Environmental Impact Study

12319 Centreville Creek Road

Prepared for

Cavallino Estates Inc.

8600 Dufferin Street, Vaughan, Ontario L4K 5P5

October 30, 2025
Project No. P2025-1048

Prepared by

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Table of Contents

List of Tables

List of Maps

1. Introduction

GeoProcess Research Associates Inc. (GeoProcess) has been retained by Cavallino Estates Inc. to complete an Environmental Impact Study for the lands located at 12319 Centreville Creek 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 195 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 10.5 hectares (ha) in size and is situated along the northeast side of Centreville Creek Road in Caledon, Ontario. It is approximately 905 meters west of Mayfield Road and approximately 685 meters south of The Gore Road. Located within the West Humber River Subwatershed, the West Humber River sits approximately 1km northeast of the Property boundary.

As per the Region of Peel Official Plan, the Study Area is part of the Urban System, belonging to the 2051 New Urban Area. Under the Town of Caledon Official Plan, the Study Area is designated Prime Agricultural Area. The Study Area falls under the jurisdiction of the Toronto Region Conservation Authority (TRCA) and contains TRCA-regulated areas surrounding the two headwater drainage features that cross the Property boundary to the northeast and the east.

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 no species protected under the SARA (2002) identified within the Study Area and the policies of the SARA are not 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.

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*.

Policy Number	Policy
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 woodlan*ds 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*.
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 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).

Highly Vulnerable Aquifer + watercourse

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 pervious 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 are identified as headwater drainage features.

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. The Subject Property is not within 120 meters of the Greenbelt and the policies of the Greenbelt Plan Area do not apply.

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 to characterize and inventory the natural heritage features and wildlife activity of the Subject Property and surrounding landscape. A summary of the field work details is provided below in Table 2.

Table 2. Fieldwork Completed by GEI 2021-2024

Activity	Timing	Date	Staff
Floristic Studies	Spring (May-June) Summer (July-August) Fall (September-October)	May 16, 2024, August 19, 2024	Leslie, J.
Amphibian Surveys	Visit 1 (>5°C) Visit 2 (>10°C) Visit 3 (>17°C)	April 18, 2024, May 27, 2024, and June 20, 2024	Lee, E.
Breeding Bird Surveys and Barn Swallow Surveys	Visit 1 Visit 2	May 30, 2024, June 19, 2024, July 5, 2024	Martin, S.
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, April 10, 2024, May 31, 2024, August 14, 2024	Nieroda, M., Lee, E., Brunelle, P., Fleming, D., Love, S.

3.2.1. Ecological Land Classification

An Ecological Land Classification (ELC) with a two-season botanical inventory of all floristic species was completed on May 16, 2024, and August 19, 2024. 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 4.3.1, Map 2, and Appendix A 1.

3.2.2. Botanical Inventory

The botanical surveys performed by GEI were completed across the entire Wildfield Village Secondary Plan (WVSP) area. A complete list of the plant species identified within the WVSP can be found in Appendix A 1. 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 GVI in 2024, 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 4.4.1 and Map 2.

3.2.4. Breeding Bird Surveys

Breeding bird surveys were undertaken on two separate dates by GEI staff 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 4.4.2 and Map 2.

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).

3.2.5. 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 and April 10, 2024, 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 and May 31, 2024) to determine the hydrologic condition of each HDF, and a third site visit occurred on August 3, 2022 and August 14, 2024, for features found to be flowing during the second visit. The results of this assessment can be found in Section4.5.1 and Appendix B 1.

3.2.6. 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 C 1. The SAR assessment results are further discussed in Section 5.

3.2.7. 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 (2015) was conducted for the Subject Property. Potential SWH identified was assessed by GEI during the field studies. The results of this assessment are found in Section 6 and Appendix D.

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 north, east, and west. Centreville Creek Road borders the Property to the south, beyond which there is further agricultural lands across the road. Low-density residential buildings are scattered throughout the neighbouring agricultural lands, while a medium-density residential neighbourhood sits approximately 930 meters to the southeast. Two headwater drainage features along the Property edges converge with the West Humber River approximately 1.34km to the northeast.

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. Vegetation Communities

4.3.1. Ecological Land Classification

The results of the ELC are presented below in Table 3 and shown on Map 3. A full botanical inventory of the WVSP area can be found in Appendix A 1. Two vegetation communities were identified within the Study Area.

Table 3. GEI Ecological Land Classification Communities

ELC Code and Classification	Community Description	S-Rank (NHIC, 2024)
FOC2-2: Dry-Fresh White Cedar Coniferous Forest	A small, mid-aged forest located towards the southern end of the Property. The canopy was dominated by Eastern White Cedar (*Thuja occidentalis*). The community understory was sparsely vegetated, with infrequent occurrences of Showy Fly Honeysuckle (*Lonicera x bella*) and European Buckthorn (*Rhamnus cathartica*). Ground layer was also sparsely vegetated, with infrequent occurrences of Garlic Mustard (*Alliaria petiolata*), Enchanter's Nightshade (*Circaea canadensis*), and European Swallowwort (*Vincetoxicum rossicum*).	S5
MAS2: Mineral Shallow Marsh Ecosite	A small mineral graminoid shallow marsh community located approximately 115 meters east of the Property boundary. This community type has standing or flowing water for much or all of the growing season, with water up to 2 meters deep and graminoid species usually dominant on the ground layer.	N/A

4.4. Wildlife Surveys

4.4.1. Amphibian Surveys

GEI completed amphibian surveys following the Marsh Monitoring Protocol and temperature requirements in the 2024 field season. Survey stations are provided on Map 3, and the results are in Table 4.

A total of three 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 Chorus Frog (*Pseudacris crucifer*), 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 4. GEI 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 P9-1, feature DIST (disturbed)										
1 (>5°C)	21:29 - 21:37	N/A	72	0	None	5	CHFR1-5 WOFR1-3	-	-	N/A
2 (>10°C)	22:23 - 22:30	11	56	1	None	2.5	AMTO1-2	-	-	N/A
3 (>17°C)	21:35 - 21:50	23	88	1	None	9	-	-	-	N/A
Station P2-2, feature MAS2										
1 (>5°C)	21:29 - 21:37	N/A	72	0	None	5	CHFR1-2	-	-	N/A
2 (>10°C)	22:23 - 22:30	11	56	1	None	2.5	-	-	-	N/A
3 (>17°C)	21:35 - 21:50	23	88	1	None	9	-	-	-	N/A

4.4.2. 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 5). During the first and second breeding bird surveys additional Barn Swallow Surveys were conducted. Three breeding bird point count stations were established for the Study Area, refer to Map X for the locations. The breeding bird plot P9-1 was located along the water feature FT1 that flows N-SE through the northeastern corner of Parcel 9, plot P9-2 was located centrally in the agricultural field, and plot P9-3 was in the Coniferous Woodland on the Residential portion of the Subject Property.

