



# Environmental Impact Statement

Trails Edge East Development:  
Phase 4  
Part Lots 1 & 2, Concession 3  
City of Ottawa

Richcraft Group of Companies





## Executive Summary

GHD Limited (GHD) was retained by Richcraft Group of Companies to complete an Environmental Impact Statement report for the phase 4 portion of the proposed Trails Edge East development. The proposed development is located south of the hydro corridor. The property is bounded by Mer Bleue Road to the east.

Niblett Environmental (now GHD Limited) had completed an EIS for the Trail's Edge development for Richcraft and Minto, which included biological inventories on these lands in 2002. The development proposed at the time and since constructed is the Trails Edge West development.

A Natural Environment Existing Conditions Report was prepared by GHD for the East Urban Community (EUC) lands that fall within an area requiring a Community Design Plan (CDP) prior to development. Natural environmental surveys and background research were conducted by GHD Limited over multiple site assessments to inventory vegetation, birds, mammals, amphibians, fish and their habitat in 2012 and 2013. Additional surveys were conducted in 2020 on vegetation, wetlands, birds and Species at Risk.

The study area was generally flat with mostly former agricultural fields that have regenerated in early successional species. The site is dominated by piles of clay soils. A majority of the site was used for stockpiling soils and therefore had minimal vegetation on it except pioneer plants. This includes herbaceous species and some patches of regenerating poplar and green ash. An abandoned barn structure was identified on the eastern study limits with two ditches running north-south, just west of it. The northern triangle, north of Brian Coburn Boulevard contained meadow marsh with some upland pockets of woodland and cultural field meadow.

Surveys in August 2020 identified 6 nests within the barn on the subject property, 2 active and 4 inactive. The barns have been abandoned and doors left open, allowing for access to these structures. The presence of these nests deems the western barn as nesting habitat. As barn swallows are protected as a threatened species under the Endangered Species Act, if the removal of the barn is to occur a permit from MECP will be required.

GHD Limited has prepared this Environmental Impact Study to address potential environmental issues associated with an application to develop Trails Edge East Phase 4 subdivision. The proposed development will not result in negative impacts on the identified natural heritage features or their functions, provided the measures described in Sections 5 and 7.

GHD's recommendations have been made to address potential impacts to natural heritage features and/or their functions during site preparation, construction and post-construction periods. Additional dialogue with the MECP is required to ensure Endangered Species Act permits are obtained for barn swallows. As well, discussions are required with the conservation authority regarding the wetlands.



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# 1. Introduction

## 1.1 Background

GHD Limited (GHD) was retained by Richcraft Group of Companies to complete an Environmental Impact Statement report for the phase 4 portion of the proposed Trails Edge East development. The proposed development is located south of the hydro corridor. The property is bounded by Mer Bleue Road to the east.

GHD had completed an EIS for the Trail's Edge development for Richcraft and Minto, which included biological inventories on these lands in 2002. The development proposed at the time and since constructed is the Trails Edge West development.

A Natural Environment Existing Conditions Report was prepared by GHD for the East Urban Community (EUC) lands that fall within an area requiring a Community Design Plan (CDP) prior to development. Natural environmental surveys and background research were conducted by GHD Limited over multiple site assessments to inventory vegetation, birds, mammals, amphibians, fish and their habitat in 2012 and 2013.

An Environmental Impact Statement was also completed for the Trails Edge East property as it contained a natural feature (watercourse) as identified in Schedule L1 in the City of Ottawa Official Plan (2003). Natural environmental surveys over multiple site assessments, background research including a review of GHD's existing report as mentioned above were reviewed.

A block of land to the north of the Trails Edge East property, between the hydro corridor and the Trails edge east study area was defined as phase 4. These areas had not been included within the study area for the Trails edge east project therefore an additional field visit was conducted, while also reviewing previous documents for the area.

## 1.2 Location and Study Area

The subject lands encompass approximately 26 ha. The study area includes the subject lands (as defined above) as well and all natural features within 120 meters. This includes any woodlots, wetlands and/or watercourses found in the adjacent lands.

The study area consisted of a large disturbed area where fill was being placed within some old agricultural fields (field meadow). The natural features were restricted to small parts of the property and adjacent lands.

Extensive works have and are occurring in the area including construction of Brian Coburn Boulevard, widening of Mer Bleue Road, subdivision development to the east of Mer Bleue Road and construction of Trails' Edge West development final phases and a new school on Renaud Road.

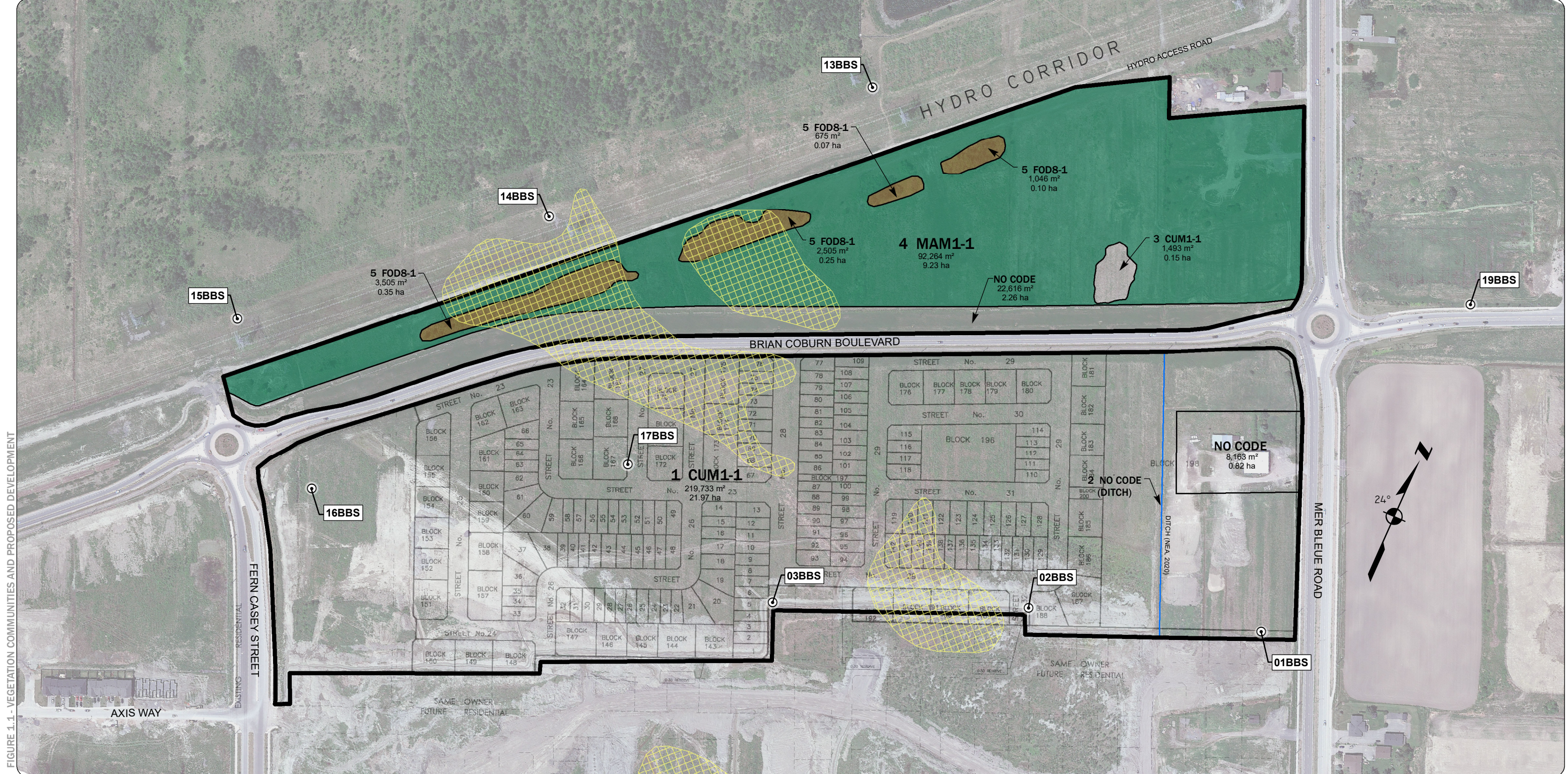


FIGURE 1.1 - VEGETATION COMMUNITIES AND PROPOSED DEVELOPMENT

LEGEND

- Breeding Bird Survey Station (BBS)
- ▶ Stations 1 - 3 (PN 16-057)
- ▶ Stations 13 - 17 & 19 (PN 13-093)
- Wetland, Not Evaluated per OWES (MNR, 2020)
- ELC / Vegetation Surveys
- Vegetation Community
- Forested Community
- Wetland Community
- Ditch (NEA, 2020)
- Study Area
- 1 CUM1-1
- 1,045 m² 0.45 ha
- > Vegetation Community Leader
- 01BBS

CITATIONS

- ▶ Composite imagery courtesy of Google (2020).
- ▶ Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray, 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch, SCS Field Guide FG-02.

ELC TYPES - 1ST APPROXIMATION

ELC CODE	ECOSITE/VEG TYPE DESCRIPTION
CUM1-1	Dry-moist old field meadow
FOD8-1	Fresh-moist poplar deciduous forest
MAM1-1	Reed-canary grass bedrock meadow marsh



REVISION & WORK HISTORY

REV.	BY	DATE	DESCRIPTION	REQUEST
rev-0	W.P.	2020-08-24	Initial map creation.	K.R.
rev-1	W.P.	2020-08-27	CAD development plan.	K.R.

