaceae	Scirpus cyperinus	Common Woolly Bulrush	4	-5	I			S5	G5			X	L4	X	(L.) Kunth
MONOCOTYLEDONS	Juncaceae	Juncus bufonius	Toad Rush	1	-3	T			S5	G5			X	L5	X	L.
MONOCOTYLEDONS	Juncaceae	Juncus effusus ssp. solutus	Soft Rush (ssp. solutus)	4	-5	I			S5?	G5T5			X	L4	X	(Fernald & Wiegand) Hämet-Ahti
MONOCOTYLEDONS	Liliaceae	Erythronium americanum ssp. america	Yellow Trout Lily	5	5				S5	G5T5			X	L5	X	Ker Gawler
MONOCOTYLEDONS	Melanthiaceae	Trillium grandiflorum	White Trillium	5	3				S5	G5			X	L4	X	(Michx.) Salisbury
MONOCOTYLEDONS	Poaceae	Agrostis capillaris	Colonial Bentgrass		0		-1		SNA	GNR			X		X	L.
MONOCOTYLEDONS	Poaceae	Agrostis gigantea	Redtop		-3		-2		SNA	G4G5			X	L+	X	Roth
MONOCOTYLEDONS	Poaceae	Agrostis stolonifera	Creeping Bentgrass		-3	T			SNA	G5			X	L+?	X	L.
MONOCOTYLEDONS	Poaceae	Alopecurus aequalis var. aequalis	Short-Awned Foxtail	7	-5	I			S4	G5			R3	L3	U	Sobolewski
MONOCOTYLEDONS	Poaceae	Bromus inermis	Smooth Brome		5		-3	4	SNA	G5TNR			X	L+	X	Leysser
MONOCOTYLEDONS	Poaceae	Bromus japonicus	Japanese Brome		3		-1		SNA	GNR			X	L+	X	Thunberg ex Murray
MONOCOTYLEDONS	Poaceae	Echinochloa crus-galli	Large Barnyard Grass		-3	T	-1		SNA	GNR			X	L+	X	(L.) Palisot de Beauvois
MONOCOTYLEDONS	Poaceae	Elymus canadensis var. canadensis	Canada Wildrye	8	3				S5	G5TNR			E	L4	R	L.
MONOCOTYLEDONS	Poaceae	Elymus repens	Quackgrass		3		-3	3	SNA	GNR			X	L+	X	(L.) Gould
MONOCOTYLEDONS	Poaceae	Eragrostis pectinacea var. pectinacea	Tufted Lovegrass	0	0				S5	G5T5			X	L+?	X	(Michx.) Nees
MONOCOTYLEDONS	Poaceae	Glyceria septentrionalis var. septentric	Eastern Mannagrass	7	-5	I			S4	G5			R2	L3	R	Hitchcock
MONOCOTYLEDONS	Poaceae	Glyceria striata	Fowl Mannagrass	3	-5	I			S5	G5			X	L5	X	(Lam.) Hitchcock
MONOCOTYLEDONS	Poaceae	Hordeum jubatum ssp. jubatum	Foxtail Barley	0	0	T			S5?	G5T5			X	L+	X	L.
MONOCOTYLEDONS	Poaceae	Leersia oryzoides	Rice Cutgrass	3	-5	I			S5	G5			X	L5	X	(L.) Swartz
MONOCOTYLEDONS	Poaceae	Panicum capillare ssp. capillare	Common Panicgrass	0	0				S5	G5			X	L5	X	L.
MONOCOTYLEDONS	Poaceae	Panicum dichotomiflorum ssp. dichoto	Fall Panicgrass		-3		-1		SNA	G5			X	L+	X	Michaux
MONOCOTYLEDONS	Poaceae	Phalaris arundinacea var. arundinacea	Reed Canary Grass	0	-3	T		P	S5	GNR			X	L+?	X	L.
MONOCOTYLEDONS	Poaceae	Phleum pratense ssp. pratense	Common Timothy		3		-1		SNA	GNR			X	L+	X	L.
MONOCOTYLEDONS	Poaceae	Phragmites australis ssp. australis	European Reed		-3	T		1	SNA	G5T5			X	L+	X	(Cav.) Trinius ex Steudel
MONOCOTYLEDONS	Poaceae	Poa annua	Annual Bluegrass		3		-2		SNA	GNR			X	L+	X	L.
MONOCOTYLEDONS	Poaceae	Poa compressa	Canada Bluegrass		3				SNA	GNR			X	L+	X	L.
MONOCOTYLEDONS	Poaceae	Poa palustris	Fowl Bluegrass	5	-3	I			S5	G5			X	L5	X	L.
MONOCOTYLEDONS	Poaceae	Poa pratensis	Kentucky Bluegrass	0	3			2	S5	G5			X	L+	X	L.
MONOCOTYLEDONS	Poaceae	Setaria pumila ssp. pumila	Yellow Foxtail		0		-1	4	SNA	GNR			X	L+	X	(Poir.) Roemer & Schultes
MONOCOTYLEDONS	Poaceae	Sporobolus vaginiflorus var. vaginiflor	Sheathed Dropseed	1	5				SU	G5T5			X	L+?	X	(Torrey ex A. Gray) Alph. Wood
MONOCOTYLEDONS	Typhaceae	Typha angustifolia	Narrow-Leaved Cattail		-5	I		P	SNA	G5			X	L+	X	L.
MONOCOTYLEDONS	Typhaceae	Typha x glauca	Blue Cattail		-5	I		P	SNA	GNA			X	L+	X	Godron
MONOCOTYLEDONS	Xanthorrhoeaceae	Hemerocallis fulva	Orange Daylily		5		-3	4	SNA	GNR			X	L+	X	(L.) L.
PTERIDOPHYTES	Equisetaceae	Equisetum arvense	Field Horsetail	0	0	T			S5	G5			X	L5	X	L.