Table 5. GEI BBS Survey Conditions

Visit Date	Visit Time	Temp (˚C)	Humidity (%)	Cloud Cover (10ths)	Wind Speed [Beaufort scale]	Rain	Noise Code (1-5)
May 30, 2024	05:23-10:00	7	76	0	2	None	N/A
June 19, 2024	05:55-09:40	24	83	10	2	None	N/A
July 5, 2024	06:22-08:17	19	78	3	2	None	N/A

The breeding bird survey results for Parcels 5 and 9 and 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 both Parcel 5 and 9 and will not include the number of observations of each species. There are nine point count stations between the two parcels, three of which are in Parcel 9. 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 9.

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 6). Species at Risk in Ontario (SARO) and Committee on the Status of Endangered Wildlife in Canada (COSEWIC) rankings were attributed to each species.

Table 6. 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	OB-X
Columbiformes								
Columbidae								
Rock Pigeon	*Columba livia*	ROPI	SNA	G5	-	-	No	CO-NE
Mourning Dove	*Zenaida macroura*	MODO	S5	G5	-	-	No	PO-S

Common Name	*Scientific Name*	Species Code	Provincial Status (SRank)	Global Status (GRanks)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Charadriiformes								
Charadriidae								
Killdeer	*Charadrius vociferus*	KILL	S4B	G5	-	-	No	CO-FY
Scolopacidae								
Upland Sandpiper	*Bartramia longicauda*	UPSA	S2B	G5	-	-	Yes	PO-S
Spotted Sandpiper	*Actitis macularius*	SPSA	S5B	G5	-	-	Yes	PO-S
Laridae								
Ring-billed Gull	*Larus delawarensis*	RBGU	S5	G5	-	-	Yes	OB-X
Gaviiformes								
Ardeidae								
Great Blue Heron	*Ardea herodias*	GBHE	S4	G5	-	-	Yes	OB-X
Accipitriformes								
Accipitridae								
Red-tailed Hawk	*Buteo jamaicensis*	RTHA	S5	G5	-	NAR	Yes	OB-X
Passeriformes								
Corvidae								
Blue Jay	*Cyanocitta cristata*	BLJA	S5	G5	-	-	No	PO-S
American Crow	*Corvus brachyrhynchos*	AMCR	S5	G5	-	-	No	PO-S
Alaudidae								
Horned Lark	*Eremophila alpestris*	HOLA	S4	G5	-	-	No	PR-P
Hirundinidae								
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	NRWS	S4B	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
Barn Swallow	*Hirundo rustica*	BARS	S4B	G5	SC	SC	No	CO-FY
Turdidae								
American Robin	*Turdus migratorius*	AMRO	S5	G5	-	-	No	PR-T
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-NE
Fringillidae								
House Finch	*Haemorhous mexicanus*	HOFI	SNA	G5	-	-	No	PO-S
American Goldfinch	*Spinus tristis*	AMGO	S5	G5	-	-	No	PR-T
Passerellidae								
Vesper Sparrow	*Pooecetes gramineus*	VESP	S4B	G5	-	-	Yes	PR-T
Savannah Sparrow	*Passerculus sandwichensis*	SASP	S5B,S3N	G5	-	-	Yes	CO-FY
Song Sparrow	*Melospiza melodia*	SOSP	S5	G5	-	-	No	PR-T
Icteridae								
Bobolink	*Dolichonyx oryzivorus*	BOBO	S4B	G5	THR	THR	No	Po-H
Eastern Meadowlark	*Sturnella magna*	EAME	S4B, S5N	G5	THR	THR	No	PO-H
Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	S5	G5	-	-	No	CO-FY

Common Name	*Scientific Name*	Species Code	Provincial Status (SRank)	Global Status (GRanks)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
Brown-headed cowbird	*Molothrus aeter*	BHCO	S5	G5	-	-	No	PO_S
Common grackle	*Quiscalus quiscula*	COGR	S5	G5	-	-	No	OB-X
Cardinalidae								
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	S5B	G5	-	-	No	OB-X	

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 7. 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		

Rank System	Code Meaning
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 twenty-eight (28) bird species were observed within Parcel 5 and 9 by GEI in 2024. Four species at risk (SAR) were observed, the Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Sturnella magnus*), Barn Swallow (*Hirundo Rustica*), and the Upland Sandpiper (*Bartramia longicauda*), and two non-native species were observed, the Euopean Starling (*Sturnus vulgaris*), and the House Sparrow (*Passer domesticus*). Of the four SAR observed during surveys, only the Barn Swallow and Bobolink were observed in Parcel 9.

The highest level of breeding evidence obtained during surveys was "confirmed" breeding (OBBA, 2001); this evidence was obtained for seven species, due to observations of recently fledged young (FY) and nests containing eggs (NE). Six species were observed exhibiting "probable" breeding behaviour as pairs observed in their breeding season in suitable habitat (P) and singing in permanent territory during both rounds of surveys (T). Seven summer residents were observed singing (S) in suitable habitat (H) during the breeding season, indicating "possible' breeding evidence (OBBA, 2001). The remaining eight bird species are considered non-breeders, flyovers, or migrants. Seven additional species were observed only on surrounding lands.

A total of eleven (73%) 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). Four 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 9 only) in 2024:

4.4.2.1. Bobolink: Threatened in Ontario;

In Parcel 9, eight male Bobolink were observed singing from within, or just outside of PC 9-2 during round one. By the time of the round two survey, the fallow field and the small, low-quality hayfield at Parcel 9 had

been tilled and re-planted with soy, in accordance with Section 4.1 of Ontario Regulation 242/08 under the Endangered Species Act (2007). As a result, Bobolink was not subsequently detected, and it was determined that suitable habitat no longer existed in Parcel 9.

4.4.2.2. Barn Swallow: Special Concern in Ontario;

Barn Swallows were observed foraging over Parcel 9 during both rounds 1 and 2 of breeding bird surveys. Two rounds of targeted Barn Swallow Nest Surveys were undertaken during breeding bird surveys. No nests were observed at Parcel 9.

4.5. Headwater Drainage Feature Assessment

Headwater Drainage Features (HDFs) 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 within the Study Area that feed into the West Humber River (Map 2). TRCA policy mandates that regulated HDFs be identified and managed in accordance with their Evaluated, 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 are required to protect or mitigate the HDFs and their ecological functions from any proposed development.

GEI completed three rounds of surveys between April and August of 2024, during which time, two HDFs (HS31 and HS4B) were identified within the Study Area. Both HDFs have been recommended by GEI for mitigation.