CONTACT: Will Pridham, IGIS Specialist	PROJECT NO: PN CA-PET-11217236	ORIGINAL DATE: 2020-08-24	MTM ZONE <b>09</b>
PHONE: 1.705.878.9399 x207	PROJECT: Trail's Edge East - Phase 4	RECENT DATE: 2020-08-27	
EMAIL: will.pridham@ghd.com	CLIENT: Richcraft Homes	REVISION: rev-1	

FIGURE 1.1 - VEGETATION COMMUNITIES AND PROPOSED DEVELOPMENT

Pt Lots 1, 2 & 3, Con 3 on Ottawa River  
City of Ottawa  
Rideau Valley Conservation Authority (RVCA)

SCALE  
**1 cm : 34 meters**  
1 inch : 283 feet



## 1.3 Study Rationale

This section identifies federal, provincial and other regulatory legislation, policies, official plans (OP) and OP amendments that are applicable and relevant to the study area and the immediate vicinity. This includes policies that triggered the study. These documents may identify natural features, Species at Risk and other habitat as well as other features relevant to this study.

### 1.3.1 Federal Legislation

#### *Migratory Birds Convention Act*

The purpose of the Migratory Birds Convention Act (MBCA 1994) is to implement the Convention by protecting and conserving migratory birds, as populations and individual birds, and their nests.

No work is permitted to proceed that would result in the destruction of active nests (i.e., nests with eggs or young birds), or the wounding or killing of bird species protected under the MBCA and/or Regulations under that Act.

### 1.3.2 Provincial Legislation

#### *Endangered Species Act, 2007*

The purposes of the Ontario Endangered Species Act (ESA 2007) area:

- To identify species at risk based on the best available scientific information, including information obtained from community knowledge and aboriginal traditional knowledge.
- To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk.
- To promote stewardship activities to assist in the protection and recovery of species that are at risk. 2007, c. 6, s.1. (Government of Ontario, 2019)

The ESA clearly defines the five classifications of species status as *extinct*, *extirpated*, *endangered*, *threatened*, or *special concern*, and provides guidelines on the process of species status determination.

Regulations made under this act include: Ontario Regulation 230/08 and 242/08.

Ontario Regulation 230/80 provides the list of Species at Risk (SAR) in Ontario, which is updated regularly. This list was most recently consolidated on August 1, 2018 (Government of Ontario, 2019b). Species status provided in the list is assessed by an independent body, the Committee on the Status of Species at Risk in Ontario (COSSARO), based on the best available science and Aboriginal Traditional Knowledge.

General habitat protection is afforded to all species listed as *endangered or threatened*. General habitat descriptions are technical, science-based documents that have been developed for some of the species that are most likely to be affected by human activity (Government of Ontario 2019c). Further information including a *Recovery Strategy* or *Management Plan* is required for each listed species, on a timeline dictated by the species status.



Ontario Regulation 242/80 explains possible exemptions of the ESA and details on how the purpose of the ESA is to be carried out.

### ***Planning Act and Provincial Policy Statement***

The Provincial Policy Statement, 2020 (PPS) is the statement of the Ontario government's policies on land use planning. It applies province wide (in the province of Ontario) and provides provincial policy direction on land use planning. Municipalities use the PPS to develop their official plans and to guide and inform decisions on other planning matters. The PPS is issued under section 3 of the Planning Act and all decisions affecting land use planning matters shall be consistent with the Provincial Policy Statement (Government of Ontario, 2014).

Portions of Sections 2.1.4.-2.1.8. of the Provincial Policy Statement (PPS 2014) apply to this project.

*2.1.4. Development and site alteration shall not be permitted in:*

- a) significant wetlands in Ecoregions 5E, 6E, and 7E, and*

*2.1.5. Development and site alterations shall not be permitted in:*

- a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E, and 7E;*
- d) significant wildlife habitat;*

*2.1.6. Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements*

*2.1.7. Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements*

*2.1.8. Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4., 2.1.5., and 2.1.6. unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.*

### **1.3.3 Local and Other Regulatory Bodies**

#### ***City of Ottawa Official Plan (2003) Requirements***

The property is adjacent to the Natural Heritage System, as identified in the City of Ottawa OP, Schedule L1.

Sections: 2.4.2, 4.7.3, 4.7.4, 4.7.8 of the City of Ottawa OP (City of Ottawa, 2003) apply.

*2.4.2 Natural Features and Functions*

- 1) The natural heritage system in Ottawa comprises the following significant features and the natural functions they perform:*
  - a) Provincially significant wetlands as identified by the Ministry of Natural Resources*
  - b) Significant habitat for endangered and threatened species, as approved by the Ministry of Natural Resources;*





- c) *Significant woodlands defined in the rural area as woodlands that combine all three features listed below in a contiguous, forested area:*
    - i. *Mature stands of trees 80 years of age or older; and*
    - ii. *Interior forest habitat located more than 100 m inside the edge of a forest patch; and*
    - iii. *Woodland adjacent to a surface water feature such as a river, stream, drain, pond or wetland, or any groundwater feature including springs, seepage areas, or areas of groundwater upwelling;*
  - d) *Wetlands found in association with significant woodlands;*
  - e) *Significant valleylands defined as valleylands with slopes greater than 15% and a length of more than 50 m, with water present for some period of the year, excluding man-made features such as pits and quarries;*
  - f) *Significant wildlife habitat found on escarpments with slopes exceeding 75% and heights greater than 3 m; or within significant woodlands, wetlands, and valleylands; or that may be identified through sub watershed studies or site investigation;*
  - g) *Life Science Areas of Natural and Scientific Interest as identified by the Ministry of Natural Resources;*
  - h) *Earth Science Areas of Natural and Scientific Interest as identified by the Ministry of Natural Resources designated on Schedule K;*
  - i) *Urban Natural Features, consisting of remnant woodlands, wetlands and ravines within the urban area;*
  - j) *Forest remnants and natural corridors such as floodplains that create linkages among the significant features defined above, but that may not meet the criteria for significance;*
  - k) *Groundwater features, defined as water-related features in the earth's subsurface, including recharge/discharge areas, water tables, aquifers and unsaturated zones that can be defined by surface and subsurface hydrogeologic investigations;*
  - l) *Surface water features, defined as water-related features on the earth's surface, including headwaters, rivers, stream channels, drains, inland lakes, seepage areas, recharge/discharge areas, springs, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics, including fish habitat.*
2. *The natural heritage system, as defined in policy 1, is protected by:*
- a) *Establishing watershed and subwater shed plans as the basis for land-use planning in Ottawa through policies in Section 2 of this Plan. These plans may use additional criteria to define significant features that reflect unique*



*characteristics of the area or the presence or relative abundance of the feature within the subwater shed compared with other subwater sheds;*

- b) Protecting the quality and quantity of groundwater through policies in Section 2;c. Designating most significant features as Significant Wetlands, Natural Environment Areas, and Rural Natural Features on schedules within the Plan and setting policies in Section 3 to ensure they are preserved;*
  - d) Ensuring that land is developed in a manner that is environmentally-sensitive through the development review process in keeping with policies in Section 4 regarding such matters as design with nature, erosion protection and protection of surface water, protection of significant habitat for endangered and threatened species and requirements for Environmental Impact Statements.*
- 3. Regardless of whether the features are designated in this Plan, an Environmental Impact Statement is required for development proposed within or adjacent to features described in Policy 1 above, with the exception of surface and groundwater features. Development and site alteration within or adjacent to these features will not be permitted unless it is demonstrated through an Environmental Impact Statement that there will be no negative impact on the feature or its ecological functions. The policies regarding Environmental Impact Statements and the definition of terms are contained in Section 4.7.8.*

Other guiding Policies of the OP which apply to this project included:

Section 4.7.3 of the OP contains policies on the identification of surface water features and aquatic habitat and development constraint/opportunity considerations relating to their presence.

Section 4.7.4 of the OP protects Endangered and Threatened species as listed under the Ontario Regulation 230/08 of the Endangered Species Act, 2007.

Section 4.7.8 of the OP outlines what should be included in an Environmental Impact Statement and in what cases one is required.

#### ***South Nation Conservation Authority Regulation 170/06***

Establishes regulated areas where development may be subject to flooding, erosion or dynamic beaches; or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features. Any proposed development, interference or alteration within a Regulated Area requires a permit, including altering a river, stream or watercourse or interfering with a wetland.



## 1.4 Other Resources Referenced

Prior to field surveys, background information for the study area and surrounding lands from a variety of sources were reviewed to provide context for the setting and sensitivity of the site. Background information sources include:

### 1.4.1 Data Sources

- Aerial imagery
- OMNRF Land Information Ontario (LIO) database mapping and Natural Heritage Information Centre (NHIC) Make a Map tool (2018)
- Ontario Breeding Bird Atlas data (Bird Studies Canada, 2007)
- Species at Risk in Ottawa (May 2014)
- MNRF/MECP natural heritage GIS database;

### 1.4.2 Literature and Resources

- Natural Heritage Reference Manual (MNRF, 2010)
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. 45pp. (OMNRF, 2015)
- Trails Edge subdivision EIS (NEA, 2009);
- East Urban Community Mixed Use Centre CDP Natural Environment Existing Conditions Report (NEA, 2014)
- Trails Edge East Subdivision EIS (NEA, 2016)
- UNAEES (Muncaster and Brunton, 2005)

## 1.5 Description of Development

The proposal is for a draft plan of subdivision including single-family dwellings and townhomes. The northern portion (north of Brian Coburn Boulevard) is proposed for mixed use (Figure 1.1).