													LOCAL / REGIONAL STATUS			
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)	TRCA (TRCA April 2016)	GTA (Varga 2005)	AUTHORITY
	STATISTICS															
	Species Diversity															
	Total Number of Species:	190														
	Native Species:	111	58%													
	Exotic Species:	79	42%													
	S1-S3 Species:	0	0%													
	S4 Species:	9	8%													
	S5 Species:	101	91%													
	Floristic Quality Assessment (FQA)															
	Mean Co-efficient of Conservatism (CC)	3.4														
	CC 0 - 3 = lowest sensitivity	54	49%													
	CC 4 - 6 = moderate sensitivity	51	46%													
	CC 7 - 8 = high sensitivity	4	4%													
	CC 9 - 10 = highest sensitivity	0	0%													
	Floristic Quality Index (FQI)	35														
	Weedy & Invasive Species															
	Mean Weediness Index (Oldham et al):	-1.6														
	-1 = low potential invasiveness	39	49%													
	-2 = moderate potential invasiveness	17	22%													
	-3 = high potential invasivenss	12	15%													
	Mean Exotic Rank (Urban Forest Associates):	3														
	Category 1	8	10%													
	Category 2	6	8%													
	Category 3	8	10%													
	Category 4	9	11%													
	Potentially Invasive (P)	3	4%													
	Wetland Species															
	Mean Wetness Index	0.7														
	Upland	31	16%													
	Facultative upland	68	36%													
	Facultative	28	15%													
	Facultative wetland	34	18%													
	Obligate wetland	26	14%													