4.5.1. 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 and Management Recommendations

Drainage Feature Segment	Step 1. Hydrology		Step 2. Riparian	Step 3. Fish Habitat	Step 4. Terrestrial Habitat	Management Recommendations Per HDFA Guidelines
	Function	Modifiers				
H3S1	FT – 7 (swale) FC – 4 (Round 1; 2021) FC – 2 (Round 1; 2024) FC– 3 (Round 2; 2022) FC – 2 (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.	Tile drain outlets to this feature. Hydrology may be modified by adjacent and upstream agricultural activities.	**Valued –** Meadow (Fallow) Meadow 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.	**Mitigation**
H3S1A	FT – 7 (swale) FC – 4 (Round 1; 2021) FC – 2 (Round 1; 2024); FC– 2/3 (Round 2; 2022) FC- 2 (Round 2; 2024)	Tile drain upstream. Hydrology may be modified by adjacent and upstream	**Valued –** Meadow (Fallow) Meadow vegetation is located on either side of the reach.	**Contributing –** No direct fish habitat is present. This feature provides allochthonous material transport	**Limited –** As per Table 7 of the HDFA Guidelines, swales provide limited terrestrial function.	**Mitigation**

	FC– 1 (Round 3; 2022 and 2024) **Valued –** (Non-participating property) Reach was flowing or had standing water identified at the upstream and downstream extents during spring assessments and was dry by summer. This feature displays intermittent flow.	agricultural activities.		to downstream habitat		
H5S4B	FT – 7 (swale) FC – 4 (Round 1; 2021) FC– Unknown (Round 2; 2022) FC- 1 (Round 3; 2022) **Valued –** (Non-participating property) Downstream end of reach was flowing during early spring assessment and was dry by summer. This feature displays intermittent flow.	N/A	**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.	**Mitigation**

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 C 1. 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 Table 9 below for data sources acquired on October 3rd, 2025 and October 5th, 2025.

Table 9. SAR 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	-

Species		Status		
Common Name	**Scientific Name**	**S_Rank**	**SARO**	**SARA**
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:

- Eastern Milksnake (Lampropeltis triangulum)
- Species at Risk Bats

Confirmed Presence:

- Barn Swallow (*Hirundo rustica*)
- Bobolink (Dolichonyx oryzivorus)
- Western Chorus Frog – Great Lakes – St. Lawrence – Canadian Shield population (*Pseudacris triseriata pop. 1*)

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.

5.2.1.1. Eastern Milksnake (Lampropeltis triangulum)

The Eastern Milksnake is ranked 'S4' (apparently secure) in Ontario and 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. This species is also known to make use of old farm buildings, such as those present onsite, which can provide egg-laying, foraging, and hibernation habitat. No snakes were observed during the three rounds of surveys performed on the Property in 2024.

5.2.1.2. Species At Risk Bats

Four bat species are listed as Endangered in Ontario: the Eastern Small-Footed Myotis (*Myotis leibii*), the Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*), and the Tri-colored Bat (*Perimyotis subflavus*). Several barn structures and a residence within the Subject Property were identified as providing potential suitable bat roosting habitat. Although no bats were observed during field surveys, no acoustic monitoring or bat exit surveys were performed, meaning that the presence of bat species inhabiting the site is possible.

5.2.2. **Confirmed Presence**

Three 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.

5.2.2.1. 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 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 the entire Property during both rounds 1 and 2 of breeding bird surveys. Two rounds of Barn Swallow Nest Surveys were undertaken during this time, and no nests were observed within the Property, indicating that this site provides foraging habitat only for the Barn Swallow species.

5.2.2.2. 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 within the Subject Property. By round two, the field on the Property had been tilled and replanted and no Bobolinks were observed.

5.2.2.3. 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.

Western Chorus Frogs were heard calling at station p9-1, a survey station within the Subject Property, during 2024 amphibian surveys. During round one of amphibian surveys, five Western Chorus Frogs were heard calling in the disturbed feature to the northwest of the Property. Additionally, two Western Chorus Frogs were heard calling in the Shallow Marsh community approximately 100 meters from the Property boundary during round one of amphibian surveys.

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 within Ecoregion 6E, and as such, the SWH screening was performed using the 6E Criterion Schedule.

Significant (and/or sensitive) Wildlife Habitat features and functions as described within the OMNRF Significant Wildlife Habitat Ecoregion Criteria Schedule for Region 6E (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 D 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 the absence of SWH within the Study Area.

7. Proposed Development

The proposed site plan will occupy an approximate area of 10.27 ha, with 4.26 ha of that land going towards roads and road widening. The proposed residential development includes the creation of a main roadway and entrance via Centreville Creek Road (Appendix E) in an east-west direction as well as concrete curbing/sidewalk, asphalt drive aisle and parking, and landscaped areas.

7.1. Natural Heritage System Buffers

Surveys documenting the natural heritage features on the Subject Property identified one coniferous plantation under 0.5 ha. Due to the small size of the feature, it is not included in the current proposed site plan, and no setbacks will be applied.

7.2. Linkages

The Subject Property does not contain any identified natural heritage features; therefore, the proposed site plan does not include any linkage features.

7.3. Stormwater Management, grading and Servicing Requirements

Grading will be confined to the limits of development. Servicing requirements will be met by connecting to existing services serving residences on Centreville Creek Road.

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 secondary source information, including an overlay of the proposed site plan.

8.1. Impact Summary Table

Table 10. 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 through the implementation of dust suppression. 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 is highly recommended.	Implementation of applicable mitigation measures is expected to reduce or eliminate impacts to migratory and breeding birds during the construction period.
Surrounding Habitat	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 30m from the identified conifer woodland and all HDFs present on the Subject Property. Construction material, excess material, construction debris, and empty containers should be stored in one location with proper containment and spill control measures in place.	No residual effects expected if mitigation measures are followed.
Local and Migrating Wildlife	Grading, Servicing & Development	Soil compaction and rutting outside of the construction zone	Implementation of a construction restoration plan to detail how the site will be remediated once construction is complete is recommended. Fencing to delineate the extent of the development footprint should be installed prior to any works on site.	Minimal residual effects anticipated if mitigation measures are followed.

Coniferous Woodland and HDFs	Grading, Servicing & Development	Damage to woodland and Erosion and sedimentation release into HDFs.	Implement silt fencing along the development 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.
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 present within the surrounding landscape may occur, however they will be occurring during the construction phase of the project, which is a relatively short period of time. It is anticipated that wildlife may avoid the area during construction. Most of the wildlife found within the local landscape are already tolerant of disturbances because of the agricultural and residential land-use dominant in the Study Area. These species are anticipated to return to the area once construction activities end.
Long-Term Impacts				
Local and Migrating Wildlife	Development	Light pollution resulting in changes to animal behaviour.	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 and lights are not directed towards the any nearby Natural Heritage Features. The use of lights that emit yellow, orange or red-hues rather than blue, green, and white can also reduce the negative impacts of lighting on local wildlife, especially for nocturnal species.	Due to the overall size and density of the proposed development it is likely to create additional ambient light pollution. If mitigation measures are implemented and followed by the new residents, the overall impacts of light pollution on wildlife and insects can be reduced, but will not be zero. The shielding and downward casting lights and closing window coverings at night are good steps to reducing impacts. This combined with an educational component should help address the concern. It is likely there will be some impact due to night-time lighting as all outdoor lighting will not be eliminated.