## 1.6 Scope of Report

The Environmental Impact Statement documents the existing conditions of the terrestrial habitat, urban natural features, and wetlands. Significant natural features and linkages within the study area including Species at Risk and other Areas of Interest area identified. The potential impacts of existing and future land-use activities will also be outlined.

Specifically, the Environmental Impact Statement will:

- a) Identify the location and extent of sensitive or significant natural heritage features within the Study area
- b) Identify any lands to be preserved in their natural state;
- c) Identify mitigating measures to address the negative effects of development on the natural heritage features and their ecological functions;



- d) Determine the development limit setback from any natural heritage features
- e) Identify the potential for restoration and/or creation of wildlife habitat on the remaining lands outside the development parcel; and in buffers/setbacks
- f) Provide information on the natural features within the Study Area as suitable for input into the City of Ottawa's Natural Heritage Resource inventory.
- g) Discuss Impacts on natural features or functions as a result of the proposed development.



## 2. Study Methods

### 2.1 General Approach

Our approach to preparation of this Environmental Impact Statement consisted of three distinct phases. In the first phase we collected and reviewed available information on the site including recent air photography, SNCA and RVCA regulated area and wetland mapping, key natural features GIS mapping, City of Ottawa Official Plan schedules, City of Ottawa guidelines and other correspondence or files.

The second phase consisted of site visits by NEA biologists on August 14, 2020 to confirm the data collected in the literature review. Vegetation boundaries were delineated and detailed inventories of the flora and fauna completed. The boundaries of the vegetation communities were confirmed in the field. The inventory included vegetation community mapping and determination of significant features on site.

The third phase consisted of preparing an EIS report based upon the information gathered from the literature review and any field surveys completed. The report has been designed to in accordance with applicable legislation and policies (as outlined in Section 1.3). Specific mitigation measures for protecting natural features and sensitive species in the study area are included. The report also contains a figure that illustrates the location of vegetation communities and any recommended buffers or setbacks.

### 2.2 Site Study Methodology

#### 2.2.1 Physical Site Characteristics

Site characteristics were assessed during several visits to the study area. Documented characteristics included existing disturbances, current use of the site, age of vegetation cover, access lanes, trails, general topography and soils.

#### 2.2.2 Biophysical Inventory

##### 2.2.2.1 Vegetation

##### *ELC Survey Method*

All vegetation communities on and adjacent to the study lands were visited and species composition determined on August 14, 2020. Community type determination criterion followed that of MNRF's Ecological Land Classification for Southern Ontario (ELC) program (Lee et al., 1998) was done to the vegetation type level. The presence of rare species or significant communities was documented and locations mapped.

Photographs and/or specimens were taken of plants requiring verification of identification.

National, provincial and regional significance was determined from accepted status lists and published reference lists such as COSEWIC (2019), COSSARO (2018), ESA (2007), MNRF's Make-a-map (2020), Brunton (2005) and Cuddy (1991).



### **2.2.2.2 Birds**

#### ***Breeding Bird Survey BBS Survey***

Breeding Bird surveys were not conducted specifically in 2020 for the study area, however the surveys conducted in 2014 and 2016 for previous reports captured the study area for phase 4. Breeding bird surveys were conducted on June 19, 2014 and June 12 and July 9, 2016 in the general area of the subject property during the peak breeding season (Figure 1.1.) Surveys were timed to coincide with the dawn chorus and within acceptable weather parameters. The surveys were a combination of point counts and area searches and covered all portions of the property. Specific effort was made to identify habitat for Species at Risk and presence-absence.

#### ***Area Searches***

Incidental observations and area searches were also completed for the phase 4 area on August 14, 2020 to identify any late breeding birds or migrants using the property.

Significance on a national, provincial or regional level will be based on COSEWIC (2019), SARO (2018), ESA (2007), SARA (2016) and MNR (1993 and 2000 updates).

### **2.2.2.3 Other Wildlife**

Incidental observations of amphibians, turtles, turtle nests, snake hibernacula and snakes were also recorded. Reptile searches were active with brush piles, fencerows, stone piles, crevasses, woody debris, refuse, and wood stacked by the barns, checked for snakes and evidence of hibernacula. As there was no ponds, wetlands or other seasonally flooded areas on the property, Marsh Monitoring Surveys were not conducted.

Incidental observations of mammals were made during the site visit. Observations included direct sightings and indirect evidence such as calls, scat, browse, burrows, tracks, dens and nests. The occurrence of linkages and corridors within the area were assessed based on field work and existing literature.

Significance on a national, provincial or regional level was based on COSEWIC (2019), COSSARO (2018), SARA (2016) and MNRF (1993 and 2000).

#### ***Wetlands***

The wetland boundary was delineated in two phases. The first phase involved reviewing aerial photographs and available wetland mapping and the presence of wetland habitats on the adjacent property and confirmation the wetland boundary was done by applying the methodologies of the Ontario Wetland Evaluation System, third edition, version 3.2, southern Ontario manual (2013) and SNCA/RVCA definitions. The entire property was walked and the plant species, soils and soil moisture checked. The boundary of the wetland was delineated in the field using a high accuracy GPS unit.

#### ***Significant Wildlife Habitat***

The identification of Significant Wildlife Habitat is completed in several stages. As part of the background review, natural areas in the study area are examined along with aerial photography. A



candidate list of SWH criteria/feature is determined. During the field visits searches for evidence of those identified candidate features are conducted and the features assessed.

After the field inventories, GHD biologists analyze the information collected and determine which SWH features were confirmed based on the habitats on site and on the Ecological Land Classification communities present on the subject property, using the criteria for Significant Wildlife Habitat in Ecoregion 6E (2015).

#### **2.2.2.4 Species at Risk**

A complete background literature review from MNR-NHIC, and the City of Ottawa was conducted to ensure the project met the strict policies of these Acts.

- Reviewed and analysed list of federal and/or provincially significant species found within the study area;
- Conducted detailed targeted inventories within the appropriate season to determine presence or absence of species that may find suitable habitat within the development area. Current target species included the bobolink and eastern meadowlark.
- Stock piles and buildings were checked specifically for bank swallow and barn swallow nests (old or active)

#### ***Bobolink and Eastern Meadowlark***

Due to the timing of the site visit on August 14th, 2020 proper protocol for surveying bobolink and eastern meadowlark could not be conducted. Never-the-less GHD continued to search the open field meadows and suitable habitat for late breeders by conducting area searches in property habitat. Previous surveys in 2014 and 2016 of this area and fields/agricultural lands were targeted for grassland birds with transects and stations established.

Notes were also taken on evidence of eastern meadowlark, bobolink, grasshopper sparrow and other grassland birds identified.

#### ***Barn Swallows***

Abandoned structures in the study area were searched for previous or current nest of barn swallows, and evidence of active nesting. Barn swallows had been previously recorded in this area and in these structures.



### 3. Survey Results

The following section presents GHD site-specific survey data only. Supporting information, the background review or other sources will be presented and discussed in Section 4.0 – Discussions and Analysis.

#### 3.1 Physical Site Characteristics

##### 3.1.1 General Site Characteristics

The study area was generally flat with mostly former agricultural fields that have been graded and filled. The clay soils were regenerated in patches of early successional species. The site is dominated by piles/mounds of clay soils. A majority of the site was used for stockpiling soils and therefore had minimal vegetation on it except pioneer plants. This includes herbaceous species and some patches of regenerating poplar and green ash. An abandoned barn structure was identified on the eastern study limits with two ditches running north-south, just west of it. The northern triangle, north of Brian Coburn Boulevard contained meadow marsh with some upland pockets of woodland and cultural field meadow.

#### 3.2 Biological Inventories

##### 3.2.1 Vegetation Communities

###### 3.2.1.1 Level of Effort

The vegetation communities were delineated within the study by NEA biologists according to the methodologies outlined in Section 2. A summary of the level of effort and environmental conditions have been provided in Table 3.1.

**Table 3.1 Vegetation Surveys – Level of Effort**

Survey Date	Survey Type	Weather	Start Time	Effort (person hrs.)
August 12, 2020	Ecological Land Classification	20°C, Beaufort wind scale: 1, no precipitation	09:30	2.0

The study area contained five vegetation communities including an old field meadow, ditch, meadow marsh and poplar forest. The entire area had been scraped at one time and was regenerating, with a disturbed area which had fill placed within it. Two ditches ran through the site. All plants observed were recorded within this disturbed area. GHD identified 53 different plant species on site in 2020 (Appendix I-A).





### **Community 1 Old Field Meadow (ELC Code: CUM1-1)**

This community was identified on the southern half of the property abutting Mer Bleue Road to the east. The land had been scraped previously and fill had been placed here. The soils were quite dry and cracking in some places, with exposed soils found throughout the sparsely grown vegetation the area had regenerated into pioneer species. Species identified in this community included common early successional species including common barnyard grass (*Echinochloa crus-galli*), curled dock (*Rumex crispus*) common ragweed (*Ambrosia artemisiifolia*), spiny-leaved sow thistle (*Sonchus asper*), red clover (*Trifolium pratense*), crown vetch (*Securigera varia*) and cow vetch (*Vicia cracca*).



**Photo 1: Old Field Meadow facing west (August 14, 2020)**

### **Community 2 Ditch (No ELC Code Applicable)**

Two ditches run through the property on the south-eastern corner of the property. The ditches were dry in some areas with wetland vegetation and standing water in other areas. The ditches ran in a north-south direction and were likely constructed to convey water across the site. Reed canary grass (*Phalaris arundinacea*), blunt spike-rush (*Eleocharis obtusa*), Canada bluejoint grass (*Calamagrostis canadensis*), curled dock (*Rumex crispus*) and fowl meadow grass (*Poa palustris*) were some of the species identified here.