Appendix B

Species at Risk Screening Sources

Table A 1. SAR screening resources

Screening Resource	Description
Natural Heritage Information Center (NHIC)	The Natural Heritage Information Center (NHIC), operated by the Ontario Ministry of Natural Resources and Forestry, collects, reviews, manages and distributes information on Ontario's biodiversity. Data distributed by the NHIC is used in conservation and natural resource management decision making and was a primary resource for this report. Through the NHIC Make-a-Map tool, data on species, plant communities, wildlife concentration areas and natural areas is made accessible to the public and professionals using generalized 1-kilometer grid units to protect sensitive information. The mapping interface provides current and historical occurrences of SAR within the specified grid unit. The database also identifies environmental designations which provide insight into habitat potential including wetland, areas of natural and scientific interests and woodlands.
Breeding Bird Atlas	The atlas divides the province into 10×10 km squares and then birders find as many breeding species as possible in each square. Atlassers who know birds well by song complete 5-minute "Point Counts", 25 of which are required to provide an index of the abundance of each species in a square. Data from every square are mapped to show the distribution of each species. Point count data from each square show how the relative abundance of each species varies across the province.
eBird	eBird data document bird distribution, abundance, habitat use, and trends through checklist data collected within a simple, scientific framework. Birders enter when, where, and how they went birding, and then fill out a checklist of all the birds seen and heard during the outing. eBird's free mobile app allows offline data collection anywhere in the world, and the website provides many ways to explore and summarize your data and other observations from the global eBird community. eBird hotspots that are within 1 km of the Study Area are selected for species review.
Ontario Moth Atlas	The Ontario Moth Atlas is a project of the Toronto Entomologists' Association. The atlas currently covers about 250 species from 7 of the best-known families. The atlas presently includes 62,000 records. The last update of the atlas was in April 2020. The atlas is updated at least every 3 months. Most atlas data come from iNaturalist records. However, there is some data from Chris Schmidt of Agriculture Canada, the BOLD (Barcode of Life Datasystems) project of the University of Guelph, and from other records submitted directly to the TEA. The atlas uses the same 10×10 km squares at the Breeding Bird Atlas.
Ontario Butterfly Atlas	The Ontario Butterfly Atlas is a project of the Toronto Entomologists' Association (TEA). The TEA has been accumulating records and publishing annual seasonal summaries (Ontario Lepidoptera) for 50 years, with the first edition appearing in 1969. Atlas data comes from eButterfly records, iNaturalist records, BAMONA records, and records submitted directly to the TEA. The atlas uses the same 10×10 km squares at the Breeding Bird Atlas.
i-Naturalist	i-Naturalist is a nature app that helps public identify plants and animals. Using algorithms as well as scientists and taxonomic experts' multiple observations can be identified at a research scale. This data generated by the iNat community can be used in science and conservation. The program actively distributes the data in venues where scientists and land managers can find it. I-Naturalist has a project group for (NHIC) Rare species of Ontario. GeoProcess only records observations with-in 1 km of the Study Area.
Fisheries and Ocean Aquatic Species at Risk Maps	The DFO has compiled critical habitat and distribution data for aquatic species listed under the Species at Risk Act (SARA). The interactive map is intended to provide an overview of the distribution of aquatic species at risk and the presence of their critical habitat within Canadian waters. The official source of information is the Species at Risk Public Registry. Using this map, a 1 km radius circle is outlined around aquatic features located within the Study Area.