Breeding Birds	Development	Bird Strikes/Deaths	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: Frit and etched patterns; opaque materials and frosted glass; reducing features that create 'fly-through' conditions like glass corners; window muntins; exterior shutters; UV-treated glass. 2) Temporary Solutions: Encourage tenants to install their own deterrent measures on the outside of the windows like decals, ribbon, tape. Encourage tenants to turn off their lights at night during migration windows in the spring and fall. The majority of songbirds migrate at night, bright lights can cause confusion and draw migrating birds off course and result in additional bird strikes, delaying their migration. Making design choices with birds in mind before construction is the most effective way to reduce bird strikes. Encouraging individual tenants to install their own mitigative measures is not as effective as not everyone may want to participate.	Bird-friendly measures are recommended to be considered when designing the residential area. 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.
Natural Heritage System	Snow Storage	Salt runoff	All snow storage locations have yet to be determined. However, snow storage will likely occur within road right-of-ways and some parking areas. All snow melt from these locations will be captured in the SWM system and provided enhanced level quality and quantity treatment. Untreated snow storage melt water will not be discharged directly to the environment.	The treatment of all snow storage melt water prior to release to the environment will mitigate impacts from both volume and contaminant releases. Impacts from salt will be managed through the Town of Caledon's winter road maintenance program, which aims to reduce overall salt use during the winter. There is low likelihood that sodium enriched water will be discharged into the surrounding natural environment.
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 the Clean Equipment Protocol for Industry (2013) as laid out by the Ontario Invasive Plants Council.	Some invasive species were found on site during floristic surveys. Minimal residual effects are expected while adhering to the recommended mitigation measures.

Natural Heritage System	Post-Development	Encroachment, dumping and spread of invasive species	No natural heritage features exist within the Subject Property, so encroachment is not expected to cause any long-term negative impacts.	No residual impacts expected.
Watercourse	Development	The release of unwanted pets/invasive species such goldfish, koi, and red-eared sliders into the stormwater management pond could result in negative impacts downstream if they were to enter into HDFs during high-flow events as they eventually flow into the West Humber River.	Install one educational sign that describes the importance of a stormwater management pond and the native plants installed there and discourage people from dumping anything into the facility.	Residual impacts are expected to reduce with appropriate communication materials (e.g. interpretive signage).

8.2. Direct Impact Assessment

Direct impacts are directly attributed to the proposed development activities, often occurring during the construction phase or associated with physically altering the landscape or removing vegetation communities. Construction activities including grading, servicing, and site development, can cause direct impacts on the surrounding habitats and potential local and migrating wildlife.

Based on the existing disturbances in the area, the condition of the site being mostly agricultural and highly disturbed and the proposed mitigation measures during construction, the proposed site development will not result in any measurable changes to the adjacent NHS composition, structure, or function. A reduction groundwater inputs is expected due to the increase in impermeable area and coincidental lack of infiltration measures.

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 as population growth, density changes, or alterations/additions to road networks. Indirect impacts to wildlife and the surrounding environment are expected to be minimal due to the nature of construction work within the proposed development.

Although the proposed development will alter the physical conditions of the immediate landscape to one that has a greater built environment, the proposed development will not result in the fragmentation of natural features or linkages between features.

8.4. Cumulative Impacts

Cumulative impacts are environmental changes due to past, present and the reasonably foreseeable future impacts. Cumulative impacts to adjacent natural areas are difficult to predict as there is a lack of good baseline data for the Subject Property. The Study Area and surrounding landscape have experienced extensive and ongoing disturbance from agricultural land use, with only small, isolated patches of natural heritage features remaining. The lands on and surrounding the Subject Property are almost bare from the East Humber River tributary located west of Centreville Creek Road to the West Humber River tributary located east of The Gore Road.

The proposed development is occurring within an area that is in the process of transitioning into a more disturbed landscape that will continue to undergo anthropogenic stressors as other lots within the Wildfield Development are constructed. Stressors associated with higher levels of disturbance by humans have likely already begun to change the form and function of the Natural Heritage features on and surrounding the property. These changes include variations in ambient noise and light conditions, shifts in insect communities, shifts towards urban tolerant wildlife, and changes in both surface and groundwater flow and volumes. The proposed development, by its very nature, may result in a continuation of a shift towards a natural area that supports species most adapted to living with anthropogenic disturbances and stressors. This shift would likely continue with or without the proposed development. Recognizing the role that urbanization has on adjacent natural areas, and will continue to have, the proposed development has included mitigation measures to reduce these cumulative impacts.

The adjacent wildlife and plant communities could see a small shift to accommodate the proposed development however, based on the fact the surrounding landscape is already dominantly agricultural and in the process of urbanizing, major shifts in natural features and functions have likely already occurred. In general, since the Subject Property and adjacent natural heritage features have been adjacent to urban Caledon and part of the agricultural and rural matrix for some time, large cumulative impacts are not anticipated.

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. 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 to ensure that wildlife is safely out of the work area.

The following list provides direction on measures that are proposed to reduce impacts to the natural heritage system:

- Minimize outdoor lighting and direct it down and away from natural areas. A particular effort should be made to avoid the installation of outdoor lights in the northern portions of the Subject Property, as these are adjacent to the woodland and Environmentally Significant Area. Any lighting in these areas should be shielded and directed away from the natural areas.
- The building's interior lighting should be reduced after business hours. Whenever possible, task lighting rather than building lighting should be used during these times, especially during sunset and sunrise.
- Architectural considerations to minimize bird strikes should be undertaken, which could include window glazing, frosting or etching, UV-treated glass, exterior window coverings (i.e. shutters or muntins), installation of awnings and overhangs, avoiding the installation of vegetation on the interior of the 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.

- 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.

9.2. 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 (ESC) is recommended to prevent releases of sediment into the adjacent natural areas. The ESC plan and monitoring should be reviewed and carried out by a qualified professional (i.e. CAN-CISEC certification). Any deficiencies observed are to be recorded and immediately reported to the site contractor. Gaps in fencing should be repaired immediately. ESC measures should not be removed until the site is deemed sufficiently stabilized by a qualified environmental professional.
- Heavy machinery should be washed prior to entering the Subject Property to prevent the spread of invasive species.
- Topsoil removed during stripping is recommended to be stockpiled for reapplication post-construction.
- A construction work plan should designate specific locations for stockpiling 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.
- All construction and development activity should be restricted to the development area so no negative impacts to neighbouring properties and natural heritage features occurs.

10. Policy Conformity

The proposed development conforms with the policies of the Town of Caledon Official Plan as it relates to Natural Heritage. The Study Area does not contain any defined Core Areas, Natural Corridors, Linkages, or Natural Heritage Features. In terms of the two headwater drainage features that cross the Property boundary, the recommended management strategy is mitigation, which will leave the existing drainage features and their surrounding vegetation undisturbed as much as possible. Planning, design, offsetting, and construction measures identified for the Study Area will not impact any protected natural areas.

The proposed development is not anticipated to encroach on the TRCA-regulated 30 m area of interference for the HDFs and thereby conforms with the Conservation Authority policies.

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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EIS for 12319 Centreville Creek Road

Prepared for Cavallino Estates Inc.

