

TOWN OF CALEDON  
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TRIBAL PARTNERS CANADA INC. AND QUADREAL PROPERTY GROUP

# COMPREHENSIVE ENVIRONMENTAL IMPACT STUDY AND MANAGEMENT PLAN (CEISMP)

12892 AND 12668 DIXIE RD, CALEDON

MARCH 2024







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12892 AND 12668 DIXIE  
RD, CALEDON

TRIBAL PARTNERS CANADA INC. AND  
QUADREAL PROPERTY GROUP

PROJECT NO.: CA0011264  
DATE: MARCH 2024

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# 1 INTRODUCTION

WSP Canada Inc. (WSP) has been retained by Tribal Partners Canada Inc. and Quadreal Property Group (“the proponents”) to complete an update to a Comprehensive Environmental Impact Study and Management Plan (CEISMP) (WSP; February 2021) (herein referred to as the “CEISMP”) for two parcels of land (combined size of 78.9 ha) known municipally as 12892 and 12668 Dixie Road in the community of Mayfield, in Caledon, Ontario (Figure 1 in Appendix A). The parcels of land (herein referred to as “the subject properties”) are located adjacent to each other, southwest of the intersection of Dixie Road and Old School Road. This CEISMP addresses the proposed development on the subject properties, which consists of three industrial buildings that vary in size (295,000 – 3,075,000 sq ft) and total approximately 3,972,000 square feet of new employment uses. The proposed uses are for e-commerce, technology and innovation, warehouse, and logistic type development.

Since submission of the original CEISMP, the following changes relating to property ownership and policy have occurred:

- Following the first submission, a severance application was approved in February 2022 which resulted in two parcels: 12892 Dixie Road and 12668 Dixie Road. Tribal Partners Canada Inc. retained ownership of the retained parcel (12892 Dixie Road), and QuadReal Property Group purchased the severed parcel (12668 Dixie Road).
- On behalf of the Applicants, Armstrong Planning & Project Management is coordinating planning applications for the site to amend the Town of Caledon Official Plan and Town of Caledon Zoning By-law 2006-50. The Site Plan Applications will be addressed following Official Plan and Zoning By-law Amendment approval.
- An updated Region of Peel Official Plan was approved in November 2022. Updated policy compliance commentary has been included in the current submission.

Following these changes, an updated comprehensive Site Plan and technical reports have been prepared (including updates to the February 2021 CEISMP as documented in the current report). Key differences are as follows:

- Changes to the comprehensive Site Plan
  - Three buildings instead of four



- Two Stormwater Management (SWM) facilities instead of three, with additional SWM infrastructure (e.g., infiltration galleries) proposed.
- Natural heritage linkage through an existing agricultural field consisting of a naturally vegetated corridor, wildlife crossing culvert and permanent fencing, connecting a *Significant Woodland* in the central portion of the subject properties to the Kilamanagh Creek valley, consistent with guidance contained in technical studies completed for the Region of Peel Settlement Area Boundary Expansion (SABE).
- The CEISMP has been updated to reflect comments received on the February 2021 submission from the Town of Caledon, Region of Peel and the Toronto and Region Conservation Authority (TRCA).
- All recommendations included in the February 2021 CEISMP, including agency-verified feature limits and associated setbacks have been incorporated into the current Site Plan, with additional recommendations included based on agency comments on the previous submission, the updated Site Plan and updated technical information.
- A federal recovery strategy has been prepared for Redside Dace (*Clinostomus elongatus*), which defines critical habitat for this species. As of 2024, the reach of Kilamanagh Creek on the south parcel has been identified by Fisheries and Oceans Canada (DFO) as critical habitat for this species, with updated discussion included in Section 6.3.

The subject properties are located within the West Humber River subwatershed and include five watercourses: Kilamanagh Creek in the south; and four un-named tributaries (Tributaries 2, 3, 4 and 5). The subject properties are dominated by active agricultural uses (row crops) on gently rolling tableland, with a farmhouse on the north parcel, adjacent to Dixie Road. Several additional rural residential properties are present along Dixie Road and Old School Road; none of those properties is included in this application. Areas of natural vegetation cover approximately 13.65 ha (17%) of the subject properties and consist of the watercourses, a central woodland, wetland and riparian valley areas along Kilamanagh Creek and Tributary 5, and cultural meadow. Some of these features have environmental designations under local and regional Official Plans, as well as provincial policy as discussed herein. The five tributaries and associated wetland riparian areas are mapped as regulated by the TRCA under Ontario Regulation 166/06 of the Conservation Authorities Act. Designated features are shown on Figure 1 in Appendix A.

Surrounding land uses are rural agricultural (north, west, east), and industrial (south).

The primary objectives of this updated CEISMP are to:



- 1) evaluate the sensitivity and significance of the natural features and functions on the subject properties that could be influenced by the proposed development;
- 2) identify natural heritage opportunities and constraints to development;
- 3) describe the proposed development, including during and post-construction activities;
- 4) assess potential direct and indirect impacts on natural features and functions, incorporating other relevant technical information;
- 5) identify and discuss relevant natural heritage policies, documenting policy compliance; and
- 6) identify mitigation, protection, and restoration / enhancement measures, including recommendations for future detailed work associated with Site Plan Applications for each parcel, including recommendations for future monitoring.

The natural heritage scope of work and preparation of the CEISMP report has been completed per the Natural Heritage Terms of Reference submitted to the TRCA on December 8, 2020. TRCA indicated acceptance, provided the following are included in the report (per email dated December 17, 2020):

- Include Wetlands as regulated areas by TRCA;
- Provide a Low Impact Development strategy report coordinated with the Functional Servicing Report (FSR) and NHE; and
- Include a discussion regarding ecologically justified siting of infrastructure in support of the SWM strategy within the NHE.

Each of these comments has been addressed in the current report.

The approved Terms of Reference has been included in Appendix F.

As discussed herein, this natural heritage study and other technical studies have been prepared in support of the Site Plan (Ware Malcomb; December 2023), as shown on Figure 4 and discussed in Section 5.



## 2 STUDY APPROACH

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### 2.1 BACKGROUND DATA REVIEW

Relevant agencies were contacted and background material was collected and reviewed.

Specifically, the following sources of information were reviewed:

- Topographic mapping (OBM, NTS);
- Aerial photography;
- Natural Heritage Information Centre (NHIC) data (Significant Areas and Species at Risk “SAR”);
- Species at Risk range maps and habitat descriptions, including Fisheries and Oceans Canada aquatic SAR mapping;
- Species at Risk Regional Lists (MNR);
- Land Information Ontario (LIO) feature and base mapping;
- TRCA mapping (regulation, wetlands, watercourses);
- Ontario Breeding Bird Atlas;
- Ontario Reptile and Amphibian Atlas;
- Ontario Butterfly Atlas;
- Relevant municipal and provincial policy documents and legislation; and
- Past reports for adjacent properties.

Background and other data sources are listed in the References section of this report.

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### 2.2 AGENCY LIAISON

As part of the natural environment review, the following agency consultation has occurred:

- **MECP Consultation.** The Ministry of the Environment, Conservation and Parks (MECP) was contacted on December 6, 2020 to request information on Species at Risk known from the subject properties or general vicinity. Responses were received December 16, 2020 and December 21, 2020 (Megan Eplett, Management Biologist, MECP) confirming that Kilamanagh Creek within the south parcel is considered occupied habitat for the



*Endangered* Redside Dace (*Clinostomus elongatus*). MECP noted that Butternut (*Juglans cinerea*) and species at risk bats should be considered if tree removals from the woodland are proposed.

- **TRCA Consultation.**

- TRCA representatives (Jason Wagler, Senior Planner; Evan Bearss, Ecologist; Lina Alhabash, Planner; Tychon Carter-Newman, Planner) attended a site walk on October 27, 2020 to verify the wetland limits. During this site walk TRCA provided preliminary comments on items to be included in the CEISMP. Minutes of the site meeting were documented in a Technical Memo circulated to all participants, and dated November 19, 2020.
- The draft Natural Heritage Terms of Reference was submitted to TRCA on December 8, 2020 with a request to review and provide comment on the proposed natural heritage scope of work. Comments were received via email on December 17, 2020.
- Meeting with representatives from TRCA, Tribal Partners, Armstrong Planning and WSP on January 20, 2021, to discuss the preferred planning process, project timelines and TRCA's interest and requirements for the submission.
- Comments from TRCA (Jason Wagler, Senior Planner) on the February 2021 submission, dated March 30, 2021, as well as enhanced review comments dated May 17, 2023.

- **Town of Caledon Consultation.**

- The Town of Caledon was contacted by the proponent on August 21, 2020 to request a pre-consultation meeting with the Development Application Review Team (DART). The request letter included a site description, details on the proposed development, and the concept plan. The meeting was held on September 10, 2020 and the proponent was represented by Armstrong Planning. On September 21, 2020, the Town of Caledon (Justin Cook, Lead Planner) provided preliminary comments and application requirements.
- Town of Caledon representatives (Kyle Poole, Landscape Architect; Jay Menary, Development Engineering Technologist) attended a site walk on October 27, 2020 to verify the wetland limits. Minutes of the site meeting were documented in a Technical Memo reviewed by all participants, and dated November 19, 2020.
- Enhanced review comments from the Town of Caledon, dated May 17, 2023.



- Meetings on October 13 and December 1, 2023 between staff from the project team and Town of Caledon staff, discussing the proposed ecological corridor on the southern parcel.

Agency correspondence is included in Appendix E. The approved Terms of Reference is included in Appendix F.

### 3 FIELD SURVEYS & ASSESSMENTS

Field surveys were completed on three dates as part of this study are listed below. Note that results from field surveys conducted in 2020 were included in the February 2021 submission, with results from field surveys conducted in 2021 also included in the current report. Field survey methodologies are described in Sections 3.1 and 3.2, and results for vegetation, flora, wildlife and aquatics are provided in Sections 4.4, 4.5 and 4.6.

- Vegetation and Flora (September 25, 2020 and October 26, 2020)
  - Ecological Land Classification (ELC) mapping and community description
  - Botanical inventory
- Wildlife (September 25, 2020; October 26, 2020; December 7, 2020; April 27, 2021; May 18, 2021; June 2, 2021; June 9, 2021; and July 2, 2021)
  - Breeding Bird Surveys
  - Amphibian Calling Surveys
  - General wildlife (conducted during all field visits)
  - SAR habitat assessment (conducted during all field visits)
  - Significant Wildlife Habitat (SWH) assessment (conducted during all field visits)
- Aquatic (November 26, 2020; December 7, 2020; March 30, 2021; May 26; 2021; and September 2, 2021)
  - Headwater Drainage Feature Assessment
  - Fluvial Geomorphic Assessment and Erosion Hazard Delineation (Geomorphix)

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## 3.1 TERRESTRIAL

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### 3.1.1 VEGETATION & FLORA

Vegetation surveys on the subject properties were conducted on September 25, 2020 and October 26, 2020.

#### 3.1.1.1 *Methodology*

The scope of the field surveys and assessments included:

- Delineating and classifying vegetation communities using the Ecological Land Classification System for Southern Ontario, “ELC” (Lee et al., 1998). Vegetation communities are described in Section 4.3.2 and delineated on Figure 2 in Appendix A.
- Wetland and woodland delineation. These natural heritage features were pre-staked, and verified during a site walk with TRCA and the Town of Caledon on October 27, 2020. Minutes of the site meeting were documented in a Technical Memo reviewed by all participants, and dated November 19, 2020 (Appendix E).
- Evaluating the sensitivity and significance of vegetation communities, in consideration of vegetation community rarity ranks from the Natural Heritage Information Centre’s Ontario Plant Community List (per NHIC website).
- Undertaking a botanical inventory and compiling a vascular plant list, included in Appendix B. The botanical inventory included a targeted search for significant or sensitive flora.
- Evaluating significance and sensitivity of flora recorded during the field surveys, using: the NHIC website for provincial rarity ranks (i.e., S-Ranks); the Species at Risk in Ontario list (O. Reg. 230/08 under Endangered Species Act, 2007, S.O. 2007, c.6; updated periodically) for provincial status designations; the Canadian Species at Risk list (Schedule 1 of the Species at Risk Act, S.C. 2002, c. 29; updated periodically) for national status designations; and the Distribution and Status of the Vascular Plants of the Greater Toronto Area (Varga et al. 2000).
- Taking representative site photographs, which are on file at WSP.

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### 3.1.2 AVIFAUNA

A breeding bird survey was undertaken by qualified, experienced staff under appropriate weather conditions (i.e., no precipitation, low winds), during appropriate seasonal timing windows (between May 24<sup>th</sup> and July 10<sup>th</sup>) and during appropriate daily timing windows (between dawn and up to five hours after dawn).

The survey focused on the retained natural features across the subject properties. Surveys were conducted on June 2 and July 2, 2021; the subject properties were thoroughly covered by walking random transects with frequent stops for listening / observation.

Species presence, abundance and level of breeding evidence was recorded according to the Ontario Breeding Bird Atlas [OBBA] protocols (Bird Studies Canada; 2003). Incidental observations were noted during other surveys.

Avifaunal species status was evaluated using: the Toronto and Region Conservation Authority Ranks (2020) and TRCA Hydrologic Sensitivity (TRCA; 2017) for regional significance; the NHIC website for provincial rarity ranks (i.e. S-Ranks); the Species at Risk in Ontario list (MECP – updated periodically) for provincial status designations; and the national Species at Risk list (COSEWIC – updated periodically) for national status designations.

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### 3.1.3 HERPETOFAUNA

Spring amphibian breeding (calling) surveys were completed at six locations across the subject properties (AC1 – AC6), as shown on Figure 2 in Appendix A according to the Marsh Monitoring Program (MMP) protocol (Bird Studies Canada; 2008) as follows:

- Three surveys were conducted by qualified, experienced staff under appropriate conditions (i.e., dusk / evening surveys with suitable air temperatures and wind strength) on the following dates in 2021:
  - April 27, May 18 and June 9
- Night-time air temperatures were at least 5°C for the ‘first’ survey, at least 10°C for the ‘second’ survey and at least 17°C for the ‘third’ survey.
- Each location was surveyed for three minutes on each date and surveys were completed between half an hour after sunset and midnight.



- Amphibian calling activity was rated used three levels: Level 1 (individual calls can be counted with no overlap), Level 2 (some called can be counted or estimated, some overlap) or Level 3 (calls continuous and overlapping, individuals not distinguishable).

Incidental observations were noted during other surveys.

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### 3.1.4 GENERAL WILDLIFE

Wildlife surveys on the subject properties were conducted on September 25, 2020; October 26, 2020; and December 7, 2020. Additional wildlife observations were noted incidentally during other surveys completed in 2021.

#### 3.1.2.1 *Methodology*

In addition to the targeted vegetation and aquatic surveys, a general wildlife survey and habitat assessment was undertaken during all field surveys. This involved recording all direct observations and signs of birds, amphibians, mammals, reptiles and insects, including: browse; track / trails; scat; bird nesting activity; tree cavities; burrows; and vocalizations. Additionally, these surveys included an assessment of potential SAR habitat and SWH habitat, and a preliminary inspection of structures that could potentially be used by nesting migratory birds and roosting bats<sup>1</sup>.

Species status was evaluated using the following sources:

- Fauna Ranks and Scores for TRCA Jurisdiction, 2020 for regional significance (i.e., L-Ranks) (TRCA, 2020);
- MNRF / NHIC website for provincial rarity ranks (i.e., S-Ranks);
- Species at Risk in Ontario list (MECP website – updated periodically) for provincial status designations;
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E, “SWH” (MNRF, 2015) for Area-Sensitive species; and
- National Species at Risk list (Schedule 1 of the Species at Risk Act, S.C. 2002, c. 29; updated periodically) for national status designations.

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<sup>1</sup> Note that the inspection of the structures was supplementary to other fieldwork. A complete SAR bat habitat inspection was not completed as part of this work.

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## 3.2 AQUATIC

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### 3.2.1 UPDATED HEADWATER DRAINAGE FEATURE ASSESSMENT

As part of the original CEISMP (February 2021) a preliminary Headwater Drainage Feature (HDF) assessment was completed, generally following guidance in the Evaluation, Classification and Management of Headwater Drainage Feature Guidelines (TRCA / CVC, 2014), herein referred to as the *HDF Guidelines*. Given the timing of the fieldwork for that preliminary HDF assessment in December 2021 and the timing of the original CEISMP (February 2021), an updated HDF assessment was completed during an appropriate time as of year as identified in the HDF Guidelines. This updated assessment is documented in a technical memo prepared by Geomorphix Ltd, Headwater Drainage Feature Assessments, 12668 Dixie Road & 12892 Dixie Road, Town of Caledon, ON (September 2022).

Based on the Geomorphix assessment, a more complete understanding of the HDF's on the Subject Properties was acquired, resulting in refined conclusions with respect to management recommendations identified in the original CEISMP. These conclusions have been reflected in the current report. Activities completed by Geomorphix as part of the updated assessment included the following:

- Background review and desktop assessment of existing site conditions, including review of site topography and drainage, as well as stream reach delineation.
- Review of existing reach delineation and HDF observations completed as part of the original CEISMP (February 2021).
- Field reconnaissance to examine existing conditions on site and verify the findings of the desktop assessment and reach delineation exercise, including HDF assessment following the *HDF Guidelines*.