Appendix C

Significant Wildlife Habitat Screening

Table C1. SWH for Ecoregions 6E

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm…
	ELC Ecosite Codes	ELC Ecosite Codes			
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial) Ecoregion 6E and 7E	CUM, CUT1 - plus evidence of annual spring flooding within these ecosites *Fields with seasonal flooding and waste grains in certain areas are specific to Tundra Swan	Fields with sheet water during Spring (mid-March to May) •agricultural fields with waste grain are not SWH unless they have spring sheet water available.	No	No habitat features on site or species aggregation.	•Any mixed species aggregations of 100+ individuals • the flooded field plus 100-300m radius, dependant on localized site and adjacent land us • Annual Use of Habitat is documented from information sources or field studies •Specific evaluation methods required
Waterfowl Stopover and Staging Areas (Aquatic) Ecoregion 6E and 7E	MAS1,MAS2,MAS3,SAS1,SAM1,SAF1,SWD1,SWD2,SWD3,SWD4,SWD5,SWD6,SWD7	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. • Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify.	No	No habitat features on site.	•Aggregations of 100+ of species listed for 7 days, results in >700 waterfowl use days. •Areas with annual staging for ruddyducks, canvasbacks and redheads. •The combined area of the ELC ecosites and a 100m radius area. •Wetland area and shorelines associated with sites identified within the SWHTG, Appendix K, are significant wildlife habitat. •Annual Use of Habitat is documented from information sources or field studies • Specific evaluation methods required
Shorebird Migratory Stopover Area	BBO1,BBO2,BBS1,BBS2,BBT1,BBT2,SDO1,SDS2,SDT1,MAM1,MAM2,MAM3,MAM4,MAM5	•Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.	No	No habitat features on site.	•Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period •Whimbrel stop briefly (<24hrs) during spring migration, any site with >100

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
Ecoregion 6E and 7E		•Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores in May to mid-June and early July to October. •No sewage treatment or stormwater management ponds.			Whimbrel used for 3 years or more is significant •The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area •Annual use of habitat is documented from information sources or field studies • Specific evaluation methods required
Raptor Wintering Area Ecoregion 6E and 7E	Combo of one of each Community Series from one of each: Forest (FOD,FOM,FOC) and Upland (CUM,CUT,CUS,CUW). Bald Eagle: Forest on shoreline area adjacent to large rivers and lakes.	A combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Need to be >20ha. •Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. • Field area of the habitat is to be wind swept with limited snow depth or accumulation. • Eagle sites have open water and large trees and snags available for roosting.	No	Some habitat features present on site but not >20ha	•One or more Short-eared Owls OR one of more Bald Eagles OR at least 10 individuals and two of the listed hawk/owl species. •To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. •For an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Specific evaluation methods required
Bat Hibernacula Ecoregion 6E and 7E	CCR1,CCR2,CCA1,CCA2 *buildings are not to be considered SWH	May be found in caves, mine shafts, underground foundations and Karsts. •Active mine sites are not considered SWH.	No	No caves, mine shafts, underground foundations, or karsts within Study Area.	•All sites with confirmed hibernating bats are SWH. •Area includes 200m radius around the entrance of the hibernaculum for most development types and 1000m for wind farms. •Studies are to be conducted during the peak swarming period (Aug.-Sept.).

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
					• Specific survey methods required
Bat Maternity Colonies Ecoregion 6E and 7E	All Ecosites in: FOD,FOM,SWD,SWM	Maternity colonies can be found in tree cavities, vegetation and often in building. *Building are not considered SWH. • Not found in caves or mines in ON. •Located in Mature Deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. •Prefer snags in early stages of decay (class 1-3 or class 1 or class 2). •Silver-haired Bats prefer older mixed or deciduous forests with at least 21 snags/ha.	**Yes**	Present at the SWD3-2 site. Bat acoustic monitoring recorded presence of Big Brown Bats and Silver Haired Bats	•Confirmed use by: >10 Big Brown Bats >5 Adult female Silver Haired Bats. •The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. • Specific evaluation methods required
Turtle Wintering Areas Ecoregion 6E and 7E	Snapping and Midland Painted: SW,MA,OA,SA and FEO/BOO Series. Northern Map: Open water areas such as deeper rivers or streams and lakes.	Wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. •Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen.	**Yes**	Habitat is present at BS1 in the MAS2-1 community. 7 Midland Painted Turtles were recorded during turtle basking surveys.	•Presence of 5 over-wintering Midland Painted Turtles is significant •One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant • The mapped ELC ecosite area with the over wintering turtles is the SWH. • If the hibernation site is within a stream or river, the deepwater pool where the turtles are over wintering is the SWH.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
		*Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.			• Search for congregations in Basking Areas in spring and fall.
Reptile Hibernaculum Ecoregion 6E and 7E	Any ecosite other that very wet. •Talus, Rock Barren, Crevice, Cave, Alvar may be directly related. •Observations of congregations in spring or fall is good indicator.	Sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. •Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. •Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures	No	Suitable swamp ecosite present within the Study Area. Snake visual encounters surveys were conducted within the swamp, and no snake species were identified and no suitable hibernacula was noted as present.	•Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or individuals of two or more snake spp. •Congregations of a minimum of five individuals of a snake sp. or individuals of two or more snake spp. near potential hibernacula (e.g. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct). • If there are Special Concern Species present, then site is SWH. •The feature in which the hibernacula is located plus a 30m radius area is the SWH. •Hibernacula are used annually, often by the same individuals (strong site fidelity) and other life processes often take place nearby