October 30, 2025

Prepared by:

Name
Title

Disclaimer

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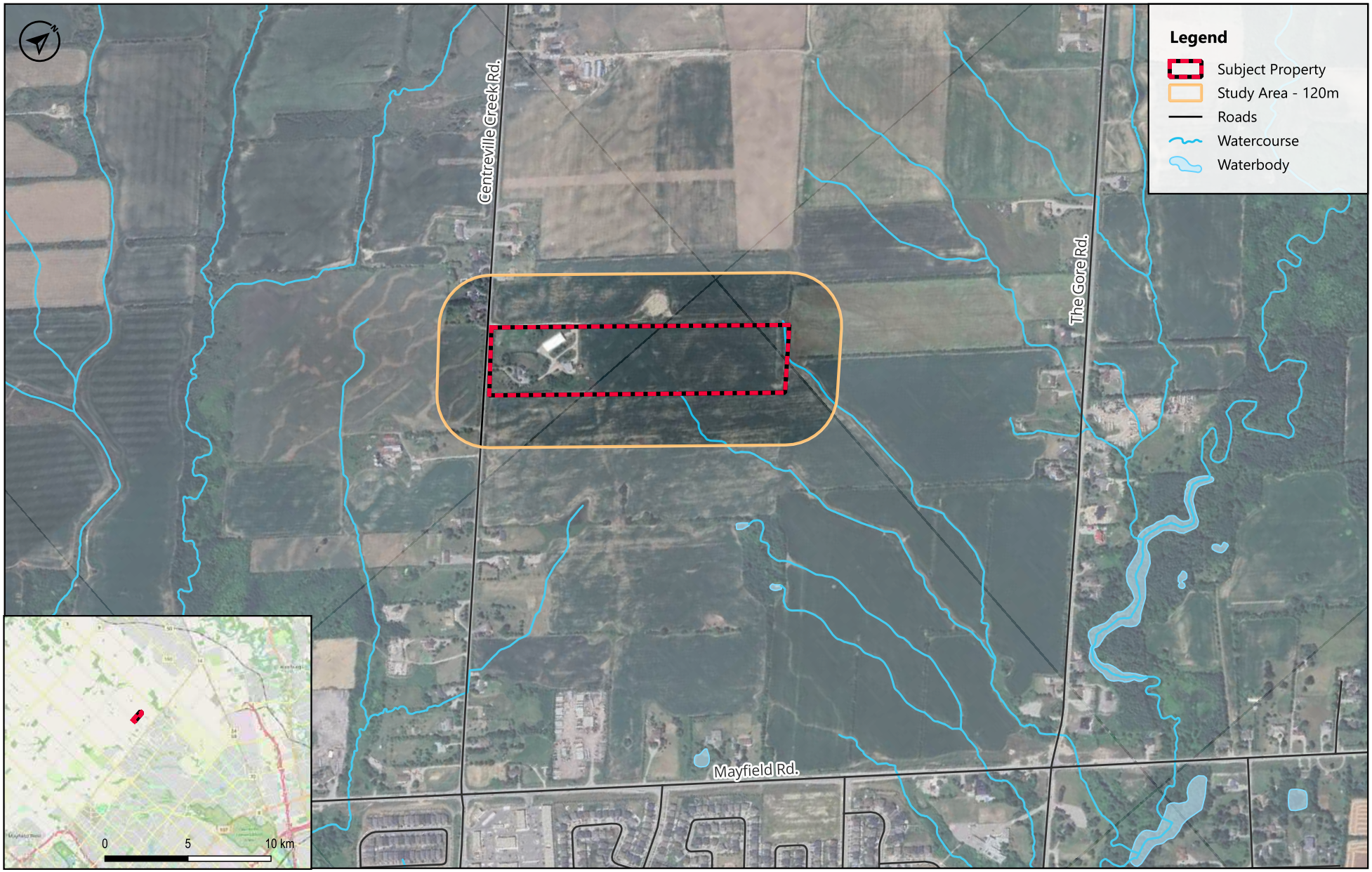
Project Number P2025-148

Maps



GeoProcess RESEARCH ASSOCIATES

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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 Natural Heritage Information Centre
[5] Base imagery: Google
[6] Inset map layers: Open Street Map (https://www.openstreetmap.org/copyright)

Map 1.

Key Map

Environmental Impact Study
12319 Centreville Road, Caledon

Trinison Management Corp.

CREATED BY: DH
CHECKED BY: IR
PROJECT NO.: P2025-1048
DATE: Oct 29, 2025

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GeoProcess RESEARCH ASSOCIATES

CREATED BY: DH
CHECKED BY: IR
PROJECT NO.: P2025-1048
DATE: Oct 29, 2025

0 50 100 150 200 250 m

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 Natural Heritage Information Centre
[5] Base imagery: Google
[6] Inset map layers: Open Street Map (https://www.openstreetmap.org/copyright)
[7] TRCA Regulated Area from TRCA Open Data library

Map 2.

Policy & Regulated Areas

Environmental Impact Study
12319 Centreville Road, Caledon

Trinison Management Corp.