**Photo 2. Ditch (Photo date: August 14, 2020)**

***Community 3: Cultural Field Meadow (ELC Code: CUM1-1)***

Community 3 was identified north of Brian Coburn Boulevard and was comprised of a small area of upland. Species identified here included Canada goldenrod (*Solidago canadensis*), common milkweed (*Asclepias syriaca*), common strawberry (*Fragaria virginiana*), common yarrow (*Achillea millefolium*) and early goldenrod (*Solidago juncea*).



**Photo 3. Cultural field meadow (Photo Date: August 14, 2020)**

**Community 4 Reed Canary Grass Mineral Meadow Marsh (ELC Code: MAM1-1)**

This marsh community was identified in the northern half of the property and within the triangular shaped piece of land just north of the newly construction Brian Coborn Boulevard. This pioneer marsh was evident during our 2020 field visit, however was never documented within prior field visits completing various other studies for this area. Potentially a new disturbance to this area or removal of topsoil in the recent past provided an opportunity for hydrophyllic plants creating more of a wetland habitat. This area was dominated by reed canary grass with other species documented such as Bebb's willow (*Salix bebbiana*), boneset (*Eupatorium perfoliatum*), grass-leaved goldenrod, narrow-leaved meadowsweet (*Spiraea alba*) and purple loosestrife (*Lythrum salicaria*).



**Photo 4. Reed Canary grass Marsh (Photo Date: August 14, 2020)**

***Community 5 Moist Poplar Deciduous Forest (ELC Code: FOD8-1)***

A linear feature this community extended along the south side of the hydro corridor with the dominant species documented as trembling aspen with some green ash. A detailed vegetation list was not generated for this area, however it resembled communities to the north of the hydro cut from our previously inventoried lands.

***Community 6 disturbed area-regeneration***

Part of community 1 included some low areas between the fill piles, where water was accumulating. This also drained towards Brian Coburn Road but no culvert was present. The community was bare soil. The plant species included species typical of ponded areas including black bulrush, purple loosestrife, path rush, and floating leaved pondweed.



### 3.3 Birds and Other Wildlife

#### 3.3.1.1 Level of Effort

Surveys for breeding birds were conducted in the study area by NEA biologists according to the methodologies outlined in Section 2.2.2.2. A summary of the level of effort and environmental conditions have been provided in Table 3.2.

**Table 3.2 Significant Wildlife Habitat Surveys – Level of Effort**

Survey Date	Survey Type	Weather	Start Time	Effort (person hrs.)
June 19, 2014	Breeding Bird Survey	N/A	N/A	N/A
June 12, 2016	Breeding Bird Survey	N/A	N/A	N/A
July 7, 2016	Breeding Bird Survey	Beaufort wind scale: 1, no precipitation	06:04	N/A
August 12, 2020	Incidental/Area searches for Birds and other wildlife	20°C, Beaufort wind scale: 1, no precipitation	09:30	2.0

Compiling the breeding bird data from 2014, 2016 and incidental observations conducted in 2010 GHD identified a total of 42 breeding bird species using the subject property (Appendix II) Species identified included a good variety of species including turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), Wilson’s snipe (*Galinago delicata*), ring-billed gull (*Larus delawarensis*), rock pigeon (*Columbia livia*), mourning dove (*Zenaida macroura*), alder flycatcher (*Empidonax alnorum*), willow flycatcher (*Empidonax trailli*), eastern kingbird (*Tyrannus tyrannus*), warbling vireo (*Vireo gilvus*), blue jay (*Cyanocitta cristata*) and America Crow (*Corvus brachyrhynchos*).

Raccoon (*Procyon lotor*) and northern leopard frog (*Lithobates pipiens*) were the only other species documented within the study area.

#### 3.3.1.2 Unevaluated Wetland

One wetland community was identified in the study area. This wetland was described as Community 4 in the previous section (Figure 1.1).

#### 3.3.1.3 Significant Wildlife Habitat

No Significant Wildlife Habitat was identified within the study area based on OMNRF’s Significant Wildlife Habitat criteria for Ecoregion 6E (2015).



## 4. Discussion and Analysis

### 4.1 Species and Communities

#### 4.1.1 Vegetation

A review of the NHIC database found eight (8) records of nationally or provincially significant vegetation species within the 1km by 1km squares containing the study lands, these included cattail sedge (*Carex typhina*), Greene's rush (*Juncus greenei*), large purple fringed-orchid (*Platanthera grandiflora*), lurking leskea (*Plagiothecium latebricola*), northern long sedge (*Carex folliculata*), southern twayblade (*Listera australis*), twin-stemmed bladderwort (*Utricularia geminiscapa*) and woodland pinedrops (*Pterospora andromedea*).

The cattail sedge is listed as an S2 species and was last observed in 1953. This species inhabits shade and acidic soils in moist conditions, growing in wet woods, along flooding streams and in marshes. There is no suitable habitat for this species on the property. As this record is from over 60 years ago it is unlikely it still inhabits the subject property.

Greene's rush is designated as an S3 species and was last observed in 1970. This species lives in disturbed habitats such as cliffs, ledges, grasslands, meadows and fields. The subject lands contain old field meadow which would provide suitable habitat for this species. It is however unlikely this species would inhabit this area as the record was from over 40 years ago and the lands were previously agricultural fields.

The large purple-fringed orchid is considered an S1 species and was last observed in 1984. This species inhabits wet meadows, riparian areas and moist road-side banks. There is potential habitat for this species within the ditch however the ditch was likely constructed more recently than 1984 and it is unlikely the species would thrive in this area especially since the last record was from 1984. This record is likely from the Mer Bleue Swamp PSW.

Lurking leskea (moss) is designated as an S2 species and was last observed in 1969. This species inhabits Northern hardwood lowland swamps and marshy habitats with rotten logs, stumps, and humus. No swamps exist within the study area; this record was likely from the Mer Bleue PSW.

Northern long sedge is designated as an S3 species and was last observed in 1953. This species inhabits marshes, shores of rivers or lakes and swamps. There is no suitable habitat for this species on the subject property, this record was likely from the Mer Bleue PSW.

Southern twayblade is designated as an S1 species and was last observed in 1902. This species grows in bogs, found on mossy hummocks. There are no bogs within the study area therefore no suitable habitat was identified for this species.

Twin-stemmed bladderwort is designated as an S3 species and was last observed in 1978. No background information on this species was found. It is unlikely this species would occur in this area based on the last time it was observed.

Woodland pinedrops is designated as an S2 species and was last observed in 1982. This species inhabits conifer forest or mixed conifer-hardwood forest. No forests were identified within the boundaries of the study area.



A review of the plant list generated by NEA surveys of the study area (Appendix I-A) found that six were considered regionally rare according to Muncaster and Brunton, (2005) and D.G. Cuddy (1991). And no nationally or provincially significant species found during GHD surveys (COSEWIC, 2019; COSSARO, 2018). The regionally rare species identified on site included common yarrow (*Achillea millefolium*), common mugwort (*Artemisia vulgaris*), European beggar-ticks (*Bidens connata*), german chamomile (*Matricaria recutita*), coltsfoot (*Tussilago farfara*) and softstem bulrush (*Scirpus Validus*). All plants were identified within community 1, with the exception of common yarrow which was identified within Community 3. All species listed above are considered common in this area since these rare species lists were generated in 2005 and 1991. GHD does not recommend the retention of any of these species.

#### **4.1.2 Birds**

A review of the list of breeding bird species recorded for the study area during our, 2014, 2016 and 2020 surveys found that three species, were considered significant at a nationally or provincially significant level: the barn swallow, the bank swallow and the bobolink (Appendix II). These species will be discussed in a later paragraphs as they were identified within the Ontario Breeding Bird Atlas squares as well.

No regionally rare species were observed, however one area sensitive species (AS) was recorded during field surveys, veery (*Catharus fuscescens*). Area sensitive species are included as part of the Species of Conservation Concern criteria within the Significant Wildlife Habitat designation.

The study area is within a 10 x 10 km Ontario Breeding Bird Atlas squares (18VR63). The database includes a summary of results from the 1st atlas (1981-1985) and the current or second atlas (2001-2005). A list of significant species was generated for these squares. There were fourteen (14) species listed, specifically: black tern (*Chlidonias niger*), common nighthawk (*Chordeiles minor*), whip-poor-will (*Antrostomus vociferous*), loggerhead shrike (*Lanius ludovicianus*), barn swallow (*Hirundo rustica*), bank swallow (*Riparia riparia*), bobolink (*Dolichonyx oryzivorus*), eastern meadowlark (*Sturnella magna*), eastern wood-pewee (*Contopus virens*), wood thrush (*Hylocichla mustelina*), grasshopper sparrow (*Ammodramus savannarum*), chimney swift (*Chaetura pelagica*), short-eared owl (*Asio flammeus*) and Canada warbler (*Cardellina canadensis*).

The black tern is listed as a special concern provincially but not at risk nationally (COSSARO, 2016). This species nests in shallow marshes, especially cattails. This record is likely from the Mer Beue PSW south of the property and outside of the study area.

The common nighthawk is listed by COSEWIC as a threatened species (2016) and provincially is a special concern (COSSARO, 2019). The common nighthawk is typically found in open areas such as sand dunes, recently logged or burned over areas, pastures, open forest, gravel roads, rocky outcrops and rocky barrens, and even military base and airports). This species was not observed during NEA surveys. There is no nesting habitat for this species on the property.