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff) Ecoregion 6E and 7E	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. CUM1,CUS1,BLS1,CLO1,CLT1,CUT1,BLO1,BLT1,CLS1.	Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area *does not include man-made structures, recently (2 years) disturbed soil areas or licenced Mineral Aggregate Operation.	No	No habitat features on site.	•Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. •Field surveys to observe and count swallow nests are to be completed during the breeding season. • Specific evaluation methods required
Colonially-Nesting Bird Breeding Habitat (Tree/Shrub) Ecoregion 6E and 7E	SWM2,SWM3,SWM5,SWM6,SWD1,SWD2,SWD3,SWD4,SWD5,SWD6,SWD7,FET1	Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. •Most nests in trees are 11 to 15 m from ground, near the top of the tree.	No	No habitat features on site.	•Presence of 5 or more active nests of Great Blue Heron or other listed species. •The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH. Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells.
Colonially-Nesting Bird Breeding Habitat (Ground) Ecoregion 6E and 7E	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs	Nesting colonies on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands.	No	No habitat features on site.	•Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. •Presence of 5 or more pairs for Brewer's Blackbird.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm…
	ELC Ecosite Codes	ELC Ecosite Codes			
	(Brewer's Blackbird) MAM1 – 6; MAS1 – 3; CUM,CUT,CUS				•Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. •The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH. •Studies would be done during May/June when actively nesting. • Specific evaluation methods required
Migratory Butterfly Stopover Areas Ecoregion 6E and 7E	Combo of one of each Field (CUM, CUT, CUS) and Forest (FOC, FOD,FOM,CUP).	Minimum 10 ha in size with combo of field and forest located within 5km of Lake Erie or Lake Ontario. •Should not be disturbed. • Field/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. •Should provide protection from the elements, often spits of land or areas with the shortest distance to cross the Great Lakes.	No	No habitat features on site.	•Presence of Monarch Use Days (MUD) during Fall migration (Aug/Oct) •Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. •MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.
Landbird Migratory Stopover Areas Ecoregion 6E and 7E	All Ecosites within: FOC,FOM,FOD,SWC,SWM,SWD	Woodlots >10ha in size and within 5km of Lake Erie and Lake Ontario. • If woodlands are rare in area, smaller size can be considered. • If multiple woodlands located along shoreline, those <2km	No	No habitat features on site.	•Use of the habitat by >200 birds/day and with >35 spp. with at least 10 bird spp. recorded on at least 5 different survey dates. •Studies should be completed during spring (Mar to May) and fall (Aug to Oct) migration using standardized assessment techniques. • Specific evaluation methods required