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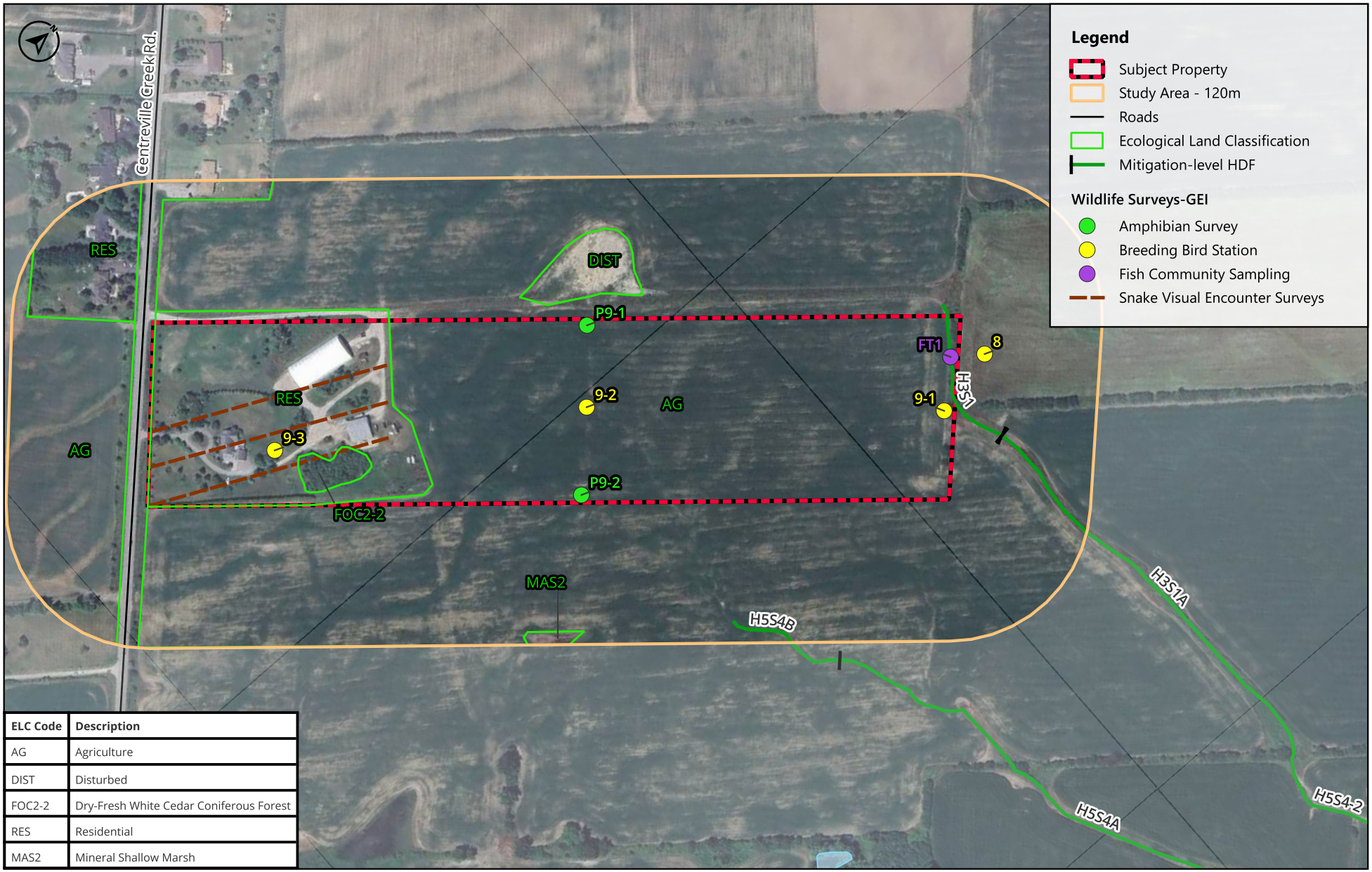

ELC Code	Description
AG	Agriculture
DIST	Disturbed
FOC2-2	Dry-Fresh White Cedar Coniferous Forest
RES	Residential
MAS2	Mineral Shallow Marsh

GeoProcess RESEARCH ASSOCIATES

CREATED BY: DH
CHECKED BY: IR
PROJECT NO.: P2025-1048
DATE: Oct 30, 2025

0 50 100 150 200 250 m

NAD83 / UTM zone 17N (EPSG:26917)

Notes:
[1] Watercourse & Waterbody layer: Ontario Hydro Network
[2] Road layer: Ontario Road Network
[3] Subject property boundary from Natural Heritage Information Centre
[4] Base imagery: Google

Map 3.

Policy & Regulated Areas

Environmental Impact Study
12319 Centreville Road, Caledon

Trinison Management Corp.

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Appendix A

GEI Botanical Inventory Species 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	G7T?			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	G7T?			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

GEI Headwater Drainage Feature Data

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
H1S1-1 (WT3(7)1-1)	FT – 6 (wetland) FC – 2 (Round 1; 2021) FC– 2 (Round 2; 2022) FC – 1 (Round 2; 2024) FC– 1 (Round 3; 2022) **Contributing** – Feature was holding standing water during spring assessments and was dry by early summer. Wetland habitat upstream.		**Important** – The feature type is a wetland	**Contributing** – No direct fish habitat present. This feature provides allochthonous material transport to downstream habitat	**Valued** – The wetland provides general amphibian habitat. No breeding amphibians were recorded during Amphibian Call Count surveys.	**Conservation**	**Mitigation*** (see footnotes)
H1S1-2 (WT3(7)1-1)	FT – 7 (swale) FC – 2 (Round 1; 2021) FC– 2 (Round 2; 2022) FC – 1 (Round 2; 2024) FC– 1 (Round 3; 2022) **Contributing** – Reach was holding standing water during spring assessments and was dry by early summer. Wetland habitat upstream.		**Limited** – Cropped Cropped (agricultural) vegetation is located on either side of the reach.	**Contributing** – No direct fish habitat present. This feature provides allochthonous material transport to downstream habitat	**Limited** – As per Table 7 of the HDFA Guidelines, swales provide limited terrestrial function.	**Conservation** (based on presence of upstream wetland)	**Mitigation*** (see footnotes)
H1S1-3 (WT3(7)1-1)	FT – 6 (wetland) FC – 2 (Round 1; 2021) FC– 2 (Round 2; 2022) FC – 1 (Round 2; 2024) FC– 1 (Round 3; 2022) **Limited** – Reach was holding standing water during spring assessments and was dry by early summer.		**Important** – The feature type is a wetland	**Contributing** – No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Valued** – The wetland provides general amphibian habitat. No breeding amphibians were recorded during Amphibian Call Count surveys.	**Conservation**	**Mitigation*** (see footnotes)

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
H1S3 (Non-participating ownership)	FT – 7 (Swale; observed at the downstream extent from property line at H1S1-3 and at upstream extent at Healy Road). It is acknowledged the feature is more defined during the spring freshet due to erosion of the barren farm field. **Limited** – (Assumed) Immediate downstream reach was classified as Limited.		**Limited** – Riparian area consists of disturbed land and agricultural crops.	**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**	**Mitigation**
H2S1	FT – 6 (wetland) FC – 4 (Round 1; 2021) FC – 2 (Round 1; 2024) FC – 2 (Round 2; 2022 and 2024) FC – 1 (Round 3; 2022 and 2024) **Valued** – Reach was flowing or holding standing water during spring assessments and was dry by summer. Feature displays intermittent flow.		**Important** – The feature type is a wetland	**Contributing**– No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Important** – The wetland provides breeding amphibian habitat. Calling amphibians were recorded during Amphibian Call Count Surveys.	**Protection**	Not applicable as HDF is located outside the Secondary Plan Area.
H4S1 (WHT2(1)2-1)	FT – 7 (swale) FC – 4 (Round 1; 2021) FC – 2 (Round 1; 2024) FC– 1 (Round 2; 2022) FC – 2 (Round 2; 2024) FC – 1 (Round 3; 2024) **Valued/Contributing** – Reach was flowing or holding standing water during spring assessments and was dry by summer		**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.	**Mitigation**	**Mitigation**

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
H4S2 (WHT2(1)2-1)	FT – 7 (swale) FC – 4 (Round 1; 2021) FC – 2 (Round 1; 2024) FC– 1 (Round 2; 2022) FC – 2 (Round 2; 2024) FC – 1 (Round 3; 2024) **Valued/Contributing** Reach was flowing or holding standing water during spring assessments and was dry by summer.		**Valued** – Meadow Meadow vegetation is located on either side of the reach surrounded by active agricultural fields.	**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**	**Mitigation**
H4S3 (WHT2(1)2-1)	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 Required**	**No Management Required**
H5S4-2 (WHT2-4)	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		**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	**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**	**Mitigation**