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### 3.2.2 FLUVIAL GEOMORPHOLOGICAL ASSESSMENT AND EROSION HAZARD DELINEATION METHODOLOGY

Per the Fluvial Geomorphological Assessment and Erosion Hazard Delineation – 12892 Dixie Road, Caledon, ON (Geomorphix; February 2021), the following activities were completed to inform the fluvial geomorphological assessment and erosion hazard delineation:



- Review available background reports and mapping (e.g., watershed / subwatershed reporting, geology and topography) related to channel form and function and controlling factors related to fluvial geomorphology;
- Confirm watercourse reach delineation through a desktop assessment;
- Review recent and historical aerial photographs of the site to understand historical changes in channel form and function;
- Complete rapid geomorphological assessments on a reach basis to document channel conditions and verify the desktop assessment;
- Document any areas of significant erosion, collect instream measurements of bankfull channel dimensions, and characterize bed and bank material composition and structure; and
- Delineate limits of the erosion hazard on a reach basis using field observations.

Note that for this submission, both the fluvial geomorphological assessment and erosion hazard delineation was completed for Kilamanagh Creek only. As such, only the findings from the Geomorphix assessment on Kilamanagh Creek are summarized herein. For additional details the reader is directed to Geomorphix report (February 2021).

## 4 EXISTING CONDITIONS

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### 4.1 PHYSIOGRAPHY, DRAINAGE, HYDROGEOLOGY & SOILS

This section incorporates information from the Fluvial Geomorphological Assessment and Erosion Hazard Delineation – 12892 Dixie Road, Caledon, ON (Geomorphix; February 2021).

Within the subject properties, the West Humber River and associated tributaries are dominated by the Till Plains (drumlinized) physiographic region of Ontario (Chapman and Putnam; 2007). In terms of surficial geology, the subject properties are characterized by till (OGS; 2010). Soils within these areas include clay to silt-textured clay derived from glaciolacustrine deposits or shale (OGS; 2010). Evidence of till exposure and shale were observed on site during field investigations. Additionally, along the southern extent of the south parcel and the downstream extent of Tributary



5, soils were characterized by modern alluvial deposits, including clay, silt, sand, gravel, and organic remains (OGS; 2010).

The subject properties are situated within TRCA's jurisdiction and the Humber River watershed. The Humber River watershed originates in the Oak Ridges Moraine, outlets to Lake Ontario, and encompasses approximately 911 square km (TRCA; 2021). The West Humber River specifically originates in Caledon (South Slope) and flows over 45 km (crossing Peel Plain) in Brampton prior to its confluence with the Main Humber River in Toronto (TRCA; 2021).

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## 4.2 NATURAL HERITAGE FEATURES AND DESIGNATIONS

Refer to Figure 1 in Appendix A for the locations of features described below.

- No provincially designated features are found on or immediately adjacent to the subject properties. Such feature types include, but are not limited to, *Provincially Significant Wetland* (PSW), Areas of Natural or Scientific Interest (ANSI).
- Town of Caledon Official Plan (2018):
  - The riparian areas along Kilamanagh Creek and Tributary 5 as well as the *Significant Woodland* are designated as *Environmental Policy Areas* per Schedule B of the Official Plan. Note that per the Draft Future Caledon Official Plan (August 2023), Kilamanagh Creek, Tributary 2 and Tributary 5 are designated as *Natural Features & Areas*.
  - The remainder of each parcel is designated as *Prime Agricultural Area*, per Schedule B of the Official Plan. Per the Draft Future Caledon Official Plan (August 2023), these areas are designated as *New Employment Area*.
- Region of Peel Official Plan (2022):
  - The riparian areas along Kilamanagh Creek and Tributary 2 are designated as *Core Areas of the Greenland System* per Schedule C-2 of the Region Official Plan (ROP). Along Tributary 2, the *Core Areas of Greenlands System* extends from the east property limit to the western edge of the *Significant Woodland*.
  - Outside of the *Core Areas of the Greenland System* and areas subject to provincial plans, the remainder of each parcel is designated as *Employment Area* per Schedule E-4 of the ROP.



- Region of Peel Settlement Area Boundary Expansion (2022):
  - Per Figure DA2-9b of the Region of Peel Settlement Area Boundary Expansion Scoped Subwatershed Study, Part B: Detailed Studies and Impact Assessment (2022), the Kilamanagh Creek Valley, *Significant Woodland* and Tributaries 4 and 5 are each considered a *Key Feature*, with the valleyland along Tributary 5 identified as a *Supporting Feature*.
- Greenbelt Plan (2017):
  - The Kilamanagh Creek valley and the central *woodland* are designated as part of the *Natural Heritage System*, within the *Protected Countryside of the Greenbelt Plan Area*, per Schedule 4 of the Greenbelt Plan.
- Areas Regulated by TRCA under Ontario Regulation 166/06 of the Conservation Authorities Act:
  - Five regulated watercourses and associated floodplains / riparian areas are present:
    - Kilamanagh Creek, flowing west to east through the southern portion of the subject property;
    - Tributaries 2 and 3, conveying surface flows from west to east within the central *woodland*, offsite to the east and ultimately to Kilamanagh Creek;
    - Tributaries 4 and 5, conveying surface flows from northwest to southeast in the northeast portion of the north parcel offsite to the east and ultimately to Kilamanagh Creek;
    - Note that Kilamanagh Creek and Tributaries 4 and 5 have associated riparian wetlands that are within the regulated areas.
    - Based on available background information, Kilamanagh Creek is considered a coldwater system. All other tributaries are considered warmwater systems.

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## 4.3 NATURAL HERITAGE FEATURE LIMITS

As noted in the Technical Memo (Nov. 19, 2020), the following limits were staked prior to or during a site walk with TRCA, Town of Caledon, WSP and Armstrong Planning on October 27, 2020:



- Wetland limits along Kilamanagh Creek, Tributary 4 (staked on the west side; estimated on the east side) and Tributary 5;
- Woodland limits for the central forest; and
- Top of Bank along the north side of Kilamanagh Creek and the west side of Tributary 5.

Agency-verified limits were surveyed during the site walk for inclusion on base plans. Surveyed feature limits have been included on Figure 3 in Appendix A.

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## 4.4 VEGETATION & FLORA

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### 4.4.1 FLORA

In total, 65 vascular plant species were recorded during the WSP field investigations, with an additional 9 identified to the genus level. A list of all species recorded is provided in Appendix B. Summary statistics for these species are provided below.

- Of the 65 species recorded, 25 (38%) are non-native species, many of which are typical of old field and disturbed areas. These species are generally widespread and abundant in the cultural habitats across the subject properties.
- Of the 40 native species recorded, 34 (85%) are considered ‘secure, common and widespread’ in Ontario (ranked S5 or S5?) and 5 (13%) are considered ‘apparently secure, uncommon but not rare’ in Ontario (S4 or S4?).
- One species, Black Ash (*Fraxinus nigra*), is considered ‘vulnerable’ in Ontario (S3). Species ranked S1 to S3 are considered provincially rare. Approximately ten young trees were recorded growing in moist soil near the centre of the forest.
  - In addition, Black Ash is *Endangered* in Ontario and has been designated as *Threatened* by COSEWIC and may become designated as a federal SAR in the near future.
  - No other plant SAR have been recorded on the subject properties.
- No species are considered significant in the Greater Toronto Area (Varga et al., 2000). One species is considered “of concern regionally” (L3) in the TRCA jurisdiction: Running Strawberry Bush (*Euonymus obovatus*). This species was noted growing in moderate abundance in the ground layer of the forest.

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## 4.4.2 ECOLOGICAL LAND CLASSIFICATION (ELC)

Vegetation communities are shown on Figure 2 in Appendix A and described below.

In total, four (4) Vegetation Community Types were classified on the subject properties:

- Forest
  - FOD5-1 Dry-Fresh Sugar Maple Deciduous Forest (one unit)
- Marsh
  - MAM2-2 Reed-canary Grass Mineral Meadow Marsh (three units)
- Cultural
  - CUM1-1 Dry-Moist Old Field Meadow (three units)
  - CUT1 Mineral Cultural Thicket (one unit)

None of these communities is provincially rare (per NHIC website).

### 4.3.2.1 *Natural Communities on the Subject Properties*

#### **Dry-Fresh Sugar Maple Deciduous Forest (FOD5-1)**

This mature forest is approximately 9.1 ha in size. It is considered a *Significant Woodland* based on criteria in the Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSE, 2009), the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (MNRF, 2010) and Greenbelt Plan, 2005 Technical Definitions and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area, Technical Paper 1 (Ministry of Natural Resources, 2012). See further discussion in Section 6.5.2.1.

A Forest Management Plan has been prepared for this woodland (Sheard Forest Management Plan; Jackson Stewardship, 2019). The Forest Management Plan describes the forest (consistent with the description presented herein) and prescribes a silvicultural plan to maintain a “sustainable and productive woodlot while increasing species diversity and providing wildlife habitat” as well as to “provide an economic return in future years”. The treatment guidelines relate to tree marking and removal, site protection, Integrated Resource Management considerations, and utilization standards.

The tree canopy is dominated by Sugar Maple (*Acer saccharum*), with occasional White Ash (*Fraxinus americana*) and sparse American Beech (*Fagus grandifolia*) and American Basswood



(*Tilia americana*). The subcanopy is dominated by Sugar Maple with occasional White Ash and sparse American Beech. The understory is dominated by Sugar Maple with occasional White Ash. The ground layer is dominated by Sugar Maple with occasional White Ash, Wild Strawberry (*Fragaria virginiana*) and Avens (*Geum sp.*).

During 2020 field visits, selective logging activities were occurring within the forest. Trees were being felled and pulled out of the forest using a tractor and chains. A log processing machine was being operated at the forest edge. The trees being removed were of various species, but appeared to be primarily White Ash (*Fraxinus americana*) trees. The White Ash trees had evidence of Emerald Ash Borer insect infestation.

Tributaries 2 and 3 convey surface flows that originate in the adjacent agricultural fields (both on and off property) through this woodland.

In total, 41 species were recorded, 36 (88%) of which are native. One *Species of Conservation Concern* was recorded: Black Ash (*Endangered* in Ontario; assessed by COSEWIC as 'Threatened; considered 'vulnerable' in Ontario (S3)). Approximately ten young Black Ash were recorded in moist soil near the centre of the forest.

No species considered significant in the Greater Toronto Area (Varga et al., 2000) were recorded. One species considered "of concern regionally" (L3) in the TRCA jurisdiction was recorded: Running Strawberry Bush (*Euonymus obovatus*). Running Strawberry Bush is present in moderate abundance through the forest.

### **Reed Canary Grass Graminoid Mineral Meadow Marsh (MAM2-2)**

This vegetation community is present along the floodplains / riparian zones of Kilmanagh Creek (a wide zone on the floodplain), Tributary 4 and Tributary 5 of the West Humber River (very narrow linear bands immediately adjacent to the channel). Estimated area of each marsh is as follows: along Kilmanagh Creek (~ 0.8 ha); along Tributary 4 (~0.17 ha); and along Tributary 5 (~ 0.35 ha).

Each of these meadow marsh areas has a sparse subcanopy of Crack Willow (*Salix fragilis*). The understory is dominated by Reed-canary Grass with sparse Panicked Aster (*Symphotrichum lanceolatum*) and sparse Canada Thistle (*Cirsium arvense*).

In total, nine species were recorded, five (56%) of which are native. None is a SAR, provincially rare, or regionally rare. The Kilmanagh Creek marsh contains a greater species diversity than those along Tributaries 4 and 5; additional species are likely present in the Kilmanagh Creek marsh.



#### 4.3.2.2 Cultural Communities on the Subject Properties

Cultural areas include lands that have been cleared of natural vegetation or otherwise anthropogenically altered at some point in the past. These areas are typically of low botanical quality, with higher abundances of non-native and invasive species than relatively more natural / less disturbed communities.

Two cultural vegetation community types are present on the subject properties: cultural meadow and cultural thicket.

##### **Dry- Moist Old Field Meadow (CUM1-1)**

Areas that have been cleared of natural vegetation or that have been left fallow after agriculture typically succeed into cultural meadow. These communities are typically dominated by herbaceous species that are quick to colonize disturbed areas, such as disturbance-tolerant forb species and grasses. If left undisturbed, this community type may succeed towards cultural thicket once shrubs / woody species establish themselves.

Two cultural meadow units are present: a narrow linear feature in the northwest (~ 0.3 ha total area); and two areas in the northeast on either side of Tributary 5 (~3.4 ha total area).

Cultural meadow habitats on the subject properties have a sparse subcanopy of European Buckthorn (*Rhamnus cathartica*), Green Ash (*Fraxinus pennsylvanica*) and Bur Oak (*Quercus macrocarpa*). The understory is dominated by Smooth Brome (*Bromus inermis*), with occasional Tall Goldenrod (*Solidago altissima*), and sparse Red Raspberry (*Rubus idaeus ssp. strigosus*) and Common Mullein (*Verbascum thapsus*). The ground layer is dominated by Cow Vetch (*Vicia cracca*), Canada Thistle (*Cirsium arvense*), Kentucky Bluegrass (*Poa pratensis ssp. pratensis*) and Bird's Foot-trefoil (*Lotus corniculatus*).

In total, 29 species were recorded, nine (31%) of which are native. None is a SAR, provincially rare, or regionally rare.

##### **Mineral Cultural Thicket (CUT1)**

Areas that have been left fallow for several years after being maintained as lawn, cultural meadow, or cropland may succeed into cultural thicket.

One Cultural Thicket community / vegetation type is present on the upper slope of Kilamanagh Creek: a Mineral Cultural Thicket (CUT1) ~ 0.27 ha in size.



The canopy has a sparse cover of Green Ash and White Elm (*Ulmus americana*). The subcanopy is dominated by European Buckthorn, with sparse Common Apple (*Malus pumila*) and Hawthorn (*Crataegus sp.*). The understory is dominated by European Buckthorn. The ground layer is dominated by European Buckthorn seedlings and European Swallowwort (*Vincetoxicum rossicum*).

In total, six species were recorded, three (50%) of which are native. None is a SAR, provincially rare, or regionally rare.

#### 4.3.2.3 Vegetation Communities on Adjacent Lands

Vegetation communities on adjacent lands were not assessed because WSP staff did not have permission to enter.

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## 4.5 WILDLIFE

Wildlife observations were recorded during all ecological field surveys. Direct observations or evidence (e.g., nests, scat, tracks, browse) of 49 wildlife species was recorded: 37 avian species; five mammal species; three herpetofaunal species; and four insect species.

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### 4.5.1 AVIFAUNA

In total, 37 species were recorded within and adjacent to the subject properties. A full list of avifauna recorded is included in Appendix C.

- Breeding species. 31 species are considered 'breeding' (i.e., recorded with 'possible', 'probable' or 'confirmed' breeding evidence. Six species are potential breeders within the local landscape, but with no evidence of breeding on the subject properties (flying over, recorded outside of the breeding period or no evidence of breeding or nesting / lack of suitable habitat): Bobolink (*Dolichonyx oryzivorus*) Canada Goose (*Branta canadensis*), Common Raven (*Corvus corax*), Dark-eyed Junco (*Junco hyemalis*), Turkey Vulture (*Cathartes aura*) and White-breasted Nuthatch (*Sitta carolinensis*). Evidence of Yellow-bellied Sapsucker (*Sphyrapicus varius*) was observed within the *Significant Woodland* (feeding evidence on trees); however, no individuals were observed during any field surveys.

Avifauna recorded are primarily disturbance tolerant species commonly found in cultural meadow, urban and rural fringe environments (e.g., American Goldfinch (*Spinus tristis*), American Robin (*Turdus migratorius*), Common Grackle (*Quiscalus quiscula*), House



Sparrow (*Passer domesticus*), European Starling (*Sturnus vulgaris*), Mourning Dove (*Zenaida macroura*) and Song Sparrow (*Melospiza melodia*). Additionally, some forest-associated species were recorded within the *Significant Woodland*, including Eastern Wood-pewee (*Contopus virens*), Red-bellied Woodpecker (*Melanerpes carolinus*) and Red-eyed Vireo (*Vireo olivaceus*).

- MBCA. 28 Species are subject to the provisions of the Migratory Birds Convention Act (1994).

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#### 4.5.2 MAMMALS

Evidence of five mammal species was recorded: Coyote (*Canis latrans*); Eastern Cottontail (*Sylvilagus floridanus*); Grey Squirrel (*Sciurus carolinensis*); Northern Raccoon (*Procyon lotor*); and White-tailed Deer (*Odocoileus virginianus*). All are common and expected species within rural habitats.