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
		from shoreline are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes. •The largest sites are more significant. •Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Erie and Lake Ontario are Candidate SWH.			
Deer Yarding Areas Ecoregion 6E	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths	No	No habitat features on site.	No Studies Required: • Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. • Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). • Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
		reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. • OMNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual. •Woodlots with high densities of deer due to artificial feeding are not significant			boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. •
Deer Winter Congregation Areas Ecoregion 6E and 7E	All forested ecosites within: FOC,FOM,FOD,SWC,SWM,SWD + conifer plantations much smaller than 50 ha may be used.	Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. • Deer movement during winter in the southern areas of Ecoregion 6E are not constrained	No	No habitat features on site.	•Will be mapped by MNRF. • All woodlots exceeding the criteria are significant unless determined to be not by the MNRF. •Studies to be completed during winter when >20 cm of snow is on the ground, using aerial survey or pellet count.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
		by snow depth, however deer will annually congregate in large numbers in suitable woodlands • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. *Woodlots with high densities of deer due to artificial feeding are not significant.			
Rare Vegetation Communities					
Cliffs and Talus Slopes Ecoregion 6E and 7E	Any Ecosite within: TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris. Most cliff and talus slopes occur along the Niagara Escarpment.	No	No habitat features on site.	•Confirm any ELC Vegetation Type for Cliffs or Talus Slopes
Sand Barren Ecoregion 6E and 7E	SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicketlike (SBS1), or more closed and treed (SBT1). Tree cover always < or equal to 60%	A sand barren area >0.5ha in size. • Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah.	No	No habitat features on site.	•Confirm any ELC Vegetation Type for Sand Barrens. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
		• Vegetation can vary from patchy and barren to tree covered, but less than 60%.			
Alvar Ecoregion 6E and 7E	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2, Five Alvar Indicator Species: 1) Carex crawei 2) Panicum philadelphicum 3) Eleocharis compressa 4) Scutellaria parvula 5) Trichostema brachiatum	An Alvar site > 0.5 ha in size, only known sites are found in the western islands of Lake Erie. • An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. • Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. • Vegetation cover varies from patchy to barren with a less than 60% tree cover.	No	No habitat features on site.	•Studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). •The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm…
	ELC Ecosite Codes	ELC Ecosite Codes			
Old Growth Forest Ecoregion 6E and 7E	FOD FOC FOM SWD SWC SWM	Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest. • Characterized by heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	No	No habitat features on site.	•If dominant trees species of the area are >140 years old, then the area containing these trees is Significant Wildlife Habitat. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities • The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest and forest area containing the old growth characteristics
Savannah Ecoregion 6E and 7E	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. • No minimum size to site. • Site must be restored or a natural site. *Remnant sites such as railway right of ways are not considered to be SWH.	No	No habitat features on site.	•Field studies confirm one or more of the Savannah indicator species found in Appendix N, Ecoregion 6E of the SWHTG, OMNR (2000). •Entire area of the ELC Ecosite is SWH. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic species).
Tallgrass Prairie Ecoregion 6E and 7E	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. •An open Tallgrass Prairie habitat has < 25% tree cover. •No minimum size to site. •Site must be restored or a natural site. *Remnant sites such as railway right of ways are not considered to be SWH.	No	No habitat features on site.	•Field studies confirm one or more of the Prairie indicator species in Appendix N, Ecoregion 6E of The SWHTG, OMNR (2000). •Area of the ELC Ecosite is the SWH. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.)

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm…
	ELC Ecosite Codes	ELC Ecosite Codes			
Other Rare Vegetation Communities Ecoregion 6E and 7E	See the Significant Wildlife Habitat Technical Guide (OMNR, 200), Appendix M for Provincially Rare S1,S2 and S3 ELC Vegetation Types.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. •May include beaches, fens, forest, marsh, barrens, dunes and swamps. See OMNRF/NHIC for up to date list of rare vegetation communities.	No	No habitat features on site.	•Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG, OMNR (2000). •Area of the ELC Vegetation Type polygon is the SWH.
Specialized Habitat for Wildlife					
Waterfowl Nesting Area Ecoregion 6E and 7E	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4. * Note: includes adjacency to Provincially Significant Wetlands	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. •Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests.	No	Wetland ecosites not adjacent to any potentially suitable upland habitat. Breeding bird surveys were completed and an insufficient number of the target species and individuals were recorded.	•Presence of 3 or more nesting pairs for listed species excluding Mallards OR •Presence of 10 or more nesting pairs for listed species including Mallards. •Any active nesting site of an American Black Duck is considered significant. •Nesting studies should be completed during the spring breeding season (April - June). •Specific evaluation methods required •A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm…
	ELC Ecosite Codes	ELC Ecosite Codes			
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat Ecoregion 6E and 7E	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. *Nests located on man-made objects are not to be included as SWH. •Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy.	No	No habitat features on site.	One or more active Osprey or Bald Eagle nests in an area. •Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. •For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH. *with additional requirements •For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. * with additional requirements •To be significant a site must be used annually. •When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. •Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid August. • Specific evaluation methods required
Woodland Raptor Nesting Habitat Ecoregion 6E and 7E	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. • Interior habitat determined with a 200m buffer. •Stick nests found in a variety of intermediate-aged to mature	No	No suitable habitat (>30ha with >10ha of interior habitat) is present on the Study Area.	Presence of 1 or more active nests from species list is considered significant. •Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH. (the 28 ha habitat area would be applied where