The eastern whip-poor-will is listed as a threatened species nationally and provincially (COSEWIC, 2019; COSSARO, 2018). The whip-poor-will can be found in areas with a mix of open and forested areas within open woodlands or openings in more mature, deciduous, coniferous and mixed forests. It forages in these open areas and uses forested areas for roosting (resting and sleeping) and



nesting. The property contains no forested habitat and therefore contains no suitable habitat for the whip-poor-will.

The loggerhead shrike is listed as an endangered species both provincially and nationally (COSSARO, 2019; COSEWIC, 2018). This species prefers a mixture of grasslands and pastures with low trees and shrubs. The study area contains some grasslands however low trees and shrubs area not found throughout. The property would not support the foraging or breeding habitat for the loggerhead shrike. The shrike range is currently restricted to central Ontario with a few historical records near Smith Falls.

The barn swallow is listed as a threatened species provincially and federally (COSSARO, 2019; COSEWIC, 2018). This species prefers open rural and urban areas where bridges, culverts and buildings are found near rivers, lakes, marshes or ponds. This species was identified foraging over the property and six nests identified within the barn structure (2 active, 4 inactive) during the August 2020 field surveys. This confirms nesting of this species on site.

The bobolink is listed as a provincially and federally threatened species (COSSARO, 2019; COSEWIC, 2018). Bobolink were heard in the field in May 2016 as well in August 2020. Two birds were calling in 2016, with four immature birds identified in August 2020 field visits. Due to the presence over both years GHD could assume these birds are using a portion of community 1, west of the barn for nesting.

The eastern meadowlark is listed as a provincially and federally threatened species (COSSARO, 2019; COSEWIC, 2018). This species prefers grassy meadows and pastures; also in some croplands, weedy fields, grassy roadsides and old orchards. The study area contains some old field meadows. There is potential habitat within these fields for eastern meadowlark however none were observed during surveys. Three transects through the fields were conducted in different months during 2016 field surveys.

The eastern wood-pewee is listed federally as a threatened species (COSEWIC, 2018) and is listed as a special concern species provincially (COSSARO, 2019). This species breeds in all woodland types in partially cleared shrubby habitats and secondary forests. The small woodland habitat was much like a fencerow and therefore would not provide suitable habitat for the eastern wood-pewee.

The wood thrush is listed as a federally threatened species (COSEWIC, 2018), and is listed as a special concern provincially (COSSARO, 2019). This species breeds in deciduous and mixed forests in areas with large trees, moderate understory abundant in leaf litter and shade present. The wooded area on the subject property was much like a fencerow and therefore would not provide suitable habitat.

The grasshopper sparrow is listed federally as a special concern species (COSEWIC, 2018), however is not listed provincially (COSSARO, 2019). This species inhabits open grasslands and prairies with patches of bare ground. There is potential for this species to occur within the old field meadows (Community 1) however none were identified by NEA during surveys.

The chimney swift is listed federally and provincially as a threatened species (COSEWIC, 2018; COSSARO, 2019). The chimney swift is usually found within 1 km of a waterbody and, as its name implies, predominantly nests within old chimneys in urban and suburban areas. Prior to European settlement, chimney swifts nested in old growth forests. As an aerial forager, the species feeds on





insects in urban areas. There is no suitable breeding habitat present for this species within the structures identified on the subject property.

The bank swallow is listed federally and provincially as a threatened species (COSEWIC, 2016; COSSARO, 2016). This species nests in colonies in streamside banks. An old storage pile of soil on the southern part of Community 2 did have bank swallow nests and activity during the May 26 2016 site visit. By June the pile was being used by the contractors and no bank swallows were identified in the area. In 2020 bank swallows were not identified on site and no habitat existed since the removal of those piles.

The Canada warbler is listed as a special concern provincially (COSSARO, 2019) and is threatened on a national level (COSEWIC, 2018). The Canada warbler breeds in wet deciduous and coniferous forests with a thick shrub under-story. Nests are usually found on mossy logs or roots, along stream banks or hummocks (OMNR, 2009). There is no suitable habitat for this species on the property.

The short-eared owl is listed as a species of special concern both provincially and nationally (COSSARO, 2019; COSEWIC, 2018) and is found in open areas including grasslands, marshes and tundra. This species is found nesting on the ground and forages over fields. There was suitable foraging and nesting habitat within the open field meadows on the property historically, however none were observed during any NEA field visits. This species has declined in the Ottawa area and was found in only a few isolated locations previously. The current condition of the field with fill material, would preclude use by short-eared owls.

One area sensitive bird species was identified during GHD field surveys, the veery. This species inhabits deciduous woods, sometimes mixed or coniferous. The only wooded area on the property was more like a fencerow as a linear woodlot and would not provide suitable habitat for this species on the property.

#### **4.1.3 Other Wildlife**

No other wildlife was identified by NEA as significant.

A review of the MNR's make-a-map feature identified seven wildlife species as being within the 1km by 1km by square containing the subject property these included Henslow's sparrow (*Ammodramus henslowii*), Green striped darner (*Aeshna verticalis*), Forcinate Emerald (*Somatochlora forcipata*), Horned clubtail (*Arigomphus cornutus*), arrowhead spiketail (*Cordulegaster obliqua*), eastern meadowlark and bobolink (described in the above paragraphs).

Henslow's sparrow is considered endangered provincially and federally (COSSARO, 2016; COSEWIC, 2016). This species inhabits large, flat fields with no woody plants, and with tall, dense grass with a dense litter layer and standing dead vegetation. There is no suitable habitat for this species on the property.

Green striped darner is considered an S3 species. This species can be found at spring-fed ponds, marshy meadows, lakes, ponds and slow moving streams. There are no water features on the property therefore no suitable habitat exists on the property.

Forcinate Emerald is considered an S3 species. This species can be found breeding in spring fed streams or pools with flowing groundwater. There is no suitable habitat for this species on the property.



The Horned clubtail is considered an S3 species. This species prefers permanent slow streams and rivers with vegetated edges as well as ponds and lakes. There is no suitable habitat for this species on the property.

The arrowhead spiketail is considered an S2 species. This species prefers streams and seeps. There is no habitat for this species on the property.

## **4.2 Natural Features**

### **4.2.1 Wetlands**

One unevaluated wetland was identified within the northern triangle of the study area (community 4). The boundary of the wetland was confirmed in the field based on OWES guidelines, using a high accuracy GPS unit (Figure 1.1).

### **4.2.2 Ditches**

Two ditches were identified on the subject property, one ditch on the east side adjacent the agricultural fields and the other more central (Figure 1.1). These features were dry and likely only conveyed water off the property during rainfall events. Both features would not be considered water features and GHD does not recommend protection on them.



## 5. Impact Assessment and Recommendations

The following section provides a description of the predicted impacts that may result from the proposed development (Table 5.1). It also identifies mitigation measures to be implemented to avoid and/or minimize adverse effects to the natural environment features within or near the project. A full list of mitigation measures has been provided in Section 7 of this report.

### 5.1 Vegetation

The majority of the property is a disturbed area with large amounts of fill placed within it. The site contains little habitat for wildlife and plant diversity is quite low. Little vegetation was found in this area with the exception of weedy species and pioneer species. One small linear woodland was identified on the northern limits of the property, north of Brian Coburn Boulevard. This feature was much like a fencerow and would not provide the diversity or wildlife support that a larger woodland would. No significant vegetation communities (Bakowsky, 1997) were identified on the study property. As limited vegetation occurs on site currently, no negative impacts on the overall diversity of the area are anticipated.

The six regionally rare species identified on site were now considered common since the rare species lists were generated (2005 and 2001). GHD does not recommend the retention of these species.

A landscape plan should be developed to include a variety of native trees, shrubs and seed to be planted and incorporated into the subdivision plan. The landscape plan will improve the biodiversity within the area.

### 5.2 Breeding Birds

Three provincially significant bird species were identified during GHD field surveys, barn swallow, bank swallow and bobolink. Potential for nesting was identified in the May 2016 for barn swallow, bank swallow and bobolink. A site visit in August 2020 visit confirmed the use of the property by barn swallows only.

In 2016 surveys the barn swallows were observed flying over the property but no species was observed nesting on site. Several buildings were located within the study area. NEA examined all accessible buildings for nests (i.e. garage, sheds) during our May and June site visits. No active nests were identified during GHD's initial field surveys. Surveys in August 2020 identified 6 nests within the barn on the subject property, 2 active and 4 inactive. The barns have been abandoned and doors left open, allowing for access to these structures. The presence of these nests deems the western barn as nesting habitat. As barn swallows are protected as a threatened species under the Endangered Species act, if the removal of the barn is to occur a permit from MECP will be required. This entails preparing the Notice of Activity and proposing compensation for the nests. This typically involves the construction of a nesting structure, called a kiosk, where new nest opportunities are made available. Compensation is for a 2:1 replacement, meaning 12 nest cups would need to be included in the design that needs to be approved by the MECP.

Bobolinks had been identified in field surveys in 2016 (within community 1) and four immature bobolinks identified just west of the barn (using a portion of community 1). In previous surveys this



area was identified as hayfields, August 2020 field surveys identified the habitat was primarily regenerating field with low vegetation, except on the soil piles. It is unclear if these young birds had fledged nearby and were feeding on the weed seeds or if they had been nesting on this property. This is unlikely given the disturbance that had occurred since 2016 and the dominance of pioneer plant species with gaps and bare soil exposed throughout. This would not be considered suitable bobolink habitat due to the lack of high grasses and the sparse coverage of vegetation.

One area sensitive bird species was identified during field surveys, savannah sparrow. This species was observed within Community 1. This community will be removed as a result of the proposed development. This species will continue to use the area for foraging and use the neighbouring properties for nesting.