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#### 4.5.3 HERPETOFAUNA

Evidence of spring breeding amphibians on the subject properties was limited, with low numbers of two species recorded at four locations:

- In total, six American Toads (*Anaxyrus americanus*) were recorded within the *Significant Woodland* during the second survey (four in the southeast corner at AC2; two in the north portion at AC4)
- In total, 10 Gray Treefrog (*Hyla versicolor*) were recorded across the subject properties, all during the third survey:
  - Three individuals recorded at AC1, within the Kilamanagh Creek valley;
  - Four individuals recorded at AC2, within the *Significant Woodland*; and
  - Three individuals recorded at AC6, within the Tributary 5 valley.

In addition, one Spring Peeper (*Pseudacris crucifer*) was recorded (calling) on September 25, 2020 in the *Significant Woodland*.

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#### 4.5.4 INSECTS

Four insect species were recorded: Banded Woollybear / Isabella Tiger Moth (*Pyrrharctia isabella*); Cabbage White (*Pieris rapae*); Clouded Sulphur (*Colias philodice*); and Monarch (*Danaus plexippus*), a SAR as discussed below. One adult Monarch butterfly was observed foraging on September 25, 2020 in the cultural meadow at the west property limit.

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#### 4.5.5 SPECIES OF CONSERVATION CONCERN

For the purposes of this report, Species of Conservation Concern (SCC) include: species federally designated by COSEWIC, including *Endangered* and *Threatened* species subject to the provisions of the Species at Risk Act (SARA); species provincially designated by COSSARO, including *Endangered* and *Threatened* species to the provisions of the Endangered Species Act (ESA); globally rare / uncommon (G-rank G1 to G3) species; provincially rare / uncommon (S-rank S1 to S3); and species listed as regionally significant according to the TRCA L-Ranks List (L-rank L1 to L3). Key SCC field survey results are listed below.

- Four species designated as SAR in Ontario and/or Canada:
  - Barn Swallow (*Hirundo rustica*) (*Special Concern* in Ontario and *Threatened* in Canada). Seven vacant nests were recorded in farm buildings, and three vacant nests were recorded in the Dixie Road culvert conveying Tributary 5. Note that the farm buildings have since been removed and replaced with a nesting habitat kiosk in the Tributary 5 valley. See Section 6.3.2.2 for discussion.
  - Bobolink (*Threatened* in Ontario and Canada). Two individuals were recorded incidentally during the June 2, 2021 breeding bird survey moving back and forth from the Tributary 5 valley to adjacent lands to the east. It is assumed that suitable breeding habitat for this species is present on adjacent lands and the individuals observed in this location were unpaired males, given that the habitat within the Tributary 5 valley is not suitable to support breeding for this species based on its size (~ 2.7 ha)<sup>2</sup> and fragmented nature. Additionally, as no individuals were observed during other surveys, and no breeding or nesting behaviour was recorded during either survey, these individuals were concluded to be 'observed' with no breeding evidence per OBBA. There is no other potentially suitable habitat on either parcel.
  - Eastern Wood-pewee (*Special Concern* in Ontario and Canada). Three individuals

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<sup>2</sup> Bobolink typically requires open areas at least 5 ha, preferably 10 ha in size [McCracken, et al., 2013])



recorded with ‘probable’ breeding evidence in the *Significant Woodland*.

- Monarch (*Special Concern* in Ontario and Canada. One adult was recorded on one date (September 25, 2020) flying over the cultural meadow habitat in the west portion of the north parcel. This was likely a migrant individual. Scarce amounts of milkweed and other pollinator plant species were recorded within cultural meadow habitats on the subject properties. Based on the nature of the observation (i.e., single fall flyover individual) and location (i.e., habitat without specific attributes for the species), the location where the individual was recorded is not considered to be an important life stage component for this species (e.g., specific nesting or foraging habitat) and no habitat of this type was observed on the subject properties.
- Four species ‘of concern regionally’ in the TRCA jurisdiction were recorded:
  - Brown Thrasher (*Toxostoma rufum*) (L3). Single individual recorded with ‘possible’ breeding evidence in the Kilamanagh Creek valley during the June 2, 2021 breeding bird survey.
  - Spring Peeper (*Pseudacris crucifer*) (L2) – as above.

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#### 4.5.6 SIGNIFICANT WILDLIFE HABITAT

*Significant Wildlife Habitat* (SWH) is identified by MNRF or other relevant planning authorities. As outlined in their Significant Wildlife Habitat Technical Guide (OMNR, 2000), SWH is broadly categorized as:

- Seasonal concentration areas (i.e., conifer forests for deer wintering);
- Rare vegetation communities or specialized habitats for wildlife;
- Habitats of species of conservation concern, excluding the habitats of endangered and threatened species; and
- Animal movement corridors.

An assessment of potential SWH on the subject properties was undertaken as part of the 2021 CEISMP based on the results of field surveys noted herein, secondary source information and evaluation criteria in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015). This assessment has been updated as summarized in Table 1.



**Table 1: Summary of SWH Types Potentially Present on the Subject Properties**

Criterion	Assessment	Location	Comments / Impacts
<b>Seasonal Concentration of Animals</b>			
Bat Maternity Colonies	<b>2021 Assessment: Candidate</b>	<i>Significant Woodland</i> in the centre of the subject property	<p>The mature forest habitat has &gt;10/ha large diameter (&gt;25cm dbh) wildlife trees providing suitable habitat for Big Brown Bat and Silver-haired Bat</p> <p>This woodland is within the <i>Protected Countryside</i> of the <u>Greenbelt Plan</u>. This Candidate habitat will be retained in full, with a development setback of dripline + 30 m. Indirect impacts will be mitigated with implementation of recommended measures discussed herein.</p>
<b>Rare Vegetation Communities or Specialized Habitat for Wildlife</b>			
Waterfowl Nesting Area	<p><b>2021 Assessment: Candidate</b></p> <p><b>No longer considered Candidate SWH based on in-season fieldwork completed since the February 2021 submission.</b></p>	CUT 1 habitat adjacent to the Marsh (MAM2-2) / in the south portion of the subject property along Kilamanagh Creek.	<p>The MAM2-2 wetland located along Kilamanagh Creek and associated upland habitat (CUT 1) is within the <i>Protected Countryside</i> of the <u>Greenbelt Plan</u>. This Candidate SWH will be retained in full and protected with a minimum development setback of ~ 20 m from CUT habitat). Indirect impacts will be mitigated with implementation of recommended measures discussed herein.</p> <p>This feature has been assessed through in-season fieldwork and does not meet the criteria to be considered <i>Confirmed SWH</i> based on the absence of indicator species.</p>



Criterion	Assessment	Location	Comments / Impacts
Amphibian Breeding Habitat (Woodland)	<p><b>2021 Assessment : Candidate</b></p> <p><b>No longer considered Candidate SWH based on in-season fieldwork since the February 2021 submission.</b></p>	Associated with the two tributaries within the <i>Significant Woodland</i> .	<p>Potentially suitable habitat in the woodland is within the <i>Protected Countryside</i> of the <u>Greenbelt Plan</u>. The woodland will be retained in full and protected with a 30 m development setback. Potential indirect impacts will be mitigated with implementation of recommended measures discussed herein.</p> <p>This feature has been assessed through in-season fieldwork and does not meet the criteria to be considered <i>Confirmed</i> SWH based on the absence of the required numbers of indicator species.</p>
Amphibian Breeding Habitat (Wetland)	<p><b>2021 Assessment: Candidate</b></p> <p><b>No longer considered Candidate SWH based on in-season fieldwork since the February 2021 submission.</b></p>	All three marsh (MAM2-2) units.	<p>Potentially suitable habitat is present within each of the MAM2-2 wetland units, though each is small and may not provide suitable hydrologic conditions to support amphibian breeding.</p> <p>Each of these wetlands is located outside of the development envelope and will be retained in full with appropriate development setbacks. Indirect impacts will be mitigated with implementation of recommended measures discussed herein.</p> <p>Each of these wetlands have been assessed through in-season fieldwork and none meet the criteria to be considered <i>Confirmed</i> SWH based on the absence of the required numbers of indicator species.</p>



Criterion	Assessment	Location	Comments / Impacts
Special Concern and Rare Wildlife Species	<b>2021 Assessment: Confirmed</b>	The <i>Significant Woodland</i> in the centre of the subject property (Black Ash and Eastern Wood-pewee).	<p>The forest (FOD5-1) provides habitat for: Black Ash, (a provincially rare species); and Eastern Wood-pewee (a <i>Special Concern</i> species) – three individuals were recorded with ‘Probable’ breeding evidence during targeted breeding bird surveys in 2021.</p> <p>This woodland will be retained in full and protected with a development setback of dripline + 30m. Indirect impacts will be mitigated with implementation of recommended measures discussed herein.</p>

As discussed in Table 1, four types of *Candidate* SWH and one type of *Confirmed* SWH were identified across the subject properties in the February 2021 submission. Based on findings of field work discussed herein, only one type of *Candidate* SWH and one type of *Confirmed* SWH is present as of 2023: Bat Maternity Colonies (*Candidate* habitat in the woodland); and Special Concern and Rare Wildlife Species (*Confirmed* habitat in the woodland). These SWH habitat types will be retained within the *Significant Woodland*.

Though all have been re-evaluated as of 2024 and none currently provides *Candidate* SWH, each of the previously identified *Candidate* SWH types are located within natural areas on the subject properties that will be retained and protected with the proposed development. Specifically, potentially suitable habitat within the Kilamanagh Creek valley, *Significant Woodland* and Tributary 5 valley will be retained in full and protected with setbacks and other mitigation / enhancement measures. Potential indirect impacts are expected to be negligible with the implementation of recommended mitigation measures, including the stormwater management approach, erosion and sediment control and natural feature setbacks and enhancements.

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## 4.6 AQUATIC NATURAL ENVIRONMENT

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### 4.6.1 AQUATIC HABITAT OVERVIEW

Based on a review of background information, five tributaries of the Humber River were identified as being present on the subject properties (Kilamanagh Creek and tributaries 2 – 5 of the West Humber River). Per the findings of a site visit in December 2020, the five mapped tributaries were



confirmed to be present as shown on Figure 2 in Appendix A. In addition, five HDFs that convey flows to the five tributaries were also mapped.

Kilamanagh Creek and Tributary 5 were confirmed to be well-defined, permanent watercourses that directly support fish habitat on the subject properties (per MECP correspondence and observations of fish by WSP).

Tributaries 2, 3 and 4 were confirmed to be present as intermittent / ephemeral features that indirectly support fish habitat in downstream reaches and receiving waterbodies through allochthonous and nutrient transport. Each feature appears to originate as undefined surface drainage from and/or tile drains from within agricultural fields on and adjacent to the subject properties. Tributaries 2 and 3 convey flows through the woodland, ultimately outletting to an on-line dug pond adjacent to Dixie Road. The confluence of Tributary 3 with Tributary 2 is immediately upstream of this pond. The outlet from the pond appears to be piped underneath Dixie Road where it is conveyed to a watercourse on the east side of the road and ultimately to Tributary 5 downstream of the subject properties. Tributary 4 conveys flows from the north parcel onto an adjacent residential property, before crossing under Dixie Road and continuing to the east, ultimately outletting to Tributary 5.

Across the subject properties, flows through these features are conveyed through undefined / poorly defined reaches. Tributaries 2, 3, 4 and all HDFs were dry during each site visit in 2020 (with standing water observed in subsequent surveys in 2021, see below) and lacked potential refuge habitat that would be required to support seasonally direct fish habitat.

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## 4.6.2 HEADWATER DRAINAGE FEATURE SURVEY

WSP conducted a preliminary *Headwater Drainage Feature* (HDF) assessment on the subject property per the *Rapid Assessment Method* outlined in the *HDF Guidelines* (2014), as documented in the original CEISMP (February 2021). This assessment was updated by Geomorphix based on fieldwork completed in 2021, following submission of the original CEISMP (February 2021). Results in the current report have been updated to reflect the conclusions of the Geomorphix assessment. The updated HDF assessment was completed on the following dates: March 30, 2021, during spring freshet conditions; May 26, 2021, following a period of 48 consecutive hours without rainfall; and September 2, 2021, following a period of 72 consecutive hours without rainfall. The HDFs assessed on the subject properties, as well as their management recommendations, are presented on Figure 2 in Appendix A.



#### 4.5.2.1 *Results*

Results as documented in the original CEISMP (February 2021) were confirmed with minor refinements through the updated assessment completed by Geomorphix, noting that the Geomorphix assessment included additional reach breaks compared to the preliminary assessment. Table 2 provides a summary of results for each assessed reach, as well as the corresponding management recommendations.



**Table 2. Headwater Drainage Feature Assessment Summary**

Drainage Feature Segment <sup>3</sup>	Step 1		Step 2	Step 3	Step 4	Management Recommendation
	Hydrology	Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	
HDF 1a	No features observed on site. <b>No Management Required.</b>					
HDF 1b	No features observed on site. <b>No Management Required.</b>					
HDF 2a	No features observed on site. <b>No Management Required.</b>					
HDF 2b	No features observed on site. <b>No Management Required.</b>					
HDF 3	No features observed on site. <b>No Management Required.</b>					
HDF 9c (formerly HDF 4)	No features observed on site. <b>No Management Required.</b>					
HDF 8a-5 (formerly HDF 5a)	No features observed on site. <b>No Management Required.</b>					
HDF 8a-4	FC – 2 (Standing water) FT – 2 (Vegetated swale) <b>Limited or Recharge Functions</b>	Straightened immediately adjacent to farm buildings	Lawn <b>Contributing Functions</b>	Allochthonous transport only <b>Contributing Functions</b>	No terrestrial habitat present <b>Limited Functions</b>	<b>No Management Required</b>

<sup>3</sup> Note that Tributary 2 (Reach 10), Tributary 3 (HDF 9b) and Tributary 4 (HDF 8a-3) as mapped on Figure 1 – 4 in Appendix A were also assessed as part of the HDF assessment. See discussion below regarding the retention of these features.



Key attributes for the assessed HDF segments are as follows:

- HDF 1a, 1b, 2a, 2b, 3, 8a-4, 8a-5 and 9c: These features were identified in the original CEISMP (February 2021) as potentially being present based on a review of aerial imagery and a reconnaissance field survey in December 2021. Based on the updated HDF assessment documented herein, no discernible features (or in the case of HDF 8a-4, absence of terrestrial habitat) were observed on site during the appropriate survey window, leading to a management recommendation of **No Management Required** for each of these reaches.
- The updated HDF assessment included Tributaries 2, 3 and 4, all of which were identified to have a management recommendation of **Conservation**, based on the *HDF Guidelines*. However, the management recommendation for these features is recommended to be increased to **Protection**, as these features have been identified for retention in-situ, based on their location on site (within the *Significant Woodland* for Tributaries 2 and 3), and the habitat that they provide (riparian wetland with potential amphibian habitat for Tributary 4). These features have been mapped as watercourses on Figures 1 – 4 in Appendix A.

#### 4.5.2.2 *Conclusions and Management Recommendations*

The features assessed using the HDF *Guidelines* as described herein were those that were identified to have attributes and/or functions that may be associated with headwater drainage features, as evaluated by a desktop pre-screening.

Each of the features identified within the development envelope through the preliminary HDF assessment were reviewed through the updated assessment in 2021, with no discernible features noted in these locations. As such, a management recommendation of **No Management Required** has been identified for these features. Previous recommendations for retention of Tributaries 2, 3 and 4 have been confirmed through the updated assessment.

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### 4.6.3 FLUVIAL GEOMORPHOLOGICAL ASSESSMENT AND EROSION HAZARD DELINEATION

This section incorporates information from the Fluvial Geomorphological Assessment and Erosion Hazard Delineation – 12892 Dixie Road, Caledon, ON (Geomorphix; February 2021) and summarizes the findings for Kilamanagh Creek. For additional details the reader is directed to Geomorphix's report.



### **General Reach Observations:**

Within the south parcel, Kilamanagh Creek is situated within a confined valley setting, exhibiting a meandering planform and a confined sinuosity ranging from 1.31 – 3.0. The surrounding land use consisted of agricultural land and the channel was in a transitional zone. The riparian buffer zone was approximately 1 to 4 channel widths beyond the watercourse and had continuous coverage. The dominant type of riparian vegetation was established (5 to 30 years) grasses. There was minimal encroachment of vegetation into the channel. The reach had perennial flow with a moderate gradient and moderate entrenchment. Bed material was composed of sand, gravel, and cobble. Riffle features consisted of sand, gravel, and cobbles, while pool features consisted of sand and gravel. Approximately 10% of the reach was occupied by rooted emergent aquatic vegetation, and there was a low density of woody debris present in the cutbank and channel. Average bankfull width and depth were approximately 1.83 m and 0.78 m, respectively. Average wetted width and depth on the day of assessment were approximately 1.63 m and 0.68 m, respectively. Given the field conditions on the day of assessment, all measurements were estimated. Bank angles ranged from 60° to 90° and consisted of clay/silt, sand, and gravel. Evidence of erosion was observed through 30 to 60% of the channel, with bank undercuts measuring up to 1.5 m in depth. Meander amplitudes were approximately 15 m to 25 m.