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
		conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.			optimal habitat is irregularly shaped around the nest) •Barred Owl – A 200m radius around the nest is the SWH. •Broad-winged Hawk and Coopers Hawk,– A 100m radius around the nest is the SWH. •Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area.
Turtle Nesting Areas Ecoregion 6E and 7E	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. •For an area to function as a turtlenesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. *Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes,	No	No habitat features on site.	Presence of: - 5 or more nesting Midland Painted Turtles OR - One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. •The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. •Field investigations should be conducted in prime nesting season typically late spring to early summer.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
		and rivers are most frequently used.			•Observational studies observing the turtles nesting is a recommended method.
Seeps and Springs Ecoregion 6E and 7E	Where ground water comes to the surface. Often they are found within headwater areas within forested habitats. •Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.	No	No habitat features on site.	Presence of a site with 2 or more seeps/springs should be considered SWH. •The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. •The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat.
Amphibian Breeding Habitat (Woodland) Ecoregion 6E and 7E	All Ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD •Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	Presence of a wetland, pond or woodland pool (including vernal pools) >500m2 (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). • Some small wetlands may not be mapped and may be important breeding pools for amphibians. •Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	**Yes**	SWD ecosite present within Study Area, with SA and MAS2-1 communities within 120 meters of the SWD. Amphibian calls from surveys not high enough Call Level Code to suffice but lack of confirmation of salamander and newt	Presence of breeding population of: - 1 or more of the listed newt/salamander species or - 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or - 2 or more of the listed frog species with Call Level Codes of 3. •A combo of observational and call count surveys required during the spring (March-June) . •The habitat is the wetland area plus a 230m radius of woodland area. • If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
				presence or absence makes SWH a possibility.	
Amphibian Breeding Habitat (Wetlands) Ecoregion 6E and 7E	ELC Community Classes SW, MA, FE, BO, OA and SA. •Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	Wetlands >500m2 (about 25m diameter), supporting high species diversity are significant; •some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. •Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation.	**Yes**	Potentially suitable wetland breeding habitat (MA, SW, and SA) identified within the Study Area. Amphibian calls from surveys not high enough Call Level Code to suffice but lack of confirmation of salamander and newt presence or absence makes SWH a possibility.	Presence of breeding population of: -1 or more of the listed newt/salamander species or -2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or -2 or more of the listed frog/toad species with Call Level Codes of 3. or; -Wetland with confirmed breeding Bullfrogs are significant. •The ELC ecosite wetland area and the shoreline are the SWH. •A combo of observational and call count surveys will be required during the spring (March-June). •If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered.
Woodland Area-Sensitive Bird	All Ecosites withing: FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha.	No	No habitat features on site; the woodlands in the Study Area are	Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. *any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
Breeding Habitat Ecoregion 6E and 7E		•Interior forest habitat is at least 200 m from forest edge habitat.		generally small and fragmented from one another. A small amount of interior habitat present in FOD7 northeast of Gore Road, but no interior species surveyed	• Conduct field investigations in spring and early summer. • Specific evaluation methods required
Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)					
Marsh Bird Breeding Habitat Ecoregion 6E and 7E	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites	Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. •For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water.	No	MAM, SA, and SW communities are present within Study Area. However, MAM communities did not have frequent shallow water or emergent aquatic vegetation. None of the	Presence of: - 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes or; -breeding by any combination of 5 or more of the listed species. •any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. •Area of the ELC ecosite is the SWH. •Breeding surveys should be done in May/June. • Specific evaluation methods required