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
	summer. This feature displays intermittent flow.		(*Crataegus spp*.), *Malus spp*. and Manitoba Maple (*Acer negundo*) with Reed-canary grass (*Phalaris arundinacea)* and Perennial Rye (*Lolium perenne*)				
H3S1A	FT – 7 (swale) FC – 4 (Round 1; 2021) FC – 2 (Round 1; 2024); FC– 2/3 (Round 2; 2022) FC- 2 (Round 2; 2024) FC– 1 (Round 3; 2022 and 2024) **Valued** – (Non-participating property) Reach was flowing or had standing water identified at the upstream and downstream extents during spring assessments and was dry by summer. This feature displays intermittent flow.	Tile drain upstream. Hydrology may be modified by adjacent and upstream agricultural activities.	**Valued** – Meadow (Fallow) Meadow 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.	**Mitigation**	**Mitigation**
H3S1	FT – 7 (swale) FC – 4 (Round 1; 2021) FC – 2 (Round 1; 2024) FC– 3 (Round 2; 2022) FC – 2 (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.	Tile drain outlets to this feature. Hydrology may be modified by adjacent and upstream agricultural Activities.	**Valued**- Meadow Meadow 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.	**Mitigation**	**Mitigation**

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
H5S4A (WHT2-5)	FT – 7 (swale) FC – 4 (Round 1; 2021 and 2024) FC– 2 (Round 2; 2022 and 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.	**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**	**Mitigation**
H5S4B	FT – 7 (swale) FC – 4 (Round 1; 2021) FC– Unknown (Round 2; 2022) FC- 1 (Round 3; 2022) **Valued** – (Non-participating property) Downstream end of reach was flowing during early spring assessment and was dry by summer. This feature displays intermittent flow.		**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.	**Mitigation**	**Mitigation**
H7S1	FT-6 (wetland) FC-2 (Round 1; 2022) FC – 1 (Round 1; 2024) FC-1 (Round 2; 2022) **Contributing** – Feature was not present due to agricultural management during 2021 early spring assessments; however, this feature was present during 2022 assessments. Feature had standing water during early spring assessment but was dry by late spring. Feature was dry upon spring assessment in 2024. This feature displays ephemeral flow.		**Important** – Feature type is a wetland	**Contributing**– No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Valued –** The wetland provides general amphibian habitat. No breeding amphibians were recorded during Amphibian Call Count surveys.	**Conservation**	**Mitigation*** (see footnotes)

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
H8S1 (WHT2(1)1-1b)	FT-7 (swale) FC – 1 (Round 1; 2021) FC-2 (Round 1; 2024) FC-2 (Round 2; 2024) FC- 1 (Round 3; 2024) **Limited** – Reach was holding standing water during early and late spring assessments and was dry by summer. 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 Required**	**No Management Required**
H9S1	FT-7 (swale) FC-2 (Round 1; 2024) FC-2 (Round 2; 2024 FC- 1 (Round 3; 2024) **Limited** – Reach was holding standing water during early and late spring assessments and was dry by summer. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.		**Contributing-** Lawn Lawn vegetation is present on both sides 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 Required**	**No Management Required**
H9S2	FT-5 (buried pipe) FC-2 (Round 1; 2024) FC-2 (Round 2; 2024 FC- 1 (Round 3; 2024) **Limited** – Immediate upstream and downstream reach was holding standing water during early and late spring assessments and was		**Limited-** No riparian corridor is present due to the feature being buried.	**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, buried drainages provide limited terrestrial function.	**No Management Required**	**No Management Required**

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
	dry by summer. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.						
H9S3	FT-7 (swale) FC-2 (Round 1; 2024) FC-2 (Round 2; 2024 FC- 1 (Round 3; 2024) **Limited** – Reach was holding standing water during early and late spring assessments and was dry by summer. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.		**Contributing-** Lawn Lawn vegetation is present on both sides 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 Required**	**No Management Required**
H10S1	FT-7 (swale) FC-2 (Round 1; 2024) FC-2 (Round 2; 2024) FC- 1 (Round 3; 2024) **Limited** – Reach was holding standing water during early and late spring assessments and was dry by summer. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.		**Valued-** Meadow Meadow vegetation is present on both sides 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 Required**	**No Management Required**
H11S1 (Non-participating property)	FT-7 (swale; reach was observed from the participating property boundary) FC-2 (Round 1; 2024) FC-2 (Round 2; 2024) FC- 1 (Round 3; 2024)		**Limited –** Cropped Cropped (agricultural) vegetation is located on left (north) side of the reach. A farm	**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 Required**	**No Management Required**

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
	Limited – (Non-participating property) Reach was holding standing water during early and late spring assessments and was dry by summer. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.		road is present on the right (south) side of the reach.				
H13S1	FT-7 (swale) FC-2 (Round 1; 2024) FC-2 (Round 2; 2024) FC- 1 (Round 3; 2024) **Limited** – Reach was holding standing water during early and late spring assessments and was dry by summer. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.		**Valued-** Meadow Meadow vegetation is present on the right side of the reach. A farm roadway is present on the left 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 Required**	**No Management Required**
H13S1A	FT-7 (swale) FC-2 (Round 1; 2024) FC-2 (Round 2 2024) FC- 1 (Round 3; 2024) **Limited** – Reach was holding standing water during early and late spring assessments and was dry by summer. No recharge function - the soil conditions are fine textured with low hydraulic conductivity, generally favouring runoff over recharge.		**Contributing-** Lawn Lawn vegetation is present on both sides 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 Required**	**No Management Required**

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
H12S1 (WHT2-1a)	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 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 Required**	**No Management Required**
H12S2 (WHT2-1a)	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 hydraulic conductivity, generally favouring runoff over recharge.		**Limited –** Cropped Cropped (agricultural) vegetation is located on either side of the reach. It is acknowledged that the upstream extent crosses a hedgerow.	**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 Required**	**No Management Required**
H12A1 (WHT2-1b)	FT-7 (swale) 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.		**Limited –** Cropped Cropped (agricultural) vegetation is located on either side of the reach.	**Valued** – This feature provides seasonal fish habitat. One Brook Stickleback was incidentally observed within the feature during April 2024 HDFA surveys.	**Limited –** As per Table 7 of the HDFA Guidelines, swales provide limited terrestrial function.	**Protection** (Based on presence of upstream wetland)	**Mitigation*** (see footnotes)

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
H12A1-1 (WHT2-b)	FT: 6 (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 a wetland	**Contributing**– No direct fish habitat is present. This feature provides allochthonous material transport to downstream habitat	**Important –** The wetland provides breeding amphibian habitat. Calling amphibians were recorded during Amphibian Call Count Surveys.	**Protection**	**Protection**
H14S1 (WHT2(1)1-1c)	FT-7 (swale) FC – 1 (Round 1; 2022) FC-1 (Round 1; 2024) **Limited**- Reach was observed to be dry during early spring assessments. 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 Required**	**No Management Required**
H15S1 (WHT2-2)	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 Required**	**No Management Required**
H15S2 (WHT2-2a)	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		**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 Required**	**No Management Required**

Table 2.13: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION PER HDFA GUIDELINES	INTERPRETED MANAGEMENT RECOMMENDATION – WILDFIELD VILLAGE CONSULTANT TEAM
	FUNCTION	MODIFIERS					
	low hydraulic conductivity, generally favouring runoff over recharge.						