### **Rapid Assessment:**

Kilamanagh Creek was assigned a Rapid Geomorphic Assessment (RGA) score of 0.15, indicating the reach was in regime. The dominant geomorphological indicator was evidence of widening by the observation of fallen/leaning trees, exposed tree roots, and basal scour on both inside meander bends and riffles through the reach. The secondary geomorphological indicator was evidence of degradation, based on observations of the channel being worn into undisturbed overburden/bedrock. These characteristics influence the delineation of erosion risk in terms of overall channel stability. Kilamanagh Creek had a Rapid Stream Assessment Technique (RSAT) score of 27, or good. There were two limiting factors, including physical instream habitat and riparian habitat conditions. This was due to the limited geomorphological units, limited diversity in habitat types, and a narrow riparian area of mostly non-woody vegetation. It is important to note that the time of the field investigation (late fall) likely impacted the overall RSAT score in terms of habitat conditions.

### **Erosion Hazard Assessment:**

Given that the assessed reach of Kilamanagh Creek was within 15 m of the estimated toe of slope within the south parcel, a toe erosion allowance was determined. Based on the type of bed and bank material (i.e., clay/silt, tills) and evidence of active erosion, a 5 m toe erosion was deemed appropriate using MNRF (2002) guidelines. It is important to note that the erosion hazard is based on a combined influence of the toe erosion allowance and the stable slope. For confined systems,



a stable slope is identified as 3:1 (H:V) or as determined by a study using accepted geotechnical principles (MNRF, 2002). In the absence of a geotechnical investigation, a 3:1 slope was projected from the estimated toe of slope, and the 5 m toe erosion allowance was applied to delineate the overall erosion hazard. Note that the erosion setback is contained entirely within the recommended development setback from Kilamanagh Creek. The erosion setback line has been included on Figure 3 in Appendix A.

## 5 DEVELOPMENT PROPOSAL

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### 5.1 DEVELOPMENT PLAN OVERVIEW

The proposed development at the subject properties is the construction of three industrial buildings that vary in size (295,000 – 3,075,000 sq ft) and total approximately 3,972,000 square feet of new employment uses. The proposed uses are for e-commerce, technology and innovation, warehouse, and logistic type development. The [Site Plan](#) (Ware Malcomb; December 2023) is shown on Figure 4 in Appendix A.

Key elements of the plan are as follows:

- Retention of all natural areas (including all woodland, wetland and riparian areas), except for three small areas of cultural meadow (~ 1.14 ha or 1.4 % of the site);
- Respecting all development setbacks as identified in Section 7.1 and implementing an ecological corridor connecting the *Significant Woodland* and the Kilamanagh Creek valley in through the south parcel, see discussion in Section 7.1.4;
- Three buildings and associated loading dock areas and truck and car parking;
- Two Stormwater Management Ponds, two infiltration galleries and an underground storm chamber; and
- Seven points of access; three on Dixie Road and four on Old School Road.

### 5.2 STORMWATER MANAGEMENT

This section incorporates information from the following reports: [12668 & 12862 Dixie Road – Caledon Stormwater Management Report](#) (WSP; March 2024) and [Functional Servicing Report 12668 & 12862 Dixie Road](#) (WSP; February 2024). Relevant drawings are included in Appendix G; for additional details, the reader is directed to the SWM and FSR reports.



The development of the SWM strategy summarized herein was guided by the Stormwater Management Planning and Design (SWMPD) Manual (MECP; March 2003); TRCA Stormwater Management Criteria (August 2012); WSP Humber River SWM Water Quantity Control Criteria Updates (November 2020); and the Region of Peel Public Works Stormwater Design Criteria and Procedural Manual (June 2019). The updated SWM strategy consists of three wet facilities and two infiltration galleries and it has considered existing internal and external flows to retained natural areas. Flows to retained natural features are to be maintained in the proposed condition, with details to be included as part of the feature-based water balance assessment (prepared under separate cover). Catchments 1100, 1200 and 1300 are the post-development catchments within the development envelope. The key components of the SWM plan are summarized below:

- Catchment 1100
  - Building 3 will provide roof storage (80% of the roof surface area with a ponding depth of 0.10 m), which will discharge to an infiltration gallery. Overflow from the roof storage and at-grade runoff will be directed to SWM Pond A, which will discharge to a control manhole and convey flows east, ultimately outletting to Tributary 4 of the West Humber River.
  - SWM Pond A has been designed to hold a minimum volume of 23,840 m<sup>3</sup> to provide quantity control for all storms up to the 100-year storm event and will convey storm flows in the Regional event. With respect to water quality, SWM Pond A has been designed to achieve an 80% Total Suspended Solid (TSS) removal rate (Enhanced Level of Protection) through extended detention and permanent pool storage. Erosion control will be achieved by providing extended detention of the 25 mm event for 48 hours, with a target release rate of 0.077 m<sup>3</sup>/s.
  - The infiltration gallery will have a footprint of 11,480 m<sup>2</sup>, a storage capacity of 1,543 m<sup>3</sup> and the ability to infiltrate within 48 hours based on the soil conditions.
- Catchment 1200
  - Building 1 will provide roof storage (80% of the roof surface area with a pond depth of 0.10 m), which will discharge to an infiltration gallery. Overflow from the roof storage and at-grade runoff will be directed to SWM Pond B, ultimately outletting to Kilamanagh Creek.
  - SWM Pond B has been designed to hold a minimum volume of 6,720 m<sup>3</sup> to provide quantity control for all storms up to the 100-year storm event and will convey storm flows in the Regional event. With respect to water quality, SWM Pond B has been designed to achieve an 80% TSS removal rate (Enhanced Level of Protection)



through extended detention and permanent pool storage. Erosion control will be achieved by providing extended detention of the 25 mm event for 48 hours, with a target release rate of 0.032 m<sup>3</sup>/s.

- The infiltration gallery will have a footprint of 4,583 m<sup>2</sup>, a storage capacity of 616 m<sup>3</sup> and the ability to infiltrate within 48 hours based on the soil conditions.
- Catchment 1300
  - All roof area (i.e., Building 2) and at-grade runoff will be captured and conveyed through an on-site storm sewer system sized for the 100-year storm event, which will direct flows to an underground SWM chamber designed to hold a minimum volume of 3,865 m<sup>3</sup> to achieve quantity control; and a clear stone base will provide 317 m<sup>3</sup> of sump for infiltration. The 317 m<sup>3</sup> sump for infiltration provides for the minimum erosion control requirement of the retention of the first 5 mm of every rain event. The underground chamber itself will also provide extended detention of the 25 mm event for a period of 48 hours.
  - Isolator rows within the underground chamber achieve an 80% TSS removal rate (Enhanced Level of Protection) for water that is conveyed to Kilamanagh Creek.
  - For water that is infiltrated, the underground chamber will have the ability to infiltrate within 29 hours based on the soil conditions.

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## 5.3 WATER BALANCE AND HYDROGEOLOGY

This section incorporates information from the Preliminary Hydrogeological Assessment (MTE; Feb. 2021). An updated feature-based water balance assessment will be included as part of the current submission and considered as part of updated ecological commentary to be provided following the current submission.

### 5.3.1 GROUNDWATER RECHARGE

Though the subject property is not considered to be an area of significant groundwater recharge, measures to mitigate potential impacts are proposed. By implementing appropriate LID mitigation measures to maintain approximately 90% of the pre-development infiltration and implementing a Soil Management Plan (SMP) to mitigate the reduction in infiltration due to soil and subsoil compaction, **no significant change in groundwater recharge is anticipated following development.**



Furthermore, the agricultural drainage tile system discussed in Section 3.3 of the Preliminary Hydrogeological Assessment (MTE; Feb. 2021) likely intercepts some component of the infiltrating rainwater pulse under current conditions, effectively decreasing the realized groundwater recharge. **Removal of the drainage tile system will further improve groundwater recharge post-development.**

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### 5.3.2 TEMPORARY CONSTRUCTION DEWATERING

It is anticipated that only nuisance dewatering of groundwater seepage from sand / silt seams within the glacial till will be required during construction. The nuisance dewatering would be completed using sumps and pumps is **not anticipated to have a significant impact on nearby groundwater receptors.**

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### 5.3.3 LOW IMPACT DEVELOPMENT MEASURES

Appropriate low impact development (LID) measures may mitigate the anticipated decrease in post-development infiltration. Subject to site limitations, specific mitigation measures may include:

- Reduction of the amount of impervious surface area, where feasible;
- Storage of precipitation for subsequent use to satisfy landscape irrigation requirements;
- Topsoil thickening to provide additional storage;
- Promote diffused infiltration of stormwater so that, where feasible, runoff from impervious surfaces sheet flows over adjacent pervious surfaces that are managed to optimize infiltration capacity;
- Construction of bioretention cells and/or bioswales within proposed greenspaces, boulevards or landscaped areas to allow for the diversion of overland flow and subsequent infiltration; and
- Use of permeable pavements, where feasible (i.e., driveways, parking lots, sidewalks, patios, etc.).

It is recommended that suitable LID mitigation measures be implemented to maintain approximately 90% of the pre-development infiltration following development. The identification of water balance mitigation measures should be confirmed in reference to the updated Site Plan, with specific details and commentary on impacts to retained natural features provided as part of future Site Plan Applications.



## 6 POLICY ASSESSMENT

Relevant planning legislation and policy pertinent to this study are discussed in the following sections. An overview of key policies and implications is provided along with an assessment of the policy as it relates to natural heritage features within and immediately adjacent to the subject properties.

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### 6.1 FISHERIES ACT (1985)

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#### 6.1.1 OVERVIEW OF KEY POLICIES

The purpose of the federal Fisheries Act (Canada 1985) is to maintain healthy, sustainable, and productive Canadian fisheries through the prevention of pollution and the protection of fish and their habitat. Under the Fisheries Act, work in and near water must comply with the fish and fish habitat protection provisions of the Fisheries Act by incorporating measures to avoid the following (DFO 2019):

- causing the death of fish
- harmful alteration, disruption, or destruction (HADD) of fish habitat in your work, undertaking or activity

All projects where work is being proposed that cannot avoid impacts to fish or fish habitat or are at high risk of causing impacts require a DFO project review (DFO 2019). If potential impacts can be avoided, project approval is not required (DFO 2020).

When reviewing a project, DFO will identify potential risks of the project to the conservation and protection of fish and fish habitat. If it is determined that the project is likely to result in death of fish or HADD of fish habitat, an Authorization is typically required under the Fisheries Act. Proponents of projects requiring a Fisheries Act authorization may be required to also submit a habitat offsetting plan, which provides details of how the death of fish and/or HADD of fish habitat will be offset, and outlines associated costs and monitoring commitments. Proponents also have a duty to notify DFO of any unforeseen activities during the project that cause harm to fish or fish habitat.

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## 6.1.2 STUDY ASSESSMENT

### 6.1.2.1 *Applicability*

The watercourses on the subject properties are subject to the Fisheries Act.

### 6.1.2.2 *Potential Impacts*

Based on the development plan and SWM strategy discussed herein, potential impacts to fish and fish habitat associated with the proposed development consist of: downstream indirect or secondary impacts of the construction; alteration of nutrient and allochthonous inputs due to the change in land use; and construction of SWM outlet infrastructure within Kilamanagh Creek.

### 6.1.2.3 *Conclusion and Recommendations*

With the implementation of recommendations identified herein, including maintenance of surface water and groundwater inputs to retained watercourses (to be confirmed in future submissions / updates to current studies), the potential impacts on aquatic habitat across the subject properties can be mitigated such that the proposed development complies with the Fisheries Act.

Implement all recommended during-construction measures / best management practices and recommended SWM measures to mitigate potential impact to aquatic habitat. Outlets from to Kilamanagh Creek will be required. As part of future Site Plan Applications, the design of the SWM outlets to Kilamanagh Creek should be reviewed to assess compliance in consideration of the Fisheries Act, with the intent to minimize the footprint to the extent possible. Compliance with the Fisheries Act should be documented at the detailed design stage, with relevant agencies, as required.

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## 6.2 MIGRATORY BIRDS CONVENTION ACT (1994)

### 6.2.1 OVERVIEW OF KEY POLICIES

Most birds in Canada are protected by the federal Migratory Birds Convention Act (MBCA; Canada 1994), which prohibits the disturbance or destruction of migratory birds, their eggs and nests on all lands in Canada, even incidentally. Upon the enforcement of the Migratory Birds Regulations, 2022 (MBR, 2022; Canada 2022) in July 2022, nest protection has been limited to active nests for most migratory bird species. Schedule 1 of the MBR, 2022 identifies 18 migratory bird species whose nests are protected year-round and must be confirmed inactive for a defined



period (ranging between 12 and 36 months depending on the species) before they can be disturbed or destroyed. The nests must also be registered at the start of the defined period.

ECCC implements policies and guidelines to protect migratory birds, their eggs and their nests. There is guidance on the ECCC website to minimize the risk of incidental take effects on migratory birds, achieve compliance with the law and maintain sustainable populations of migratory birds<sup>4</sup>.

Compliance with the MBCA and MBR is best achieved through a due diligence approach, which identifies potential risk, based on a site-specific analysis in consideration of the Avoidance Guidelines<sup>5</sup> and Best Management Practices information on the ECCC website.

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## 6.2.2 STUDY ASSESSMENT

### 6.2.2.1 *Applicability*

Potential MBCA compliance implications may occur during the construction phase of development projects when the land is cleared and grubbed of vegetation, potentially removing the nests of migratory birds.

### 6.2.2.2 *Results and Conclusions*

The subject properties provide habitat for a variety of urban-adapted and disturbance-tolerant avifauna, as well as habitat for wetland-associated and woodland-associated species. It is important to note that almost all natural vegetation on the subject properties is located outside of the development envelope and will not be directly impacted by the proposed development. Notwithstanding this, compliance with the MBCA will be achieved using the following due diligence approach:

Proponent awareness of the MBCA, potential for nesting in the area and potential for impacts to migratory birds, nests and eggs.

- i. The subject properties provide suitable habitat for nesting of and species subject to the MBCA, as documented in the current and previous reports.
- ii. The footprint of the proposed works is limited primarily to agricultural areas.

Implementation of the following avoidance and mitigation measures, where possible:

- iii. Avoiding / minimizing the extent of works (particularly vegetation / potential nesting habitat

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<sup>4</sup> <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/guidelines.html>

<sup>5</sup> [Avoidance guidelines - Canada.ca](#)



removal) within the “regional nesting period” for this area<sup>6</sup>.

- iv. Avoiding works in key sensitive locations.
  - o Note that the footprint of proposed works is restricted to agricultural fields and anthropogenically disturbed, tolerant vegetation.
- v. Recommending Best Management Practices (BMPs) during construction to minimize potential indirect impacts to vegetation / potential nesting habitat outside of the direct footprint.

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## 6.3 SPECIES AT RISK ACT (2002)

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### 6.3.1 OVERVIEW OF KEY POLICIES

The federal Species at Risk Act (SARA) incorporates several prohibitions to protect individuals of listed threatened, endangered or extirpated Species at Risk (per Schedule 1 of the Species at Risk Act), including:

- *No person shall kill, harm, harass, capture or take an individual of a Threatened, Endangered or Extirpated species.*
- *No person shall possess, collect, buy, sell or trade an individual of a Threatened, Endangered or Extirpated species, or any part or derivative of such an individual.*
- *No person shall damage or destroy the residence of one or more individuals of a Threatened or Endangered species, or of an Extirpated species if a recovery strategy has recommended the reintroduction of the species into the wild in Canada.*
- *No person shall destroy any part of the critical habitat of any listed Endangered species or of any listed Threatened species – or of any listed Extirpated species if a recovery strategy has recommended the reintroduction of the species into the wild in Canada.*

Per Section 34, Section 58 and Section 61, these prohibitions apply to:

1. Aquatic species – on any lands;
2. Species of migratory birds protected by the MBCA– on any lands;
3. Any listed wildlife species – when on federal lands; and
4. Any listed wildlife species – when on non-federal lands, if recommended by the Minister of the Environment to the Governor in Council.

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<sup>6</sup> <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>

## 6.3.2 STUDY ASSESSMENT

### 6.3.2.1 *Applicability*

The project is on non-federal (private) lands and there is no order by Governor in Council; hence SARA only applies to aquatic and migratory bird species / habitat. There is potential habitat for aquatic species and migratory birds subject to SARA within the subject properties. Habitat suitability and presence / use was evaluated through agency correspondence and habitat assessments.

### 6.3.2.2 *Results and Conclusions*

#### Individuals and Residences

Evidence of three SARA-listed migratory bird species was recorded on the subject properties: Bobolink (*Threatened*, Schedule 1), recorded incidentally moving between the Tributary 5 valley and lands to the east (no breeding evidence or suitable breeding habitat on the subject properties); Eastern Wood-pewee (*Special Concern*, Schedule 1), recorded with 'probable' breeding evidence in the *Significant Woodland*; and Barn Swallow (*Threatened*, Schedule 1), recorded foraging over the agricultural fields, with nesting evidence observed within former (since removed) farm outbuildings. The buildings were removed by the previous owner of the property in March 2021 as they were deemed to not be structurally sound, and one nesting habitat replacement kiosk was constructed within suitable habitat in the Tributary 5 valley in April 2021. An ESA registration / Notice of Activity was submitted to the MECP prior to the removal of the buildings. Relevant correspondence has been included in Appendix E.