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
				bird species listed in defining criteria observed during breeding bird surveys.	
Open Country Bird Breeding Habitat Ecoregion 6E and 7E	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha. •Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). •Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. •The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.	No	No habitat features on site.	Presence of nesting or breeding of: -2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. •The area of SWH is the contiguous ELC ecosite field areas. •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Specific evaluation methods required.
Shrub/Early Successional Bird Breeding Habitat	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 •Patches of shrub ecosites can be complexed into a larger habitat for some bird species.	Large field areas succeeding to shrub and thicket habitats>10ha in size. •Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for	No	No habitat features on site.	Presence of nesting or breeding of - 1 of the indicator species and at least 2 of the common species. •A habitat with breeding Yellowbreasted Chat or Golden-winged Warbler is to be considered as SWH.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
Ecoregion 6E and 7E		farming (i.e. no rowcropping, haying or livestock pasturing in the last 5 years). •Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. •Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.			•The area of the SWH is the contiguous ELC ecosite field/thicket area. •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Specific evaluation methods required
Terrestrial Crayfish Ecoregion 6E and 7E	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1- with inclusions of above meadow marsh ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. •Usually the soil is not too moist so that the tunnel is well formed. •Can often be found far from water.	**Yes**	Approximately 80 crayfish chimneys were noted in suitable habitat (SWD3-2, Wetland 8), located in the Study Area.	Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. •Surveys should be done April to August in temporary or permanent water. • Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult.
Special Concern and Rare Wildlife Species	All plant and animal element occurrences (EO) within a 1 or 10km grid. All Special Concern and Provincially Rare plant and animal species.	Identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites	**Yes**	See SAR Screening and Assessment section	Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
Ecoregion 6E and 7E					•The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat.
Animal Movement Corridors					
Amphibian Movement Corridors Ecoregion 6E and 7E	Corridors may be found in all ecosites associated with water.	Corridors will be determined based on identifying the significant breeding habitat for these species. Movement corridors between breeding habitat and summer habitat. Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from this Schedule.	**Yes**	Potential depending on whether there is significant Amphibian Breeding Habitat onsite. Dependant on confirmation of salamander and newt presence or absence necessary.	Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat.
Deer Movement Corridors Ecoregion 6E	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH. A deer wintering habitat identified by the OMNRF as SWH will have corridors that the deer	No	No habitat features onsite.	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	ELC Ecosite Codes			
		use during fall migration and spring dispersion •Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).			• Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway •Shorter corridors are more significant than longer corridors.
Exceptions for EcoRegion 6E and 7E					
Mast Producing Areas (Black Bear) •EcoDistrict 6E-14	All Forested habitat represented by ELC Community Series: FOM FOD	Black bears require forested habitat that provides cover, winter hibernation sites, and mastproducing tree species. • Forested habitats need to be large enough to provide cover and protection for black bears Criteria •Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech)	No	Study Area not within Ecodistrict 6E-14	•All woodlands >30 ha with a 50% composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5
Lek (Sharp-tailed grouse) •EcoDistrict 6E-17	CUM CUS CUT	The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. • Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated. Criteria	No	Study Area not within Ecodistrict 64-14	Studies confirming lek habitat are to be completed from late March to June. • Any site confirmed with sharp-tailed grouse courtship activities is considered significant • The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm…
	ELC Ecosite Codes	ELC Ecosite Codes			
		•Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland • Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) • Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting			
Bat Migratory Stopover Area Ecoregion 7E	N/A	No specific ELC types.	No	No stopover areas mapped within Study Area.	