The development of the property will impact on the barn swallows and the eastern meadowlark habitat. On the northern section, north of Brian Coburn Boulevard, trees are present along the northern property line. BoboTo protect the breeding birds cutting should be conducted outside of the breeding bird timing window (April 15th- August 15th) as per Environment Canada guidelines.

No herpetozoa were recorded during field investigations as little habitat existed on the property. Deer tracks and racoon tracks were identified near Mer Bleue Road.

Minimal bird habitat existed on the property. The surrounding lands consist of open fields to the north, disturbed lands and residential development to the west and agricultural and residential lands to the south and east. The property is not part of a wildlife corridor. Development to west, south and east has reduced the effectiveness of wildlife movement. Future development to the north will have a cumulative impact on any wildlife movement here on the urban development area.

## **5.3 Natural Features**

### **5.3.1 Wetlands**

No Provincially Significant Wetlands were identified on or adjacent to the subject property (Community 4). One unevaluated wetland was identified on the northern portion of the study area. Previous surveys in 2014 and 2016 did not identify this area as wetland. However, recent field inventories in 2020 showed the almost the entire area would be classified as wetland based on the vegetation. This could be in part by previous disturbance done in the area (i.e. construction of Brian Coburn Blvd.) since the surveys completed in 2016. The wetland was in an early successional stage and contained little diversity, as it was mostly dominated by reed canary grass. The construction of the road may be allowing water to pool in these dense clay soils, creating conditions suitable for wetland species. The boundary of the wetland was confirmed in the field based on OWES guidelines. The current status for this block of land is for mixed use. Due to the low diversity and early successional stages GHD does not recommend the retention. The highly developed area will contain new development on all stages. After build out, it is highly unlikely the wetland will contain any significant value and the hydrology of the area will be manipulated and may even cut water sources to the area. The wetland surrounded by subdivision and directly adjacent to the busy Brian Coburn Blvd. would not provide any additional habitat to the area as all the wildlife connections have been severed by the newly built road. GHD recommends discussions with the Conservation Authority to provide compensation or other options for this wetland area.



#### **5.4 Wildlife Corridors / Connectivity**

Limited connectivity across the landscape was identified in the general area. The surrounding area is developing rapidly, leaving a lack of connection across the landscape the hydro-corridor provides a narrow but continual corridor across the area. The hydro corridor was identified on the northern limits of the property moving north-east to south-west. The development of the property will not affect the limited connectivity across the landscape in a developing portion of the City. Small urban mammals will continue to utilize the hydro-corridor for travel.



**Table 5.1 Impact Assessment and Recommendation Summary**

Feature or Function	Impact to Feature or Function	Mitigation	Residual Effect
Vegetation	Removal of sparsely vegetated area in most locations	-landscape plan to be developed to incorporate a diversity of native plant species	None
Species at Risk-Bobolink	Removal of potential bobolink habitat	Not confirmed as habitat -no mitigation	None
Species at Risk-Barn swallow	Removal of barn swallow habitat (barn)	-An Endangered Species Act permit is required from MECP prior to destruction of habitat	Compensation to be discussed in the ESA permit with MECP
Unevaluated Wetlands	No impact anticipated. Significant wetlands are located outside of the proposed development area.	Compensation for wetlands or other options	None

## 6. Policies and Legislative Compliance

The following section describes how the proposed development will be in conformance with the relevant federal, provincial and other regulatory legislation, policies, official plans and OP amendments that are applicable and relevant to the study area and the immediate vicinity.

### 6.1.1 Federal Legislation

#### *Migratory Birds Convention Act*

The core breeding period in Ontario for migratory birds under the MBCA for Bird Conservation Region 13 (i.e., the one the subject property lies within) extends from April 15th to August 15th (Environment and Climate Change Canada, 2014). As such clearing of trees and other vegetation for the development cannot occur during this timing window.

### 6.1.2 Provincial Legislation

#### *Endangered Species Act*

Two provincially threatened species were identified on the subject property, bobolink and barn swallow. In order to be in compliance with the ESA a permit is required from MECP in order to destroy or harm habitat for bobolink and barn swallow.

#### *Provincial Policy Statement*

In this EIS report, Section 5 and 7 of this report contain recommendations that would permit the proposed development to proceed in a manner consistent the applicable sections of the Provincial Policy Statement (PPS).



### **6.1.3 Local and Other Regulatory Bodies**

#### ***City of Ottawa Official Plan (2003)***

In this EIS report, Section 5 and describe measures that would permit the proposed development application to proceed in a manner consistent the City of Ottawa Official Plan (2013). Provided these measures are followed, there should be no negative impacts on key natural heritage or hydrologic features or their functions. Further, connectivity between key natural heritage and hydrologic features would be maintained.

#### ***South Nation Conservation Authority Regulation 170/06***

The proposed development will require the removal of wetland. Discussions with South Nation Conservation Authority will be pursued in order to provide an adequate compensation for the wetland removal.



## 7. Summary of Recommendations

The following section summarizes GHD's recommendations on how the proposed development can occur in compliance with applicable federal, provincial and other regulatory pieces of legislation, policies, official plans (OPs) and OP amendments.

### 7.1 General Recommendations

1. The construction envelopes must be clearly defined and delineated and a line staked and clearly marked in the field prior to any construction activities occurring on the site.
2. Conservation Authority be consulted in order to determine the best option for the removal of the wetland on the future mixed use development lands.
3. Prior to any site preparation activities (e.g., grading, placement of fill) erosion and sediment control measures should be installed along all sides of construction envelope to ensure sediment laden runoff does not leave the site and interfere with adjacent natural features. The silt fence should be inspected and maintained throughout the construction phase and remain in place until the soils are stabilized and re-vegetated.
5. Any vegetation clearing required for site access prior to construction shall be completed outside the Breeding Bird timing window of April 15th to August 15th.
6. Obtain relevant permits from Conservation Authority.
7. MECP must be contacted in order to pursue an Endangered Species Act permit for the removal of habitat for barn swallow.

### 7.2 Cumulative Impacts

Cumulative effects are changes to the environment that are caused by this project, in combination with other past, present and future initiatives. There is potential for future construction and maintenance works to occur within the same area. Potential adverse environmental effects associated with these types of projects are localized, short term and have a low likelihood of occurring provided mitigation measures are properly implemented. Given that each project is subject to its own specific EIS, and applicable environmental Guidelines, the possibility of cumulative effects is low and therefore not significant.

## 8. Conclusion

GHD Limited has prepared this Environmental Impact Study to address potential environmental issues associated with an application to develop Trails Edge East Phase 4 subdivision. The proposed development will not result in negative impacts on the identified natural heritage features or their functions, provided the measures described in Sections 5 and 7.

GHD's recommendations have been made to address potential impacts to natural heritage features and/or their functions during site preparation, construction and post-construction periods. Additional dialogue with the MECP is required to ensure Endangered Species Act permits are obtained for barn swallows.





## 9. References

- Agriculture Canada. 1960. Soil Associations of Southern Ontario.
- Bakowsky, W.D. Dec. 1997. Natural Heritage Resources of Ontario: Vegetation Communities of Southern Ontario.
- Bird Studies Canada. 2007. Atlas of the Breeding Birds of Ontario square summary information sheets. Accessed on the World Wide Web at: <https://www.birdsontario.org/atlas/squareinfo.jsp>.
- Bird Studies Canada (BSC) Ontario Breeding Bird Atlas (2nd) point count methodologies. (2001). OBBA Participants Guide.
- Brunton, D.F. March, 2005. Appendix A: Vascular plants of the City of Ottawa (significant species). City of Ottawa Urban Natural Areas Environmental Evaluation Study.
- Cadman, M.D., P.F.J. Eagles and F.M. Helleiner. 1987. Atlas of the Breeding Birds of Ontario. Federation of Ontario Naturalists and Long Point Bird Observatory.
- City of Ottawa. 2003. City of Ottawa Official Plan. Accessed on World Wide Web at: [http://ottawa.ca/en/city\\_hall/planningprojectsreports/ottawa2020/official\\_plan/vol\\_1/index.html](http://ottawa.ca/en/city_hall/planningprojectsreports/ottawa2020/official_plan/vol_1/index.html)
- City of Ottawa. April 2012. Environmental Impact Statement Guidelines 2nd Edition.
- City of Ottawa. May 2014. Species at Risk in Ottawa
- COSEWIC. 2019. Canadian Species at Risk, April 2019. Committee on the Status of Endangered Wildlife in Canada. Accessed on the World Wide Web at: <https://www.canada.ca/en/environment-climate-change/services/committee-status-endangered-wildlife.html>.
- COSSARO. 2018. Species at Risk in Ontario (SARO), 2019. Ontario Ministry of Natural
- Cuddy, D.G. 1991. Vascular Plants of Eastern Ontario. Eastern Region, Ontario Ministry of Natural Resources.
- Dobbyn, J.S., (1994). Atlas of the Mammals of Ontario. Federation of Ontario Naturalists. Don Mills, Ontario.
- Environment Canada's Canadian Wildlife Service (Ontario Region). 1987. The Forest Bird Monitoring Program
- Government of Canada. 1994. Migratory Birds Convention Act.
- Government of Ontario. 2020. Provincial Policy Statement, 2020. Ministry of Municipal Affairs and Housing. Queen's Printer for Ontario. Accessed on the World Wide Web at: <http://www.mah.gov.on.ca/Page215.aspx>.
- Government of Canada. 1994. Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22). Accessed on the World Wide Web at: <http://laws-lois.justice.gc.ca/eng/acts/m-7.01/>.
- Government of Ontario. 2007. Endangered Species Act.
- Lee, H., Bakowsky, W., Riley, J., Bowles, J., Puddister, M., Uhlig, P. and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application.