There is habitat for Redside Dace (*Endangered*, Schedule 1) in Kilamanagh Creek, confirmed by MECP. No individuals of the species were observed on the south parcel during field surveys; however, no fisheries investigations or fish sampling were conducted.

#### Critical Habitat

The reach of Kilamanagh Creek on the south parcel is identified as critical habitat<sup>7</sup> for Redside Dace per available information on DFO's aquatic species at risk mapping website. We are aware of no other critical habitat for SARA-listed aquatic or migratory bird species within the proposed area of works and none is known on adjacent lands where there is potential for indirect impact.

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<sup>7</sup> Per the [Recovery Strategy and Action Plan for the Redside Dace \(\*Clinostomus elongatus\*\) in Canada](#) (DFO, 2024), critical habitat for Redside Dace includes run, riffle or pool areas within the entire bankfull channel width, plus the meander belt and associated 30 m of vegetated area extending from the meander belt width,



### 6.3.2.3 Recommendations

Implement all recommended during-construction measures / best management practices to mitigate potential impacts to SAR individuals and recommended SWM measures to mitigate potential impact to downstream aquatic habitat. Stormwater management outlets to Kilamanagh Creek will be required. As the design of the SWM outlets progresses, the designs should be reviewed to assess potential impacts on identified Redside Dace critical habitat. Compliance with SARA should be determined at the detailed design stage, with relevant agencies, as required.

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## 6.4 ENDANGERED SPECIES ACT (2007)

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### 6.4.1 OVERVIEW OF KEY POLICIES

Species designated as Threatened or Endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO), otherwise known as Species at Risk in Ontario (SARO), and their habitats (e.g. areas essential for breeding, rearing, feeding, hibernation and migration) are automatically afforded legal protection under the Endangered Species Act (ESA) (Government of Ontario, 2007). ESA Subsection 9(1) states that:

“No person shall,

- (a) *kill, harm, harass, 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*
- I *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 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”*

The ESA also calls for the development of species-specific Recovery Strategies and Habitat Regulations. Unlike the *general habitat* of a species, *regulated habitat* may include areas that are currently unoccupied by the species. These areas are commonly referred to as “recovery habitat.”



To balance social and economic considerations with protection and recovery goals, the ESA also enables the MECP to issue permits or enter into agreements with proponents to authorize activities that would otherwise be prohibited by subsections 9(1) or 10(1) of the Act provided the legal requirements of the Act are met.

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## 6.4.2 STUDY ASSESSMENT

### 6.4.2.1 *Applicability*

Confirmed and potentially suitable habitat is present for species afforded protection under the ESA (2007).

### 6.4.2.2 *Habitat Assessment / Screening*

A SAR habitat suitability evaluation ('screening') was undertaken for SAR known to occur within the region, based on review of various sources including: species indicated by MECP through correspondence; NHIC data available online; MNRF Species at Risk regional species list; Ontario Reptile and Amphibian Atlas website; and DFO aquatic species at risk mapping.

An updated screening prepared as part of the current submission is included in Appendix D. In this, we assessed 'probability to occur on the subject properties' based on the 'key habitats used by species' (based on MNRF provided definitions or SARO website habitat descriptions). Considering findings of surveys and habitat suitability, we then assessed potential project impacts to individuals or habitats.

### 6.4.2.3 *Results and Conclusions*

We concluded that for many of the listed species, probability of occurrence on the subject properties was none or low given a lack of suitable or preferred habitat and/or rarity of the species. This was supported by field survey results. For those species, the potential for impacts was none.

For some species, there is potentially suitable habitat present (though use has not been confirmed) based on one or more of the following factors:

- i. the presence of potentially suitable habitat on or in the vicinity of the subject properties;
- ii. the relative commonness of species;
- iii. known records from the local area; and/or
- iv. The habitat requirements are not specific (i.e., they are 'generalists' that use a wide variety of natural and semi-natural habitat types).

For most species, no impacts are anticipated with proposed habitat retention and protection (i.e.,



woodland, wetland, meadow) and mitigation / enhancement measures, based on the following:

- i. Retention of most the most sensitive natural features (i.e., watercourse, wetlands, valleylands and woodlands), with development setbacks and future naturalized / enhanced buffers;
- ii. the small size and/or low quality of habitat that will be removed;
- iii. limiting of potential impacts to non-critical habitat (e.g., non-specific foraging habitat for breeding birds, but not breeding habitat itself) and/or compensation through habitat creation;
- iv. presence of suitable habitat in the local landscape;
- v. low likelihood of occurrence; and
- vi. mitigation / protection measures such as retention of suitable habitat within the subject properties, encounter protocols, exclusion fencing or timing windows to avoid sensitive periods.

For confirmed SAR or those with greater probability to occur, key conclusions are as follows:

- One *Endangered* SAR, Black Ash, was recorded during field surveys.
  - Several trees were recorded within the centre of the *Significant Woodland*. This habitat will be retained in full and protected with development setbacks, buffer enhancements and other mitigation measures.
- Potential roosting habitat for *Endangered* SAR bats is present in the forest and farmhouse on the north parcel.
  - The proposed development (Figure 4 in Appendix A) will retain suitable roosting habitat in the forest but alter potentially suitable roosting habitat in the existing farmhouse on the north parcel. Although a preliminary assessment of the structure was undertaken during field surveys in 2020, it is recommended that a more comprehensive habitat suitability assessment be completed prior to removal or relocation. ESA compliance requirements should be determined following the habitat assessment. It is recommended that isolated tree and building removal / relocation occur outside of the active bat period (i.e., between October 1 and March 31).
- MECP has identified Kilamanagh Creek as providing occupied habitat for Redside Dace, with the remaining tributaries on the subject properties provide contributing habitat to downstream populations (M. Eplett, MECP Management Biologist, pers. corresp., 2020).
  - The Redside Dace habitat in Kilamanagh Creek will be retained in full and protected with appropriate buffers and enhancements. Stormwater management



outlets to Kilamanagh Creek will be required. Pending confirmation of the footprint / design details of the outlets (e.g., location, size, impacts on habitat) at final design, consultation with MECP is recommended to determine ESA compliance requirements and confirm / update the Redside Dace habitat classifications on the subject properties.

- Contributing Redside Dace habitat on the subject properties will not be directly impacted by the proposed development (all Tributaries will be retained with no instream works proposed). Indirect impacts will be mitigated through construction best management practices, stormwater management design, maintenance of hydrogeological inputs (details to be included in future submissions, including future water balance details) and recommended buffers / enhancements.
- One *Threatened* SAR, Bobolink, was recorded incidentally during the breeding bird survey on June 2, 2021. No suitable breeding habitat for this species is present on the subject properties.
- Although not subject to the provisions of the ESA, three *Special Concern* species were recorded during field surveys: Barn Swallow<sup>8</sup>, Eastern Wood-pewee and Monarch.
  - Barn Swallow were recorded foraging over the agricultural fields and cultural meadow habitat, with up to seven nests observed in former farm outbuildings; nesting evidence also observed in replacement nesting habitat kiosk in the Tributary 5 valley. Since the removal of the farm outbuildings, as of 2023, there is no suitable nesting habitat for this species within the development envelope and foraging habitat will remain over retained natural areas. Additionally, there is abundant foraging habitat present in the local landscape. As such, the proposed development is not anticipated to negatively impact this species.
  - Up to three Eastern Wood-pewee individuals were recorded within the *Significant Woodland*, with 'probable' breeding evidence during targeted breeding bird surveys in 2021. The woodland will be retained in full and no direct impacts to habitat will occur. Potential indirect impacts to Eastern Wood-pewee habitat will be mitigated through the implementation of development setbacks and buffer enhancements.
  - One adult Monarch individual was observed flying over cultural meadow habitat on September 25, 2020, with no habitat that would be considered to support an important life stage for this species recorded on the subject properties. Impacts to Monarch habitat can be mitigated through the retention, protection and

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<sup>8</sup> Note that Barn Swallow was designated as *Threatened* in Ontario and subject to the provisions of the ESA at the time of the February 2021 report. As of January 2023, Barn Swallow has been re-designated as *Special Concern* in Ontario and is no longer subject to the protection provisions of the ESA. This change in status has been reflected in the current report.



enhancement of the natural vegetation on the subject properties (via buffer establishment) and habitat creation / enhancement via the ecological corridor. Milkweed and other pollinator species are recommended for inclusion in future buffer planting and ecological corridor plans.

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## 6.5 PROVINCIAL POLICY STATEMENT (PPS), 2020

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### 6.5.1 OVERVIEW OF KEY POLICIES

The Provincial Policy Statement (PPS) is issued under the authority of Section 3 of the Planning Act and provides Provincial direction related to three key land use planning principles including building strong communities, wise use and management of resources, and protecting public health and safety. The current PPS came into effect on May 1, 2020. Key natural heritage policies are discussed below.

Per Section 2.1.4 of the PPS, development and site alteration shall not be permitted in:

1. significant wetlands in Ecoregions 5E, 6E and 7E; and
2. significant coastal wetlands.

Per Section 2.1.5 of the PPS, development and site alteration shall not be permitted in:

3. significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
4. significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
5. significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
6. significant wildlife habitat;
7. significant areas of natural and scientific interest; and
8. coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b)

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Per Section 2.1.6 of the PPS, "Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements."

Per Section 2.1.7 of the PPS, "Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements."



Per Section 2.1.8 of the PPS, “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.”

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## 6.5.2 STUDY ASSESSMENT

Based on the field assessments, background information and in consideration of relevant guidance documents, a brief assessment of each feature listed under section 2.1 of the PPS is provided below:

1. Significant wetlands in Ecoregions 5E, 6E and 7E
  - No significant wetlands are present on or adjacent to the subject properties.
2. Significant coastal wetlands.
  - Not applicable
3. Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E1.
  - Not applicable
4. Significant woodlands in Ecoregions 6E and 7E.
  - The FOD5-1 woodland would be considered significant based on size (> 4ha) and other criteria listed in the Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSE, 2009); Natural Heritage Reference Manual for Natural Heritage Polices of the Provincial Policy Statement, 2005, Second Edition “NHRM” (Ministry of Natural Resources, 2010); and Greenbelt Plan, 2005 Technical Definitions and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area (OMNRF, 2012). The greater than 4 ha, ‘proximity to a watercourse (< 30 m)’, ‘habitat of SAR species (Black Ash, Eastern Wood-pewee)’, ‘linkage function (Natural Heritage System)’ and potential other criteria are met.
  - The woodland will be retained in full, with 30 m development setbacks and other mitigation, protection and enhancement measures including improved connectivity via the proposed ecological corridor.
5. Significant valleylands in Ecoregions 6E and 7E.
  - The Kilamanagh Creek valley is considered a *Significant Valleyland*. This valleyland meets criteria in the Greenbelt Plan, 2005 Technical Definitions and Criteria for Key



Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area (OMNRF, 2012) to be considered a *Significant Valleyland* as it contains a stream with a well-defined valley morphology (i.e., floodplain, riparian zone, meander belt and valley slope) with an average width of 25 m or more, and has a physical boundary defined by the stable top of bank (or long-term stable top of slope).

- The Tributary 5 valley is likely considered a Significant Valleyland as it is identified in the Town of Caledon Official Plan (2018) as a *Natural Corridor* and is designated as an *Environmental Policy Area*.
- Each of the valley features on site will be retained, with development setbacks of: 20 m from the staked top of bank adjacent to Tributary 5; and minimum 35 m from the staked top of bank adjacent to Kilamanagh Creek (closest distance between the top of bank and the edge of the SWM pond on the south parcel). Connectivity to other natural features will be improved via the proposed ecological corridor.

6. Significant wildlife habitat.

- No *Significant Wildlife Habitat* had been identified on the subject properties prior to natural heritage investigations in support of the CEISMP. Based on the updated assessment summarized in Section 4.4.6 of the current report, one type of *Candidate* SWH and one type of *Confirmed* SWH are present.
- Each of these SWH types is located within the *Significant Woodland*, which will be retained and protected with the proposed development plan. No direct impacts to the identified SWH types within the woodland are anticipated. Potential indirect impacts will be addressed through implementation of mitigation and enhancement measures recommended herein and/or to be confirmed / refined at final design.

7. Significant areas of natural and scientific interest.

- None is present on or adjacent to the property.

8. Coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy 2.1.4(b).

- Not applicable.

9. Fish Habitat.

- Kilamanagh Creek and Tributary 5 directly support fish habitat on the subject properties.
- Tributaries 2, 3 and 4 do not support direct fish use on the subject properties; those features provide contributing habitat to downstream populations only.



- All fish habitat (direct habitat in Kilamanagh Creek and Tributary 5; and indirect habitat in Tributaries 2-4) will be retained with setbacks and other mitigation measures.

#### 10. Habitat of Endangered and Threatened species

- Habitat is present for two *Endangered* species (Black Ash and Redside Dace). Potentially suitable habitat for *Endangered* SAR bat species is also present.
- Habitat for Redside Dace, confirmed SAR habitat (Black Ash) and potential SAR habitat (SAR bats) in the *Significant Woodland* will be retained, with setbacks and other mitigation measures. ESA compliance measures with respect to the alteration of the farmhouse and SWM outlets to Kilamanagh Creek will be addressed through future Site Plan Applications / detailed design.
- Potential habitat for SAR bats in the remaining buildings on the north parcel will be addressed through appropriate ESA compliance measures and recommendations identified in future Site Plan Applications / detailed design as required. Refer to Section 6.4.
- No confirmed habitat is present on the subject properties for *Threatened* species.

#### 11. Adjacent Lands

- Lands adjacent to significant features have been considered in the current study, with potential impacts to their ecological features and functions addressed in Section 7 of the current report. With recommended mitigation and enhancement measures identified herein, we conclude that implementation of the proposed works can be undertaken with no negative impacts to natural heritage features or their ecological functions.

#### 6.5.2.2 *Conclusions*

With recommended mitigation and protection measures, including recommendations for future work, the proposed development is consistent with the natural heritage policies of the PPS.

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## 6.6 GREENBELT ACT (2005) & GREENBELT PLAN (2017)

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### 6.6.1 OVERVIEW OF KEY POLICIES

The Greenbelt was introduced in 2005 to help shape the future of this region. The Greenbelt is the cornerstone of Ontario's Greater Golden Horseshoe Growth Plan (Growth Plan) which is an overarching strategy that provides clarity and certainty about urban structure, where and how future growth should be accommodated and what must be protected for current and future generations.

The Greenbelt Plan includes lands within and builds upon the protections provided by the Niagara Escarpment Plan (NEP), and the Oak Ridges Moraine Conservation Plan (ORMCP). The Greenbelt Plan, together with the NEP and ORMCP, identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas, and functions occurring on this landscape. The Greenbelt Plan, together with the Growth Plan, the NEP and the ORMCP, builds on the PPS to establish a land use planning framework for the Greater Golden Horseshoe that supports a thriving economy, a clean and healthy environment, and social equity.

The *Protected Countryside* is comprised of *Agricultural System*, *Natural System* and *Settlement Areas*.

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### 6.6.2 STUDY ASSESSMENT

Portions of the subject properties are within the *Natural Heritage System* of the *Protected Countryside*, as shown on Figure 1 in Appendix A. It includes the *Significant Woodland* as well as Kilamanagh Creek and its associated riparian corridor. These features have attributes that are considered *Key Natural Heritage Features* within the *Natural Heritage System*. Per policy 3.2.5 of the Greenbelt Plan, *Key Natural Heritage Features* include:

- Habitat of endangered and threatened species;
- Fish habitat;
- Wetlands;
- Life science areas of natural and scientific interest (ANSIs);



- Significant Valleylands;
- Significant Woodlands
- Significant wildlife habitat (including habitat of special concern species);
- Sand barrens, savannahs and tallgrass prairies; and
- Alvars.

Based on analysis presented herein, the central woodland is considered a *Significant Woodland*, and Kilamanagh Creek a *Significant Valleyland* that supports wetland, fish habitat and habitat of endangered and threatened species. Per policy 3.2.5.5 of the Greenbelt Plan, a minimum 30 m *Vegetation Protection Zone* is required from *Significant Woodlands*, wetlands, fish habitat and permanent and intermittent streams. As such, a 30 m<sup>9</sup> development setback has been established from these features (per the surveyed and agency approved feature limits) and incorporated into the development plan as shown on Figure 4 in Appendix A.