LEGEND:

FT	Feature Types (1-defined natural channel, 2-channelized, 3-multi-thread, 4-no defined feature, 5-tiled drainage, 6-wetland, 7-swale, 8-roadside ditch, 9-online pond outlet)
FC	Flow Conditions (1-no surface water, 2-standing water, 3-interstitial flow, 4-surface flow minimal, 5-surface flow substantial)

Note: Codes correspond with Ontario Stream Assessment Protocol (OSAP) guidelines.

*The management recommendation per HDF Guidelines differs from the interpreted management recommendation from the Wildfield Village consultant team based on the following:

1. **H1S1 –** Expected ability to mitigate HDF wetland functions by: a) continuing to convey flows to the appropriate downstream habitat via pipe that outlets to the created compensation wetland which in turn outlets to the culvert under Centreville Creek Road; b) creating compensation wetland (Compensation Area 1) to help mitigate hydrology (slower release from the wetland) and support indirect fish habitat functions (provision of insects, organic materials, as well as coarse sediment through alluvium deposits in the wetland outlet reach).
2. **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.
3. **H7S1 –** Expected ability to mitigate HDF wetland functions by: a) continuing to direct flows to the appropriate downstream habitat; b) creating compensation wetland (Compensation Area 1) to help mitigate hydrology (slower release from the wetland) and support indirect fish habitat functions (provision of insects, organic materials, as well as coarse sediment through alluvium deposits in the wetland outlet reach).

Appendix C

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 1

Appendix D

Significant Wildlife Habitat Screening for Ecoregion 6E

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
Seasonal Concentration Areas of Animal					
Waterfowl Stopover and Staging Areas (Terrestrial)	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)	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 adequate 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.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
		•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 storm water management ponds.			•Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. •The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. •Annual Use of Habitat is documented from information sources or field studies • Specific evaluation methods required
Raptor Wintering Area	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 > 20 ha. •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	Adequate habitat features not present on site.	•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	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 habitat features on site.	•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.). • Specific survey methods required

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
Bat Maternity Colonies	All Ecosites in: FOD,FOM,SWD,SWM.	Maternity colonies can be found in tree cavities, vegetation and often in building. *Buildings 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.	No	No habitat features on site.	•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	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. *Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.	No	No habitat features on site.	•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. • Search for congregations in Basking Areas in spring and fall.
Reptile Hibernaculum	Any ecosite other than 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.	No	No snake species identified during snake visual encounter surveys and no suitable hibernacula locations were	•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;

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
		• 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		identified during surveys.	-individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct). • If there are Special Concern Species present, then site is SWH. •The feature in which the hibernacula is located plus a 30 m radius area is the SWH. • Hibernacula are used annually, often by the same individuals (strong site fidelity) and other life processes often take place near by
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	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 liscenced 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)	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

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
					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)	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6; MAS1 – 3; CUM,CUT,CUS	Nesting colonies 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. •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	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	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.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
		the shortest distance to cross the Great Lakes.			
Landbird Migratory Stopover Areas	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 shore line, those <2km 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.	No	No habitat features on site; coniferous forest onsite too small to qualify.	•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
Deer Yarding Areas	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	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).

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
		and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. • 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			• Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. •
Deer Winter Congregation Areas	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 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.	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	Description			
		*Woodlots with high densities of deer due to artificial feeding are not significant.			
Rare Vegetation Communities					
Cliffs and Talus Slopes	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	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. • Vegetation can vary from patchy and barren to tree covered, but less than 60%.	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.
Alvar	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2, Five Alvar Indicator Species: 1) Carex crawei	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.	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.).

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
	2) Panicum philadelphicum 3) Eleocharis compressa 4) Scutellaria parvula 5) Trichostema brachiatum	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.			•The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses.
Old Growth Forest	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	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.	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.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
		*Remnant sites such as railway right of ways are not considered to be SWH.			•Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic species).
Tallgrass Prairie	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.)
Other Rare Vegetation Communities	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	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.	No	No habitat features on site.	•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

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
		• Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests.			•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.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	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

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
Woodland Raptor Nesting Habitat	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 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.	No	Coniferous forest onsite not large enough to qualify as potential habitat.	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 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	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 turtle nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. *Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.	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.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
		• Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.			• 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. •Observational studies observing the turtles nesting is a recommended method.
Seeps and Springs	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)	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	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.	No	No habitat features on site.	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 fo observational and call count surveys required during the spring (March-June) .

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
	due to reduced risk to migrating amphibians.				•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.
Amphibian Breeding Habitat (Wetlands)	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.	No	No habitat features on site.	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 Breeding Habitat	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. •Interior forest habitat is at least 200 m from forest edge habitat.	No	No habitat features on site; coniferous forest onsite too small to qualify.	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. • Conduct field investigations in spring and early summer. • Specific evaluation methods required

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)					
Marsh Bird Breeding Habitat	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	Potential habitat present in the small (approx. 0.1ha) MAS2 community, however none of the required breeding bird species were observed with breeding evidence.	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
Open Country Bird Breeding Habitat	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.

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
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 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.	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. •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	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.	No	Small (approx. 0.1ha) MAS2 community present in Study Area, providing potential habitat, but no crayfish were observed during field studies.	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	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	N/A	See SAR Screening 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	Description			
	Provincially Rare plant and animal species.				•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	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.	No	No habitat features on site.	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	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	No	No habitat features on site.	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas .

Wildlife Habitat	Candidate SWH Habitat Criteria		Potential on Site	Rationale	Confirmed Defining Criteria= Studies to confirm...
	ELC Ecosite Codes	Description			
		the deer use during fall migration and spring dispersion •Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).			• Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • 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					
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	Site not located 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 •Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and	No	Site not located within EcoDistrict 6E-17	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	Description			
		>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			

Appendix E

Proposed Site Plan

Wildfield Village
Town of Caledon

Draft Plan of Subdivision
Cavallino Estates Inc.

CAVALLINO (#9)

LEGEND

- **Subject Lands Boundary**
- On-Street Townhouses
- Double-Frontage Townhouses
- Medium Density Blocks

ROADS

- Urban Collector (26.0m ROW)
- Local Road (18.0m ROW)

CENTREVILLE CREEK ROAD

26

26

26

MED. DENSITY BLOCK 0.85 ha

MED. DENSITY BLOCK 0.85 ha

MED. DENSITY BLOCK 0.90 ha

DFTH

DFTH

OSTH

OSTH

OSTH

30.0

27.5

CAVALLINO ESTATES INC.
10.2ha / 25.2ac

0 25 50 100 200 m

SCALE = 1 : 1200

BOUSFIELDS inc.
16sk 24107 January, 2025