OMNR, South Central Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

MNR. GIS database mapping. 2010.

MNR. February 2012. Draft Significant Wildlife Habitat Criterion Schedule 6E. Accessed on World Wide Web at: <http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTE1ODc5&statusId=MTczNDgy>

MNRF. 2020. Make-a-map-feature. Accessed on World Wide Web at: [http://www.giscoeapp.lrc.gov.on.ca/Mamnh/Index.html?site=MNR\\_NHLUPS\\_NaturalHeritage&viewer=NaturalHeritage&locale=en-US](http://www.giscoeapp.lrc.gov.on.ca/Mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US)

Muncaster Environmental Planning Inc. and Brunton Consulting Services. 2005. City of Ottawa: Urban Natural Areas Environmental Evaluation Study. Final Report.

Niblett Environmental Associates Inc. 2009. Trail's edge plan of subdivision east urban community City of Ottawa Environmental Impact Study.

Niblett Environmental Associates Inc. 2016. Trails edge east development City of Ottawa Environmental Impact Study.

Ontario Breeding Bird Atlas (OBBA). 1981-85, 2001-06. Atlas Square Summary. Accessed on the World Wide Web at: <http://www.birdsontario.org/atlas/atlasmain.html>. BSC.

Ottawa Environmental Management Branch & Ottawa Planning and Economic Development Committee. 1998. Natural and Open Spaces Study (NOSS): Final Report.

Ontario Ministry of Natural Resources and Forestry. January 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Peterborough, 38pp.

Ontario Ministry of Natural Resources. March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. 2nd Edition. Toronto: Queen's Printer for Ontario. 248pp.

Ontario Ministry of Natural Resources and Forestry. 2013. Ontario Wetland Evaluation System: Southern Manual. 3rd Edition, Version 3.2. Queen's Printer for Ontario, 284pp.

SARA (Species at Risk Act). June, 2016. Schedule 1 ((Subsections 2(1), 42(2) and 68(2)): List of Wildlife species at risk, Parts 1-4. Accessed on the World Wide Web at: [http://www.sararegistry.gc.ca/species/schedules\\_e.cfm?id=1](http://www.sararegistry.gc.ca/species/schedules_e.cfm?id=1).



All of which is Respectfully Submitted,

GHD

A handwritten signature in blue ink, appearing to read 'C. Ellingwood'.

Chris Ellingwood  
Senior Terrestrial and Wetland Biologist  
GHD



## about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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# Appendices

# **Appendix I-A**

## **Plant Species by Community**

## APPENDIX I - A Plant Species by Community

Families and genera for the plant species found in this appendix are listed in taxonomic order. The species are listed alphabetically by scientific name within each genus.

Three standard reference works were used for the botanical nomenclature and taxonomy (Newmaster et. al., 1998; Gleason and Cronquist 1991; Voss 1980; 1985). Other published works for botanical names included; ferns (Cody and Britton 1989); grasses (Dore and McNeill 1980); orchids (Whiting and Catling 1986); shrubs (Soper and Heimburger 1982) and trees (Farrar 1995).

**Total:** Number of communities where plant species was recorded  
**X:** Plant species recorded

Common Name	Scientific Name	Total	COMMUNITY NUMBER								
			1	2	3	4	5	6	7	8	9
<b>HORSETAIL FAMILY</b>		<b>EQUISETACEAE</b>									
field horsetail	<i>Equisetum arvense</i>	1									
<b>BUCKWHEAT FAMILY</b>		<b>POLYGONACEAE</b>									
marshpepper smartweed	<i>Polygonum hydropiper</i>	1	X								
pale smartweed	<i>Polygonum lapathifolium</i>	2		X							
curled dock	<i>Rumex crispus</i>	3	X	X							
<b>WILLOW FAMILY</b>		<b>SALICACEAE</b>									
balsam poplar	<i>Populus balsamifera</i>	1					X				
Bebb's willow	<i>Salix bebbiana</i>	1				X					
<b>ROSE FAMILY</b>		<b>ROSACEAE</b>									
common strawberry	<i>Fragaria virginiana</i>	1			X						
yellow avens	<i>Geum aleppicum</i>	1			X						
narrow-leaved meadowsweet	<i>Spiraea alba</i>	1				X					

Common Name	Scientific Name	Total	COMMUNITY NUMBER									
			1	2	3	4	5	6	7	8	9	
<b>PEA FAMILY</b>	<b>FABACEAE</b>											
crown-vetch	<i>Coronilla varia</i>	1	X									
bird's-foot trefoil	<i>Lotus corniculatus</i>	1	X									
red clover	<i>Trifolium pratense</i>	1	X									
cow vetch	<i>Vicia cracca</i>	1	X									
<b>LOOSESTRIFE FAMILY</b>	<b>LYTHRACEAE</b>											
purple loosestrife	<i>Lythrum salicaria</i>	2	X			X						
<b>DOGWOOD FAMILY</b>	<b>CORNACEAE</b>											
red-osier dogwood	<i>Cornus stolonifera</i>	1				X						
<b>WOOD-SORREL FAMILY</b>	<b>OXALIDACEAE</b>											
European wood-sorrel	<i>Oxalis stricta</i>	1	X									
<b>CARROT FAMILY</b>	<b>APIACEAE</b>											
Queen-Anne's lace	<i>Daucus carota</i>	2	X		X							
wild parsnip	<i>Pastinaca sativa</i>	1	X									
<b>MILKWEED FAMILY</b>	<b>ASCLEPIADACEAE</b>											
common milkweed	<i>Asclepias syriaca</i>	2	X		X							
<b>OLIVE FAMILY</b>	<b>OLEACEAE</b>											
green ash	<i>Fraxinus pennsylvanica var. subinte</i>	1				X						
<b>FIGWORT FAMILY</b>	<b>SCROPHULARIACEAE</b>											
common mullein	<i>Verbascum thapsus</i>	1	X									



Common Name	Scientific Name	Total	COMMUNITY NUMBER											
			1	2	3	4	5	6	7	8	9			
<b>ASTER FAMILY</b>	<b>ASTERACEAE</b>													
common yarrow	<i>Achillea millefolium</i>	1			X									
common ragweed	<i>Ambrosia artemisiifolia</i> L.	1	X											
common burdock	<i>Arctium minus</i>	1	X											
common mugwort	<i>Artemisia vulgaris</i>	1	X											
European beggar-ticks	<i>Bidens connata</i>	1												
chicory	<i>Cichorium intybus</i>	1	X											
boneset	<i>Eupatorium perfoliatum</i>	1				X								
grass-leaved goldenrod	<i>Euthamia graminifolia</i>	3			X	X								
german chamomile	<i>Matricaria recutita</i>	1	X											
Canada goldenrod	<i>Solidago canadensis</i>	2	X		X									
early goldenrod	<i>Solidago juncea</i>	1			X									
upland white aster	<i>Solidago ptarmicoides</i>	1				X								
spiny-leaved sow thistle	<i>Sonchus asper</i>	2	X		X									
New England aster	<i>Symphotrichum novae-angliae</i>	1			X									
purple-stemmed aster	<i>Symphotrichum puniceum</i>	1				X								
common dandelion	<i>Taraxacum officinale</i>	1	X											
coltsfoot	<i>Tussilago farfara</i>	1	X											
<b>PONDWEED FAMILY</b>	<b>POTAMOGETONACEAE</b>													
common floating pondweed	<i>Potamogeton natans</i>	1												
<b>SEDGE FAMILY</b>	<b>CYPERACEAE</b>													
awl-fruited sedge	<i>Carex stipata</i>	1												
needle spike-rush	<i>Eleocharis acicularis</i>	1												
blunt spike-rush	<i>Eleocharis obtusa</i>	1		X										
black bulrush	<i>Scirpus atrovirens</i>	1												
wool-grass	<i>Scirpus cyperinus</i>	1				X								
softstem bulrush	<i>Scirpus validus</i>	1												

Common Name	Scientific Name	Total	COMMUNITY NUMBER								
			1	2	3	4	5	6	7	8	9
<b>GRASS FAMILY</b>											
<i>POACEAE</i>											
Canada bluejoint grass	<i>Calamagrostis canadensis</i>	2		X							
common barnyard grass	<i>Echinochloa crusgalli</i>	1	X								
acuminate panic grass	<i>Panicum acuminatum var. acuminatu</i>	1	X								
witch grass	<i>Panicum capillare</i>	1	X								
reed canary grass	<i>Phalaris arundinacea</i>	3		X		X					
timothy	<i>Phleum pratense</i>	1			X						
fowl meadow grass	<i>Poa palustris</i>	2		X							
green foxtail	<i>Setaria viridis</i>	1	X								
<b>CATTAIL FAMILY</b>											
<i>TYPHACEAE</i>											
narrow-leaved cattail	<i>Typha angustifolia</i>	1									

**Total Number of Plant Species** 54

25 6 11 10 2 0 0 0 0

**Number of Plant Species Per Community**

# **Appendix I-B**

## **List of Significant Plant Species**

## APPENDIX I - B List of Significant Plant Species

Plant species observed by NEA with significant status on national, provincial and relevant regional lists are listed with status codes and where applicable the most current year of publication. Three standard reference works were used for the botanical nomenclature and taxonomy (Newmaster et. al., 1998; Gleason and Cronquist 1991; Voss 1980; 1985). Other published works for botanical names included; ferns (Cody and Britton 1989); grasses (Dore and McNeill 1980); orchids (Whiting and Catling 1986); shrubs (Soper and Heimbürger 1982) and trees (Farrar 1995).