No impacts to natural features within the Greenbelt Plan area are anticipated with the implementation of recommended mitigation and protection measures, including the recommended development setbacks, maintenance of surface water and groundwater inputs (to be confirmed through updates to future studies) and construction mitigation measures / best management practices. Minor intrusion into the retained habitat along Kilamanagh Creek is required for the provision of SWM outlets; however, impacts are expected to be negligible within the implementation of the recommended mitigation and protection measures. Note that the February 2021 submission proposed development within portions of the Greenbelt Plan area. With revisions to the Site Plan as included in the current submission, all proposed development has been removed from the Greenbelt Plan area, except for a portion (0.86 ha) of the SWM pond located in the southwest corner of the south parcel.

Per Section 3.2.2 of the Greenbelt Plan, the *Natural Heritage System* within the Greenbelt Plan area has been refined and confirmed through the current study. Aside from minor intrusion for the required SWM outlets, no development or site alteration is proposed within the Natural Heritage System and connectivity will be improved with the implementation of the recommended ecological corridor between the *Significant Woodland* and the Kilamanagh Creek valley. More than 30 percent of the total developable area (i.e., the areas within the Greenbelt Plan, outside of the retained natural heritage features and their associated development setbacks) will be planted

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<sup>9</sup> Note that the 30 m setback from the Kilamanagh Creek valley as shown on Figure 3 in Appendix A is a combined setback, representing the furthest extent of the 30 m setback from the riparian wetland and 30 m from the Toe of Slope, representing the limit of occupied Redside Dace habitat on the south parcel.



with natural self-sustaining vegetation, with details to be provided as part of future Site Plan Applications.

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## 6.7 REGION OF PEEL OFFICIAL PLAN (2022)

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### 6.7.1 OVERVIEW OF KEY POLICIES

The Region of Peel Official Plan identifies a *Greenlands System* that is intended to support and express the Region's vision for the protection of the natural environment. The *Greenlands System* consists of *Core Areas*, *Natural Areas and Corridors*, and *Potential Natural Areas and Corridors*. Development and site alteration is generally prohibited within *Core Areas* of the *Greenlands System*. *Core Areas* of the *Greenlands System* are depicted on Schedule C-2 of the Region of Peel Official Plan.

Additionally, policies 2.6.19.7 and 5.6.20.12 of the Region of Peel Official Plan are of relevance to the proposed development.

Policy 2.6.19.7 states: "...that subwatershed plans, or **equivalent studies**, include, at a minimum, the following:"

- *A characterization of existing environmental conditions:*
- *The establishment of environmental targets to maintain, restore and enhance existing conditions:*
- *An assessment of the cumulative environmental impacts from existing and planned development:*
- *The consideration of land use, development, and infrastructure alternatives to avoid or minimize impacts:*
- *The identification of management strategies and actions to meet environmental targets and objectives including identification of water resources and **natural heritage system** features and areas requiring protection, improvement, restoration and enhancement:*
- *Confirmation of the boundaries of the Regional Greenlands System:*
- *Recommendations regarding monitoring and adaptive environmental management:*

Policy 5.6.20.12 states: "...local municipalities to include official plan policies that require community or neighbourhood block plans to implement the policies of any new secondary plans and the recommendations of the subwatershed study on a sub area basis in order to coordinate ...



layout / function of open space corridors, **natural heritage systems** and features, including linkages and enhancement areas, and storm water management.”

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## 6.7.2 STUDY ASSESSMENT

Portions of the subject properties, including Kilmanagh Creek and part of the *Significant Woodland*, are designated *Core Areas* of the *Greenlands System*. The approximate limits of the *Core Areas* of the *Greenlands System* have been included on Figure 1 in Appendix A. Precise limits of those features have been refined through the current study as shown by the feature limits and recommended setbacks included on Figure 3 in Appendix A.

No development is proposed within the *Core Areas* of the *Greenlands System*. In addition, no direct or indirect impacts to natural features within the *Core Areas* of the *Greenland System* are anticipated with the implementation of recommended mitigation, protection and enhancement measures, including recommended development setbacks, maintenance of water balance (to be demonstrated in the feature-based water balance prepared under separate cover), implementation of a future approved SWM approach and construction mitigation / best management practice.

The proposed development complies with **Policy 2.6.19.7** as follows:

- *A characterization of existing environmental conditions:*
  - See discussion in Section 3.0 for field surveys that have been completed to characterize existing environmental conditions on and immediately adjacent to the subject properties and Section 4.0 for the results of those surveys.
- *The establishment of environmental targets to maintain, restore and enhance existing conditions:*
  - See discussion in Section 7.3 for environmental targets related to the maintenance, restoration and enhancement of natural areas on and adjacent to the subject properties.
- *An assessment of the cumulative environmental impacts from existing and planned development:*
  - See discussion in Section 7.2.
- *The consideration of land use, development, and infrastructure alternatives to avoid or minimize impacts:*



- See discussion in Section 5.0 and 7.0 for a description of the development proposal (including natural area expansion) and mitigation measures to be implemented as part of the construction and operation of the proposed development.
- *The identification of management strategies and actions to meet environmental targets and objectives including identification of water resources and **natural heritage system** features and areas requiring protection, improvement, restoration and enhancement:*
  - See discussion in Section 7.0.
- *Confirmation of the boundaries of the Regional Greenlands System:*
  - See discussion in Section 7.0.
- *Recommendations regarding monitoring and adaptive environmental management:*
  - See discussion in Section 7.3.

**Policy 5.6.20.12:**

Of relevance to the proposed development, the Region undertook a Settlement Area Boundary Expansion (SABE) study to: determine appropriate locations for additional community and employment lands in the Town of Caledon; ensure consistency with the policy requirements of applicable provincial plans; and develop policies for the Regional Official Plan to guide future land use planning. As part of the SABE study, a number of technical studies were completed, including a scoped subwatershed study (SWS). Key recommendations from the SWS, specifically, the Scoped Subwatershed Study, Part C: Implementation Plan (Final Report) (Wood Environment and Infrastructure Solutions; November 2022) that are relevant to the proposed development have been reviewed and incorporated into the current study as follows:

- Of relevance to the subject properties (specifically the retained natural areas), the SWS identifies Kilamanagh Creek valley, the *Significant Woodland*, and Tributary 4 and the Tributary 5 valleys as a **High Environmental Constraint Areas** as well as **Key Features**.
  - Those constraint rankings have been confirmed through the current study. The Kilamanagh Creek valleyland, *Significant Woodland*, Tributary 4 and the Tributary 5 valley will be retained in full and protected with development setbacks, enhanced buffers and other mitigation / protection measures, including improved connectivity via the proposed ecological corridor.



- The SWS identifies a net benefit mitigation hierarchy for the management of the Natural Heritage System and is generally described as follows:
  - Avoid Creating the Impact
    - This has been achieved with respect to retained natural features, as they will be retained in full with appropriate development setbacks and mitigation / enhancement measures.
  - Minimize and Mitigate the Impact(s)
    - Achieved with respect to retained natural areas, as noted above.
  - Restore the System
    - This has been achieved for all retained natural areas through enhancing the size / buffering of the features, cessation of agricultural activities and with the implementation of the identified SWM approach (which will eliminate introduction of deleterious substances such as fertilizers, replacing with a SWM approach to meet standards for quantity and quality control).
  - Enhance the System
    - The retained natural features on the subject properties will be enhanced through implementing the recommended setbacks / buffer enhancement measures. Additionally, the broader landscape natural heritage system will be enhanced / restored through the creation of the ecological corridor connecting the *Significant Woodland* to the Kilmanagh Creek valley where no defined connection currently exists, which will ultimately add approximately 3.6 ha (pending refinements to extents of the ecological corridor components as part of a future Site Plan Application for the south parcel) to the natural heritage system for lands currently used for agriculture.

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### 6.7.3 CONCLUSIONS

The proposed development complies with relevant natural heritage policies in the Region of Peel Official Plan and is consistent with relevant natural heritage recommendations in the SWS Implementation Plan that was prepared a part of the SABE study.

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## 6.8 TOWN OF CALEDON OFFICIAL PLAN (APRIL 2018 OFFICE CONSOLIDATION)

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### 6.8.1 OVERVIEW OF KEY POLICIES

The Town of Caledon Official Plan (April 2018 Consolidation) provides goals, objectives and policies to direct land use change and activity in the Town of Caledon. Of relevance to this CEISMP are the directions regarding consideration of the natural environment in the land development process (Sections 3 and 5 of the Official Plan). Also relevant is the Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSE, 2009) prepared for the Region of Peel and the Town of Caledon, which provides a detailed and comprehensive analysis of criteria and thresholds recommended for identifying *significant woodlands* and *significant wildlife habitat* in the Region of Peel and the Town of Caledon.

The subject properties are within the Mayfield West Land Use Plan Area. Schedule B (Mayfield West Land Use Plan) of the Town of Caledon's Official Plan (2018) identifies the limits of the *Environmental Policy Areas* (EPA) within and adjacent to the subject properties. The approximate limits of the *Environmental Policy Areas* are shown on Figure 1 in Appendix A. Per Section 5.7 of the Town of Caledon's Official Plan (2018): *Environmental Policy Areas* include *Natural Core Areas* and *Natural Corridors* which “represent the fundamental building blocks of ecosystems in the Town.”

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### 6.8.2 STUDY ASSESSMENT

The current CEISMP has been prepared to address all relevant policies within the Official Plan.

The proposed development and CEISMP complies with relevant policies of the Official Plan as follows:

- It achieves the Ecosystem Planning and Management objectives stated in Section 3.2 by:
  - Implementing a systems approach that will help ensure that the diversity and connectivity of natural features in the Town, and the long-term ecological function and biodiversity within the *Environmental Policy Areas* is maintained and improved where possible, specifically through retention of natural features, setbacks and buffer enhancements and the establishment of an ecological corridor between the



*Significant Woodland* and the Kilamanagh Creek valley.

- Protecting endangered and threatened species.
- Providing compatible development and activities that do not negatively impact the natural heritage features and areas, and their ecological or hydrologic functions (to be demonstrated in the feature-based water balance prepared under separate cover).
- Protecting and enhancing tree canopy to support biodiversity, via buffer enhancement and establishment of an ecological corridor that provides wildlife movement opportunities and supports seed exchange between natural areas.
- Providing a clear mechanism for assessing the potential immediate and long-term impacts of development, site alteration and other activities on the *Environmental Policy Areas* (see Section 7.3 – Monitoring).
- Seeking to identify opportunities to mitigate against stresses and impacts through ongoing monitoring and ecological management (see Section 7.3).

In addition,

- With the site plan, development and site alteration will not occur within the *Environmental Policy Areas*.
- The recommended buffer widths for the natural heritage features have been incorporated into the development plan (Figure 4 in Appendix A). Development and / or site alteration is not proposed within the buffer areas, except for minor intrusion to install required SWM infrastructure and fencing at the recommended setback limits.
- No impacts to *Environmental Policy Areas* are anticipated with the implementation of: recommended mitigation and protection measures, including recommended development setbacks; implementation of an approved SWM strategy for each parcel, including maintenance of hydrogeologic inputs (to be demonstrated in the feature-based water balance); and implementation of construction mitigation measures / best management practices.
- Minor intrusion into the retained habitat along Kilamanagh Creek is required for the provision of SWM outlets; however, impacts to aquatic and terrestrial habitat are expected to be negligible with the implementation of the recommended mitigation and protection measures, and in consideration of the net benefit associated with the implementation of an approved SWM strategy. Compliance with applicable legislation (i.e., ESA, Fisheries Act, SARA) will be demonstrated as part of future submissions.

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## 6.9 TORONTO AND REGION CONSERVATION AUTHORITY REGULATION (O. REG. 166/06)

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### 6.9.1 OVERVIEW OF KEY POLICIES

The Toronto and Region Conservation Authority (TRCA) regulates development and/or interference with wetlands in accordance with Ontario Regulation 166/06 made under the Conservation Authorities Act. The regulation applies to areas that are within or adjacent to shorelines of lakes, river or stream valleys, wetlands, hazard lands, and other areas where development could interfere with the hydrologic function of a wetland.

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### 6.9.2 STUDY ASSESSMENT

TRCA's regulation limit is shown approximately on Figure 1 in Appendix A. TRCA's Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (TRCA, 2014) were reviewed to confirm compliance with Ontario Regulation 166/06. This will be achieved through the following:

- Wetlands and regulated watercourses will be retained in full with development setbacks of at least 10 m (30 m for wetlands within the *Protected Countryside* of the Greenbelt Plan, greater for watercourses based on the location of development setbacks from other features [i.e., *Significant Woodland*, top of bank along the Tributary 5 valley, toe of slope / riparian wetland along the Kilamanagh Creek valley]).
- Opportunities to maintain hydrogeological inputs to the retained natural areas will be discussed in the feature-based water balance presented under separate cover. Recommendations for specific mitigation measures and a detailed impact assessment with respect to the water balance should be included in future studies prepared as part of Site Plan Applications.
- Additional mitigation, protection and enhancement measures are recommended (see Section 7), including: buffer zone management, permanent fencing at natural area / development interfaces.



## 7 IMPACTS & MITIGATION

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### 7.1 MITIGATION AND ENHANCEMENT MEASURES

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#### 7.1.1 DEVELOPMENT SETBACKS AND BUFFERS

Development setbacks are proposed in relation to the wetland, woodland and valleyland limits, as verified by TRCA and Town of Caledon staff during a site meeting on October 27, 2020. Verified limits have been surveyed and incorporated into site plans. Feature limits and recommended setbacks are show on Figure 3 in Appendix A.

**Setbacks:** The following development setbacks should be implemented:

- i. Wetland limit outside of Greenbelt (marsh riparian wetland along Tributary 4) + 10 m<sup>10</sup>;
- ii. Wetland limit within Greenbelt (marsh riparian wetland along Kilamanagh Creek) + 30 m
- iii. Woodland limit (within Greenbelt [*Significant Woodland*]) + 30 m
- iv. Kilamanagh Creek estimated toe of slope + 30 m
- v. Stable top of bank (along Tributary 5 valley) + 10 m

The retained features, their associated setbacks and the proposed ecological corridor connecting the *Significant Woodland* and the Kilamanagh Creek valley represent the extent of the Regional Greenlands System and Town's *Environmental Protection Area* (and *Natural Features & Areas* in the Draft Caledon OP) on and adjacent to the subject properties.

**Buffer Management:** In addition to the recommended setbacks, the following buffer management measures are recommended, with details to be provided with future Site Plan Applications:

- i. Ecological enhancement of the intervening buffer areas (within the development setback zones);
- ii. Restricted access via permanent fencing.

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<sup>10</sup> Note that only the west side of the marsh wetland along Tributary 4 was verified and surveyed for inclusion on plans. The east side of this feature was delineated using aerial imagery and the 10 m setback on that side of the feature is approximate at this time. This feature limit and associated setback location should be ground-truthed as part of a future Site Plan Application.

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## 7.1.2 ENVIRONMENTAL ENHANCEMENT AREAS

Establishment of naturalized buffer areas (total buffer area of 5.24 ha) in current agricultural fields will provide an overall ecological enhancement to natural heritage features on the subject properties.

Subject to confirmation and/or refinement at detailed design, these enhancements should include a combination of natural succession, supplemented with native species plantings, with the following objectives: establishing native species in disturbed areas (i.e., current agricultural fields) before non-native species can become established; providing additional supplementary habitat for wildlife; and enhancing retained habitat for wildlife species (via improved buffering and increased woodland edge density to reduce impacts from development, and providing additional habitat for species recorded on the subject properties [i.e., incorporating milkweed and other pollinator species into planting plans]).

Additional opportunities for habitat enhancement are noted under 'ecological linkages'.

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## 7.1.3 WATER BALANCE / SURFACE WATER INPUTS

As discussed in Section 5.2, the preliminary water balance analysis presented in the Preliminary Hydrogeological Assessment (MTE; Feb. 2021) notes that none of the tributaries and associated wetlands on the subject properties is groundwater dependent. A feature-based water balance analysis will be submitted under separate cover. Recommendations for specific mitigation measures and an updated ecological impact assessment with respect to the water balance should be included as part of future Site Plan Applications.

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## 7.1.4 ECOLOGICAL LINKAGES

Creation of a new landscape level ecological linkage and enhancements to existing ecological linkage areas are proposed, as follows:

### **Proposed Ecological Corridor:**

A key component of the SWS included the identification of Linkages at the landscape level to protect against fragmentation of the natural heritage system and maintain connectivity with the SABLE lands as well as to adjacent lands outside of the Focused Study Area (FSA). The following are some of the objectives that were identified in the SWS to develop criteria for linkages within the SABLE lands, to be carried through to subsequent stages of planning:



- Ensure a connected natural heritage system that can support existing functions under a developed land use scenario.
- Maintain and where possible enhancement movement and connectivity to features and areas within and external to the FSA.
- Explore opportunities for softened interfaces between the natural and built environment that support the functions of the natural heritage system.