**NATIONAL RANKING**      **Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Government of Canada  
Species at Risk Act (SARA), SCHEDULE 1 (Subsections 2(1), 42(2) and 68(2)), Government of Canada**

**PROVINCIAL RANKING**      **Species at Risk in Ontario (COSSARO), Government of Ontario  
Provincial Rank (SRANK), Natural Heritage Information Center, Government of Ontario**

**REGIONAL RANKING**      **Brunton Ottawa      Brunton, 2005, Ottawa  
Cuddy, Eastern 3      Region 3 (Centre), D.G.Cuddy, 1991**

**STATUS CODES**

<b>COSEWIC</b>	<b>END *</b> - Endangered Species	<b>*Year of Status Publication included in Code</b>
<b>COSSARO</b>	<b>THR *</b> - Threatened Species	
<b>SARA</b>	<b>SC *</b> - Species of Concern	
<b>SRANK</b>	<b>S1</b> - Extremely Rare	<b>Other national or provincial codes not listed</b>
	<b>S2</b> - Very Rare	
	<b>S3</b> - Rare to Uncommon	
<b>Regional Lists</b>	<b>R</b> - Rare native species	<b>Other Regional codes not listed</b>
	<b>RS</b> -Regional significant	
	<b>EXP</b> - Extirpated native species	

### NATIONAL RANKINGS

### PROVINCIAL RANKINGS

### REGIONAL RANKINGS

Common Name	Scientific Name	COSEWIC	SARA	COSSARO	SRank	Brunton Ottawa	Cuddy, Eastern			
common yarrow	<i>Achillea millefolium</i>						R			
common mugwort	<i>Artemisia vulgaris</i>						R			
European beggar-ticks	<i>Bidens connata</i>						R			
german chamomile	<i>Matricaria recutita</i>					R				
coltsfoot	<i>Tussilago farfara</i>						R			
softstem bulrush	<i>Scirpus validus</i>					RS				

Common Name	Scientific Name	COSEWIC	SARA	COSSARO	SRank	Brunton Ottawa	Cuddy, Eastern			
<b>Plants with Ranking</b>	<b>Total: 6</b>	<b>Status List Total</b>	0	0	0	2	4	0	0	0

# **Appendix II**

## **Bird Status Report - Comprehensive**

## APPENDIX II - B

## Bird Status Report - Comprehensive

Bird species observed by GHD are listed in the order followed the American Ornithologists' Union (AOU) Check-list of North American birds (7th edition, 1999, 47th Supplement). Common and scientific nomenclature are based on those used by AOU. Breeding status and breeding evidence code are listed when observed. Any significant status for a species on national and provincial lists is displayed as well as those from relevant regional lists.

<b>List Status :</b>	<b>END - endangered</b>	A wildlife species facing imminent extirpation or extinction.
	<b>END-R -endangered regulated</b>	A wildlife species facing imminent extirpation or extinction in Ontario which has been regulated under Ontario's Endangered Species Act (ESA).
	<b>THR - threatened</b>	A wildlife species likely to become endangered if limiting factors are not reversed.
	<b>SC - special concern</b>	A wildlife species that may become threatened or an endangered species because of a combination of biological characteristics and identified threats.
	<b>YES - Area Sensitive</b>	A wildlife species that requires large areas of suitable habitat in order to sustain their population numbers.

\* Other status levels are not displayed

<b>List Sources:</b>	<b>COSEWIC</b>	The Committee on the Status of Endangered Wildlife in Canada, May 2018.
	<b>COSSARO</b>	The Committee on the Status of Species at Risk in Ontario, June 2018.
	<b>SARA</b>	Species At Risk Act, Schedule 1, Government of Canada, 2018.
	<b>Area Sensitive</b>	Significant Wildlife Technical Guide, Appendix C, OMNR, Oct. 2000
	<b>Region 6</b>	Southern Ontario Wetland Evaluation Appendix 11B, Version 3.2, March 2013

<b>Breeding Status:</b>	B -species observed in breeding season in suitable habitat with some evidence of breeding (confirmed, probable or possible as per Ontario Breeding Bird Atlas, 2002).
<b>(Observed By NEA)</b>	F -species observed in breeding season but no evidence of breeding or suitable nest sites available on the study site (includes flyovers, migrants and foraging colonial breeders).
	M -species observed outside of breeding season for that species and in area outside of the known breeding range for that species.

**Breeding Evidence Code:  
(Observed By NEA)**

**OBSERVED**

X -species observed in its breeding season (no evidence of breeding).

**POSSIBLE BREEDING**

H -species observed in its breeding season in suitable nesting habitat

S -singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat

**PROBABLE BREEDING**

P -pair observed in their breeding season in suitable nesting habitat

T -permanent territory presumed through registration of territorial song on at least 2days,  
a week or more apart, at the same place

D -courtship or display between a male and a female or 2 males, including courtship feeding or copulation

V -visiting probable nest site

A -agitated behaviour or anxiety calls of an adult

B -brood patch on adult female or cloacal protuberance on adult male

N -nest-building or excavation of nest hole

**CONFIRMED BREEDING**

DD -distraction display or injury feigning

NU -used nest or egg shell found (occupied or laid within the period of study)

FY -recently fledged young or downy young, including young incapable of sustained flight

AE -adults leaving or entering nest site in circumstances indicating occupied nest

FS -adult carrying fecal sac

CF -adult carrying food for young

NE -nest containing eggs

NY -nest with young seen or heard

SOURCE: Ontario Breeding Bird Atlas March 2001



AOU Code	Common Name	Scientific Name	Observed Breeding Status	Breed Evidence Code	COSEWIC	COSSARO	SARA	Area Sensitive	Region 6
CAGO	Canada Goose	<i>Branta canadensis</i>	B	None				No	
MALL	Mallard	<i>Anas platyrhynchos</i>	B	None				No	
GBHE	Great Blue Heron	<i>Ardea herodias</i>	B	None				No	
TUVU	Turkey Vulture	<i>Cathartes aura</i>	B	None				No	
RTHA	Red-tailed Hawk	<i>Buteo jamaicensis</i>	B	None				No	
KILL	Killdeer	<i>Charadrius vociferus</i>	B	None				No	
WISN	Wilson's Snipe	<i>Gallinago delicata</i>	B	None				No	
RBGU	Ring-billed Gull	<i>Larus delawarensis</i>	B	None				No	
ROPI	Rock Pigeon	<i>Columbia livia</i>	B	None				No	
MODD	Mourning Dove	<i>Zenaida macroura</i>	B	None				No	
ALFL	Alder Flycatcher	<i>Empidonax alnorum</i>	B	None				No	
WIFL	Willow Flycatcher	<i>Empidonax traillii</i>	B	None				No	
LEFL	Least Flycatcher	<i>Empidonax minimus</i>	B	None				No	
EAKI	Eastern Kingbird	<i>Tyrannus tyrannus</i>	B	None				No	
WAVI	Warbling Vireo	<i>Vireo gilvus</i>	B	None				No	
BLJA	Blue Jay	<i>Cyanocitta cristata</i>	B	None				No	
AMCR	American Crow	<i>Corvus brachyrhynchos</i>	B	None				No	
TRES	Tree Swallow	<i>Tachycineta bicolor</i>	B	None				No	
BANS	Bank Swallow	<i>Riparia riparia</i>	B	None	THR	THR	THR	No	
BARS	Barn Swallow	<i>Hirundo rustica</i>	B	None	THR	THR	THR	No	
HOWR	House Wren	<i>Troglodytes aedon</i>	B	None				No	
VEER	Veery	<i>Catharus fuscescens</i>	B	None				Yes	
AMRO	American Robin	<i>Turdus migratorius</i>	B	None				No	
GRCA	Gray Catbird	<i>Dumetella carolinensis</i>	B	None				No	
BRTH	Brown Thrasher	<i>Toxostoma rufum</i>	B	None				No	
EUST	European Starling	<i>Sturnus vulgaris</i>	B	None				No	

CEWX	Cedar Waxwing	<i>Bombycilla cedrorum</i>	B	None				No			
YEWA	Yellow Warbler	<i>Dendroica petechia</i>	B	None				No			
COYE	Common Yellowthroat	<i>Geothlypis trichas</i>	B	None				No			
CHSP	Chipping Sparrow	<i>Spizella passerina</i>	B	None				No			
CCSP	Clay-colored Sparrow	<i>Spizella pallida</i>	B	None				No			
SASP	Savannah Sparrow	<i>Passerculus sandwichen</i>	B	None				No			
SOSP	Song Sparrow	<i>Melospiza melodia</i>	B	None				No			
SWSP	Swamp Sparrow	<i>Melospiza georgiana</i>	B	None				No			
NOCA	Northern Cardinal	<i>Cardinalis cardinalis</i>	B	None				No			
RBGR	Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	B	None				No			
BOBO	Bobolink	<i>Dolichonyx oryzivorus</i>	B	None	THR	THR	THR	No			
RWBL	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	B	None				No			
COGR	Common Grackle	<i>Quiscalus quiscula</i>	B	None				No			
BHCO	Brown-headed Cowbird	<i>Molothrus ater</i>	B	None				No			
PUFI	Purple Finch	<i>Carpodacus purpureus</i>	B	None				No			
AMGO	American Goldfinch	<i>Carduelis tristis</i>	B	None				No			
<b>TOTAL SPECIES OBSERVED:</b>	<b>42</b>	<b>BREEDING SPECIES OBSERVED:</b>	<b>42</b>		<b>3</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>