Within the south parcel, a **Local Landscape Linkage** has been identified between the *Significant Woodland* and the Kilamanagh Creek valley, identified on Figure DA2-10 of the Scoped Subwatershed Study, Part B: Detailed Studies and Impact Assessment (Final Report) (Wood Environment and Infrastructure Solutions; November 2022). Per the SWS, **Local Landscape Linkages** are intended to provide landscape-level connectivity within or to areas external to the FSA, and are comprised of a Minimum Vegetated Width (MVW) of 60 m and Permeable Landscape Zone (PLZ) of 30 m<sup>11</sup>. As part of the development plan, a naturalized corridor is proposed, as shown conceptually on Figure 4 in Appendix A, with the following key design elements:

- **Width.** MVW of at least 60 m, per direction in the SWS. Functionally, the corridor is wider at the ends where it connects with the *Significant Woodland* and Kilamanagh Creek setback / buffer areas. The wider ends are intended to direct wildlife through the corridor and create greater functional width where naturalized plantings are proposed within buffers to retained natural heritage features. There is a small area adjacent to the access road on the west side of Building 2 and adjacent to the parking area on the east side of Building 1 where the PLZ is less than the 30 m total specified in the SABE due to the angled orientation of the internal road<sup>12</sup> through the ecological corridor, relative to the corridor itself. Overall, the PLZ is wider than 30 m for the majority of the length of the ecological corridor and for all other areas, a minimum 15 m wide portion of the PLZ along either side of the ecological corridor will be planted with natural, self-sustaining vegetation to provide improved buffering and create a transition zone between the development and the ecological corridor. Note that the PLZ is also proposed to extend along the Kilamanagh Creek valley and *Significant Woodland* buffer areas to further enhance / protect these areas.
- **Wildlife Crossing Structure.** Based on guidance in the Credit Valley Conservation Fish and Wildlife Crossing Guidelines (Credit Valley Conservation [CVC], 2017), this structure

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<sup>11</sup> Note that the exact locations of the MVW, PLZ, wildlife crossing structure and wildlife exclusion fencing (discussed below) will be determined as part of a future Site Plan Application for the south parcel.

<sup>12</sup> This internal road connecting Building 1 to Dixie Road is required as access along the north side of the Significant Woodland is not possible based on property access restrictions and grading challenges.



is proposed at the internal road connecting Building 1 to the Dixie Road access, to accommodate small / medium-sized mammal and herpetofauna passage, with the following design attributes:

- Dimensions. Minimum of 1 m tall and 1 m wide, with an openness ratio target of at least 0.1. This target openness ratio was selected to accommodate the expected species groups that would use this corridor (e.g., mid-sized mammals, small mammals and herpetofauna), per guidance in the CVC Fish and Wildlife Crossing Guidelines (CVC, 2017). The exact dimensions and location / orientation of the crossing structure will be determined through a future Site Plan Application for the south parcel.
- Type. The crossing structure will be a concrete box structure with natural substrate and cover elements (woody debris, cobbles / boulders) installed through its length to provide refuge. Wingwalls may be utilized at either end to minimize the length required for the crossing structure and support the funneling of wildlife through the crossing structure. Exclusion fencing will tie-in to the wingwalls at either end.
- Funneling / exclusion measures as discussed below.
- **Restricted Access.** Permanent continuous fencing (i.e., minimum 1.2 m high chain link fence) along the length of the ecological corridor and extending along all feature setbacks to prevent uncontrolled access into retained / created natural heritage features. At either end of the ecological corridor, this fencing will widen out and tie into the feature setbacks that represent the limit of development adjacent to retained natural areas.
- **Wildlife Exclusion Fencing.** Combined with the permanent continuous fencing, intended to direct wildlife movement between natural areas and exclude wildlife from future development areas. Exclusion fencing is to be installed along the natural side of the permanent continuous fencing and will address the following criteria and objectives, based on guidance in the CVC Fish and Wildlife Crossing Guidelines (CVC, 2017):
  - Continuous along the length of the created ecological corridor and natural feature setbacks;
  - Vertical face with top overhang / lip of at least 15 cm wide to discourage wildlife climbing and movement over top of the exclusion fencing. Animex, ACO or equivalent fencing with one quarter inch or less mesh size should be used;
  - Sufficient height (e.g., 1 m) to restrict climbing and reduce potential for sediment accumulation in the natural areas, buried at least 20 cm into the ground to reduce potential for animals burrowing under the fence; and



- Long-term durability and low maintenance (e.g., resistant to frost heave and breakdown).
- **Native Species Plantings.** Extending into buffer enhancement areas and at least 15 m into the PLZ adjacent to the ecological corridor, with the following objectives:
  - Low maintenance; no herbicide or pesticide application; minimal pruning or ongoing maintenance.
  - Provide shading, cover and refuge from predators.
  - Provide suitable habitats / substrate for migrating herpetofauna (i.e., no barriers to movement).
  - Provide additional native species diversity. The intent is not to provide permanent habitat to encourage amphibian breeding, which could be detrimental, but to provide more suitable / safe areas for their movement.
- **Planting Strategy.** To achieve these objectives, detailed planting plans are to be prepared as part of future Site Plan Applications and incorporate at a minimum, dense, low growing shrubs (particularly tolerant and/or dense species, with taller shrubs and trees in 'nodes' or 'clusters'), with a native seed mix to provide additional cover and habitat throughout the ecological corridor. Planting plans for the ecological corridor should be consistent with the buffer planting plans to be prepared for the *Significant Woodland* and Kilamangh Creek valley buffer areas. The intent is to vegetate the entirety of the ecological corridor and create stepping stone habitat and cover that species can use to move to and from the wildlife crossing, in addition to creating supplementary habitat within the ecological corridor itself.
- **Cover Elements.** In addition to the native plantings, other hard cover elements to shelter and protect smaller and/or more sensitive wildlife should be incorporated into the ecological corridor (e.g., rootwads, habitat logs, brush piles and rock piles).
- **Signage / Stewardship.**
  - Interpretive signage, with information on the purpose of the corridor and noting that access is prohibited should be posted at regular intervals along the fencing on either side of the ecological corridor and at the road crossing, and along the fencing at the Kilamangh Creek and *Significant Woodland* setbacks. In addition, future Site Plan Agreements should include language regarding the corridor to facilitate awareness and ensure that the ecological corridor and supporting infrastructure (fencing, wildlife crossing culvert) are maintained in perpetuity by the site owner.



- A stewardship brochure intended inform property / operations managers about adjacent natural areas and how they can be responsible stewards of these natural resources should be prepared as part of future site plan approvals. Topics to address include: potential impacts and control / disposal of fertilizers and herbicides / pesticides; salt management, parking lot and automotive cleaning residues; protection of soil and vegetation in the natural areas; explanation of the importance of not removing vegetation from natural areas; responsible water usage; and lighting spillover into the natural areas. It is recommended that the brochure be provided to the proponent / property managers and made available at the site or at the Town offices.
- **Managing Construction Activities.** The ecological corridor should be isolated from the retained natural areas during-construction (e.g., via ESC fencing) to prevent any wildlife from moving into the construction area. Once construction of the road, wildlife crossing culvert, grading, restricted access / wildlife funnel fencing and planting / installation of wildlife habitat cover elements is complete, ESC fencing can be removed and the ecological corridor opened up to the adjacent natural areas.
- **Monitoring.** Post-construction monitoring should be undertaken to assess the condition of infrastructure (fencing and wildlife crossing culvert) and identify repairs / remedial actions as necessary, and assess wildlife use (i.e., photo monitoring to assess use of crossing, condition of fencing and use of wildlife cover elements).

#### **Existing Linkage Enhancements:**

- **Kilamanagh Creek Corridor.** A small portion of this valley corridor extends through the southern portion of the south parcel. It provides internal and external connectivity to areas off-site, to the west and southeast. This feature and the ecological function of this linkage will be maintained, enhanced and expanded via buffer plantings and the proposed ecological corridor.
- **Significant Woodland.** This relatively isolated feature currently provides limited connectivity to the east due to barriers (major road) and limited natural cover due to the presence of rural residences. Some connectivity to the Kilamangh Creek valley is possible under current conditions, though it extends through active agricultural fields with no areas of natural vegetation limiting functionality. The *Significant Woodland* (and by extension Tributaries 2 and 3) will be retained in full with a 30 m development setback and buffer enhancements. As part of the proposed development, this area will be linked to the Kilamanagh Creek valley via the proposed ecological corridor. See discussion above.



- **Tributary 5 of the West Humber River.** This linkage exists primarily north and east of the subject properties, with a small portion located in the northeast corner of the north parcel. External connectivity is limited by the presence of major roads. Nonetheless, within the north parcel, this feature and its function will be maintained by avoiding direct impacts to the most sensitive features (i.e., watercourse, riparian wetland and continuous vegetation), and provision of a setback of 10 m from the top of bank. This area also provides an opportunity for habitat enhancement (e.g., native species plantings / seeding in mowed areas; shrub plantings along the channel to increase shade). The potential for enhancement in this area should be considered as part of detailed landscape planting plans to be prepared as part of a future Site Plan Application for the north parcel.

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### 7.1.5 STORMWATER MANAGEMENT

Discussed in Section 5.2.

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### 7.1.6 BEST MANAGEMENT PRACTICES DURING CONSTRUCTION

The following measures are recommended to mitigate potential impacts during construction:

- Installation of temporary Vegetation Protection Fencing prior to any site grading to delineate the work zone and prevent direct damage to adjacent retained vegetation (i.e., mechanical damage, root damage, soil compaction). This fencing is to remain until construction is complete.
- Erosion and Sediment Control (ESC), specific measures are to be developed as part of future submissions for review and approval by the Town and TRCA. At a minimum, the approved ESC plan should include the following, as identified in the SWM report (WSP; 2024):
  - Install silt fence at the downslope side of disturbed areas and snow fence (if necessary) along the perimeter of the development envelope, prior to the start of construction.
  - Install stone mud mats at all construction entrances.
  - Stockpile topsoil at designated locations and at least 30 m away from the top bank of the watercourse. Stockpiles will be contained by silt fences on the downslope side.



- Accumulated silt shall be removed from all sediment control devices as required during construction and disposed of in locations approved by the Town of Caledon and TRCA.
- All exposed soils are to be stabilized and vegetated as soon as possible using seed and mulch application on 100 mm of topsoil, as directed by the engineer.
- All catch basins are to be fitted with sediment control devices as directed by the engineer and in accordance with Town of Caledon's standard requirements.
- Half bulkhead to be installed in storm manholes immediately upstream from outfall structures and removed after all building construction and landscaping activity has been completed.
- No construction activity / machinery shall intrude beyond the ESC fence or property limit. All construction vehicles shall enter and leave the site via designated entrances.
- All regraded areas that are not occupied by dwellings, roads, sidewalks, driveways, park, and other services shall be covered by 100 mm topsoil and sodded/seeded immediately after completion of final grading operations, as directed by the engineer.
- All temporary erosion and sediment controls must be installed prior to the commencement of site grading, must be inspected on a regular basis and after every rainfall event, and must be cleaned and maintained as required to prevent the migration of sediment from the site.
- All sediment and erosion control facilities are to remain in place until finalization of construction activity.
- All temporary erosion and sediment controls must be removed after construction and once the site has been stabilized to the Town of Caledon's satisfaction. All areas disturbed by erosion/sediment control devices are to be restored with 100 mm topsoil and sodded / seeded after construction.
- The contractor shall keep public roadways free of debris during construction. Any material tracked from the site shall be promptly removed from roadways at the contractor's expense.
- All material and workmanship shall conform to the current OPSD and standards endorsed by the Town of Caledon, the TRCA and other regulatory agencies.



- Additional erosion / sediment controls are to be implemented on an as needed basis as determined by the engineer.
- Other construction best management practices (BMPs) to minimize ecological impacts, including:
  - Refuel and wash equipment at least 30 m from retained natural areas.
  - Follow the Clean Equipment Protocol for Industry (Holloran 2013) when excavating moist or wet areas to prevent the spread of invasive species.
  - Prepare a spills management plan and keep on site.
  - Do not stockpile or store construction materials or soils within or immediately adjacent to retained natural areas (including buffers) or the proposed ecological corridor.
- The following measures are recommended for the protection of wildlife in general:
  - Install ESC fencing prior to construction and maintain throughout construction to prevent wildlife from entering the construction areas.
  - Awareness training. The Contractor shall ensure that any persons conducting construction activities are provided with an information package that they will review and acknowledge: (1) the objective of avoiding unnecessary damage to adjacent natural habitats, particularly the sensitive wetland areas and watercourses (including SAR habitat in Kilamanagh Creek); (2) the objective of avoiding unnecessary damage to adjacent natural / created / enhanced habitats; and (3) the mitigation and protection measures described herein (ESC fencing, vegetation protection fencing, access areas, refueling, spills management etc.).
  - If an animal is encountered during construction does not move from the construction zone and construction activities are such that continuing construction in the area would result in harm to the animal, all activities that could potentially harm the animal will cease immediately and the Contract Administrator will be notified.
  - Prior to starting works each day, examine the construction areas (including staging areas and beneath any equipment parked overnight) to ensure no SAR (or other wildlife) have entered the construction zone.
  - If a SAR or possible SAR is found in the construction area, all activities that could potentially harm the animal will cease immediately and the Contract Administrator



/ Site Manager will be notified. The Contract Administrator / Site Manager will then contact the MECP for direction.

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## 7.2 IMPACTS

This section reviews potential impacts or condition changes to natural environmental features on or bordering the subject properties, based on direct activities (e.g. construction activities such as clearing and grading) or indirect activities (e.g. occupancy activities such as dumping of rubbish or yard waste material). As previously noted, the proposed development envelope is restricted to culturally modified communities and active agricultural crop fields. As such, direct impacts to natural environment features are negligible.

The primary concerns relate to potential indirect impacts to retained natural environmental features on the subject property and adjacent lands, including areas within the *Protected Countryside* of the Greenbelt Plan. Potential indirect impacts include, for example, construction-related impacts to retained natural features, changes to hydrology, as well as post-development occupancy and operations-related activities. It is recommended that the identified mitigation measures are refined with additional details, as required, during future Site Plan Applications / detailed design.

Three primary natural environment factors are discussed: 1) aquatic resources; 2) vegetation; and 3) wildlife. In Table 3, each factor is reviewed in terms of potential effects, proposed mitigation and residual effects. It is recommended that the identified mitigation measures be incorporated with appropriate wording on construction drawings and grading plans that will be prepared prior to any site grading. The site plan, environmental features, and environmental management notes are provided on Figure 4 in Appendix A.

**Table 3: Potential Impacts and Proposed Mitigation Measures**

Feature Significance and Sensitivity	Natural Environment Impacts	Mitigation Measures
<p><b><u>AQUATICS</u></b></p> <p><b>Kilamanagh Creek</b> is located on the on the south parcel and adjacent lands to the south. Key attributes:</p> <ul style="list-style-type: none"> <li>• Permanent watercourse that directly supports fish use on the subject property. Identified by MECP as occupied Redside Dace habitat.</li> <li>• Naturally meandering channel through meadow and marsh habitat through the subject property.</li> <li>• Habitat on the subject property provides for a variety of life-cycle functions, including spawning, rearing and foraging for resident fish species.</li> </ul> <p><b>Tributary 5 of the West Humber River</b> is located on the north parcel and adjacent lands to the northwest and east. Key attributes:</p> <ul style="list-style-type: none"> <li>• Directly supports fish use on the subject property. Flow conveyance and fish observed in December 2020.</li> <li>• Appears to have been historically straightened through meadow and marsh habitat on the subject property.</li> </ul> <p><b>Tributaries 2 to 4 of the West Humber River</b> are located on the subject properties and adjacent lands to the east. Key attributes:</p> <ul style="list-style-type: none"> <li>• All provide Intermittent / ephemeral drainage, providing contributing habitat to downstream fish populations.</li> <li>• Undefined / poorly defined drainage features conveying flows that originate in active agricultural lands on and off the subject property.</li> <li>• Tributaries 2 and 3 are located within the <i>Significant Wetland</i> and will be retained in full. Tributary 4 support riparian wetland vegetation and will also be retained in full with appropriate development setbacks.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Direct Impacts.</b> Kilamanagh Creek channel and riparian areas will be retained in full. Note that two SWM outlets to Kilamanagh Creek are required. Tributaries 2 to 5 will be retained in full with appropriate development setbacks and buffer enhancements.</li> <li>• <b>Water quality.</b> Potential for increased sedimentation / erosion and changes in nutrient / allochthonous inputs. However, there will be improvements via the removal of some chemical and/or fertilizer inputs from current agricultural practices. Erosion and Sediment Control measures will be implemented as per the SWM report and will be subject to TRCA approval as part of future Site Plan Applications / detailed design.</li> <li>• <b>Erosion.</b> Potential for erosion in receiving watercourses.</li> <li>• <b>Hydrology.</b> Potential changes to the hydrological regime resulting from increases in impervious surface and elevated flows or as the result of SWM discharge.</li> <li>• <b>Hydrogeology.</b> Potential impacts on the groundwater regime (decreased recharge/infiltration) and subsequent impacts to baseflow. As noted in MTE (Feb. 2021) however, none of the tributaries / associated wetlands is groundwater dependent.</li> <li>• <b>Occupancy / Operation related effects.</b> Potential for some impact to aquatic resources (e.g., refuse / vegetation dumping) and water quality effects related to commercial uses (i.e., chlorides, fuels and oils from trucks).</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Surface Water (long-term) impacts.</b> Mitigated by: <ul style="list-style-type: none"> <li>○ <u>Development setbacks</u> of at least 30 m from Kilamanagh Creek and Tributaries 2 and 3 – providing a wide naturalized zone for sediment / contaminant filtration. Development setback of at least 10 m from Tributary 4 and 45 m from Tributary 5 to the staked top of bank setback.</li> <li>○ <u>SWM strategy.</u> No untreated stormwater runoff from the proposed development is to be directed to any of the retained natural areas. The SWM strategy provides for quality, quantity and erosion control from flows originating within the development envelope based on guidance within MECP's <u>Stormwater Management Planning and Design Manual</u> (2003), TRCA's Stormwater Management Criteria (2012) and the criteria established in the <u>Region of Peel Public Works Stormwater Design Criteria and Procedural Manual</u> (2019).</li> <li>○ <u>During-construction mitigation measures</u> to protect surface water quality are to be implemented – including an Erosion and Sediment Control (ESC) Plan, Spills Management Plan, vegetation protection fencing and typical best-management practices.</li> </ul> </li> <li>• <b>Water Balance.</b> <ul style="list-style-type: none"> <li>○ It is recommended that surface water inputs be maintained to the tributaries as discussed in Section 7.1.3 and shown on Figure 4 in Appendix A. Recommendations for specific mitigation measures and a detailed impact assessment with respect to the water balance should be included as part of future Site Plan Applications.</li> </ul> </li> <li>• <b>Erosion and Sediment Control.</b> Addressed via the SWM strategy.</li> <li>• <b>Occupancy / Operation-related Impacts</b> to be mitigated by: <ul style="list-style-type: none"> <li>○ <u>Buffer Management.</u> This buffer zone will include native species plantings to address: slope stability / erosion; additional sediment / nutrient filtration; and woodland edge integrity. The intent is to establish native vegetation in future buffers within current crop field areas and enhance existing naturalized areas with improved native species diversity / abundance (focus on CUM habitat, avoiding wetland areas).</li> <li>○ Installation of <u>permanent fencing</u> at development / natural area interfaces. See Figure 4 in Appendix A.</li> <li>○ Stewardship: installation of 'natural areas signage' at the development / natural area interface and provide of a Stewardship Brochure to owners and building managers.</li> </ul> </li> <li>• <b>Monitoring.</b> Monitoring will be confirmed through future Site Plan Applications. Related issues (i.e., erosion, filtration etc. are to be addressed by fluvial geomorphology monitoring).</li> </ul>

Feature Significance and Sensitivity	Natural Environment Impacts	Mitigation Measures
<p><b>VEGETATION</b></p> <ul style="list-style-type: none"> <li>• <b>Vegetation overview.</b> The development envelope is predominantly in agricultural use (row crops), with Kilmanagh Creek flowing through a valley along the southern property boundary, drainage features and associated natural habitat present in the northeast portion of the subject property, and a forest in the central portion.</li> <li>• <b>Wetlands.</b> Meadow marsh is present along Kilmanagh Creek, and along Tributaries 4 and 5 in the northeast portion of the north parcel.</li> <li>• <b>Vegetation Communities.</b> The following vegetation community types are present: Dry - Moist Old Field Meadow (CUM1-1); Mineral Cultural Thicket (CUT1); Dry – Fresh Sugar Maple Deciduous Forest (FOD5-1); and Reed-Canary Grass Mineral Meadow Marsh (MAM2-2). <ul style="list-style-type: none"> <li>○ None is provincially rare</li> </ul> </li> <li>• <b>Designated Areas.</b> Kilmanagh Creek and its associated natural habitat are identified as <i>Protected Countryside – Natural Heritage System of the Greenbelt Area</i> on Schedule 4 of the Greenbelt Plan (2017). In addition, the central (FOD5-1) woodland is identified as <i>Protected Countryside – Natural Heritage System of the Greenbelt Area</i> on Schedule 4 of the <u>Greenbelt Plan</u> (2017) and is considered a <i>Significant Woodland</i>. Tributary 5 of the West Humber River located in the northeast corner of the subject property is identified as an <i>Environmental Policy Area</i> on Schedule B of the <u>Town of Caledon Official Plan</u> (2018). There are no provincially designated features (e.g., PSW, ANSI) within or immediately adjacent to the property.</li> <li>• <b>Flora.</b> 65 vascular plant species were recorded. <ul style="list-style-type: none"> <li>○ One provincial SAR, Black Ash (Endangered), was recorded in the Significant Woodland. See discussion in Section 6.4.2. No federal SAR were recorded.</li> <li>○ None is globally rare.</li> <li>○ One species is provincially rare: Black Ash (S3).</li> <li>○ No species are considered significant in the Greater Toronto Area (Varga et al., 2000). One species is considered ‘of concern regionally’ (L3) in the TRCA jurisdiction: Running Strawberry Bush, recorded as moderately abundant in the woodland.</li> <li>○ Of the species that have a CC value, the majority (95%) are ‘tolerant’ or ‘moderately conservative’ (CC 0-6). Only two species have a higher CC value: Black Maple (<i>Acer nigrum</i> CC 7), and Black Ash. Both are located within the forest unit.</li> <li>○ 38% are non-native species.</li> </ul> </li> <li>• <b>Disturbance.</b> All vegetation is anthropogenically disturbed / influenced to varying degrees.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Direct Impacts.</b> Most natural vegetation will be retained. The following culturally derived, less sensitive vegetation units will be removed (~ 1.14 ha): portions of cultural meadow (CUM1-1) vegetation in the northeast portion of the north parcel (adjacent to Tributary 5), and an isolated CUM1-1 unit northwest of the <i>Significant Woodland</i>. <ul style="list-style-type: none"> <li>○ These are of low botanical quality, and substantively comprised of tolerant and/or non-native species. No unique and/or sensitive communities will be removed.</li> </ul> </li> <li>• <b>Indirect Impacts.</b> There is potential for impact to vegetation as the result of construction, changes in adjacent land use, changes to hydrology and occupancy-related activities. <ul style="list-style-type: none"> <li>○ <b>Woodland Edge Effects.</b> Vegetation dieback at woodland edges can result in the exposure of the less disturbed forest zone to additional sunlight and invasive plant species which can lead to trunk damage (sunscald), increased drying, and localized changes in ground flora (e.g., increase in exotic species) - particularly at the south and east-facing edges. Edge trees in in the woodlands on and adjacent to the property have been pre-stressed via agricultural activities; no substantive increase in sunscald or drying is anticipated in those areas.</li> <li>○ <b>Construction-related Impacts (short-term).</b> These include damage to vegetation outside the work zone; sedimentation; spills of contaminants/fuels; root pruning; damage to limbs; and soil compaction.</li> <li>○ <b>Hydrogeology.</b> Retained vegetation might be impacted by changes to hydrogeology on the subject properties. For example, adjacent wetlands that receive surface and groundwater inputs from the subject properties can be stressed if those inputs are significantly changed (e.g., change to surface water volume / flow direction; reduced infiltration or changes to groundwater flow direction). As noted however, none of the wetlands is groundwater dependent.</li> <li>○ <b>Occupancy / Operation-related Impacts.</b> These may include: woodland and wetland edge effects (e.g., invasive species proliferation); trail creation; vandalism; refuse/vegetation dumping; effects of salt spray from road maintenance.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Direct Impacts</b> to be mitigated by: minimizing disturbance footprint to the extent possible; buffer enhancement / habitat creation (with much larger resulting natural areas).</li> <li>• <b>Indirect Impacts</b> to be mitigated by: <ul style="list-style-type: none"> <li>○ Measures to mitigate <u>woodland edge effects</u> and valley vegetation impacts: establishing minimum setbacks of woodland / wetland +10 m (30 m for features within the Protected Countryside of the Greenbelt Plan).</li> <li>○ <u>Buffer zone management</u>, via native species plantings to address: vegetation community and botanical diversity; slope stability / erosion; and woodland edge protection. The intent is to establish native vegetation in future buffers and enhance existing naturalized areas with improved native species diversity / abundance.</li> <li>○ Installing temporary <u>Vegetation Protection Fencing</u> prior to any site grading to delineate the work zone and prevent direct damage to adjacent retained vegetation (i.e., mechanical damage, root damage, soil compaction). This fencing will remain until construction is complete.</li> <li>○ <u>ESC Plan</u>. To prevent sedimentation of retained vegetation, ESC fencing should be installed at grading limits prior to site grading. Additional measures to be confirmed at final design.</li> <li>○ <u>Hydrogeology</u> mitigation measures. As described above.</li> <li>○ <u>Ecological Corridor</u>. Increased natural heritage system size / diversity (via the proposed ecological corridor and buffer naturalization / enhancement).</li> </ul> </li> <li>• <b>Occupancy/Operation-related Impacts</b> to be mitigated by: <ul style="list-style-type: none"> <li>○ Indirect impact mitigation measures noted above.</li> <li>○ Installation of <u>permanent fencing</u> at development / natural area interfaces. See Figure 4 in Appendix A.</li> <li>○ Stewardship: installation of ‘natural areas signage’ at the development / natural area interface and provide of a Stewardship Brochure to owners and building managers.</li> </ul> </li> <li>• <b>Monitoring.</b> Monitoring will be confirmed through future Site Plan Applications and is expected to include general overview / vegetation transect-plot monitoring in the retained natural areas adjacent to the proposed development. Locations and approach will be confirmed through future Site Plan Applications.</li> </ul>

Feature Significance and Sensitivity	Natural Environment Impacts	Mitigation Measures
<p><b>WILDLIFE</b></p> <ul style="list-style-type: none"> <li>The subject properties provide very little wildlife habitat within the proposed development envelope.</li> <li>Highest quality / most diverse wildlife habitat is associated with Kilamanagh Creek and the <i>Significant Woodland</i> (areas within the Protected Countryside of the Greenbelt Plan).</li> <li><b>Avifauna.</b> 37 bird species recorded - a mix of common generalists / urban-adapted species and woodland-associates. No sensitive or otherwise limiting habitat is present within the development envelope.</li> <li><b>Herpetofauna.</b> The subject property provides some limited habitat for foraging and amphibian breeding. Three herpetofauna species were recorded on the subject properties in low numbers: American Toad recorded calling in low numbers within the <i>Significant Woodland</i>; Gray Treefrog recorded calling in low numbers in the Kilamanagh Creek and Tributary 5 valleys, and the <i>Significant Woodland</i>; and Spring Peeper, with a single individual calling from <i>Significant Woodland</i>.</li> <li><b>Insects and Mammals.</b> Several common / expected species were recorded during field surveys. No notable / specialized habitat is confirmed, though there is potential for SAR bat habitat in the farmhouse on the north parcel and the <i>Significant Woodland</i>.</li> <li><b>Species of Conservation Concern.</b> <ul style="list-style-type: none"> <li>Four SAR were recorded: Barn Swallow (<i>Special Concern</i>) – seven nests recorded in farm buildings which were torn down and replaced with a nesting habitat kiosk; Bobolink (<i>Threatened</i>) – two individuals recorded incidentally in the Tributary 5 valley and on adjacent lands, no suitable habitat present on the subject properties; Eastern Wood-pewee (<i>Special Concern</i>) – three individuals recorded with ‘probable’ breeding evidence in the <i>Significant Woodland</i>; Monarch (<i>Special Concern</i>) - single migratory individual recorded on September 25, 2020.</li> <li>Four species of concern regionally per TRCA 2020: Bobolink, Brown Thrasher, Yellow-bellied Sapsucker and Spring Peeper.</li> <li>No nationally or provincially rare wildlife species were recorded.</li> </ul> </li> <li><b>Wildlife Movement.</b> Wildlife movement opportunities are present within the Protected Countryside of the Greenbelt Plan. There are barriers to movement due to roads, development and lack of contiguous natural habitat across agricultural fields.</li> </ul>	<p>Potential impacts on wildlife habitat are similar to those discussed for vegetation (i.e., direct / indirect impacts to habitat – removals of culturally derived habitat and occupancy-related effects etc.).</p> <ul style="list-style-type: none"> <li><b>Direct impacts.</b> Removal of ~ 1.14 ha of cultural meadow habitat</li> <li><b>Movement opportunities.</b> Negligible – loss of agricultural field and poor quality habitats that provide potential movement opportunities for more tolerant species<sup>13</sup>, but limited existing cover and connectivity. Movement areas in the valleylands will be retained and enhanced, and the proposed ecological corridor between the Kilamanagh Creek valley and the <i>Significant Woodland</i> will improve connectivity in the local landscape and increase the amount of habitat available on the subject properties.</li> <li><b>Habitat for wildlife Species of Conservation Concern.</b> Removal of ~ 1.14 ha of cultural meadow that provides limited habitat for Monarch (based on scarce amounts of milkweed and overall low habitat quality) and disturbance tolerant wildlife. Impacts to these species will be mitigated through the establishment of naturalized buffers and retention and habitat created as part of the proposed ecological corridor, resulting in a net benefit through an increased amount of habitat on the subject properties and improved composition.</li> <li><b>Indirect Impacts.</b> There is potential for indirect impacts to wildlife habitat as a result of construction, changes to hydrogeology and occupancy related activities.</li> <li><b>Construction-related impacts.</b> These are generally limited to temporary disturbances to edge habitats during construction. Potential for sedimentation and contamination are addressed by ESC and SWM measures.</li> <li><b>Hydrogeology.</b> Potential impacts to retained natural vegetation as the result of hydrogeological changes may also impact wildlife habitat, particularly for sensitive species (e.g., potential amphibian breeding in wetlands).</li> <li><b>Occupancy / Operation-related impacts.</b> These may include: creation of informal trails; dumping; noise pollution; woodland edge effects; and other degradation of wildlife habitat (as discussed under preceding sections).</li> </ul>	<p>Retention and protection of vegetation in retained natural areas (as discussed above) will also protect wildlife habitat. Mitigation measures include: setbacks and buffer management; habitat creation via buffers and the proposed ecological corridor; maintenance of hydrogeological inputs; ESC plan; SWM strategy; stewardship measures; and temporary and permanent fencing. Additional specific mitigation measures for wildlife include the following:</p> <p><b>Avifauna</b></p> <ul style="list-style-type: none"> <li>Retain, protect and enhance the natural vegetation on the subject properties – beneficial to all avifauna.</li> <li>Retain, protect and enhance all woodland habitat on and adjacent to the subject properties – for ‘woodland associated’ species and SCC.</li> <li>Retain and enhance habitat for successional species (e.g., via buffer and corridor naturalization / enhancement).</li> <li>Increased natural heritage system size / diversity (via the proposed ecological corridor and buffer naturalization / enhancement) – beneficial for ‘area-sensitive’ species.</li> </ul> <p><b>Herpetofauna</b></p> <ul style="list-style-type: none"> <li>Retain, protect and enhance the Kilamanagh Creek valleyland, watercourses, <i>Significant Woodland</i> and associated wetlands on the subject property – beneficial for all herpetofauna.</li> <li>Implement the proposed ecological corridor between the Kilamanagh Creek valley and the <i>Significant Woodland</i> to create habitat and increase connectivity between amphibian breeding habitats.</li> <li>Maintain groundwater and surface water inputs to receiving wetlands and watercourses, as needed.</li> </ul> <p><b>Insects and Mammals</b></p> <ul style="list-style-type: none"> <li>General measures for habitat protection / enhancement will benefit recorded or potential insect and mammal species.</li> <li>Retain, protect and enhance the <i>Significant Woodland</i> – as suitable bat maternity roosting habitat.</li> <li>Retain, protect and enhance the natural vegetation outside of the proposed development envelope on the subject property – (e.g., incorporate Milkweed and other nectaring plants into buffer planting plans and the proposed ecological corridor) for Monarch habitat and other insect species, and incorporate hard cover elements to diversify habitat for wildlife.</li> </ul> <ul style="list-style-type: none"> <li><b>Habitat for wildlife Species of Conservation Concern.</b> Habitat for potential SCC will be retained in the <i>Significant Woodland</i> and valleylands, with enhancements via buffer naturalization, enhancements and habitat creation, including in the proposed ecological corridor.</li> <li><b>Wildlife Movement opportunities.</b> Retain and enhance linkages along the riparian areas of each watercourse on the subject properties (including the <i>Significant Woodland</i>). Implement the proposed ecological corridor through future Site Plan Applications / detailed design, per the guidance in Section 7.1.4.</li> <li><b>Monitoring.</b> Monitoring will be confirmed through future Site Plan Applications and is expected to include avifaunal and amphibian breeding monitoring in the retained natural areas adjacent to the proposed development, in adjacent to monitoring associated with the proposed ecological corridor. Locations and approach will be confirmed through future Site Plan Applications.</li> </ul>

<sup>13</sup> Tolerant wildlife species are adaptable species that are commonly found within disturbed / anthropocentric habitats, including for example White-tailed Deer, Raccoon, Eastern Cottontail, Striped Skunk, American Robin and Red-winged Blackbird. This is a qualitative description based on the nature of habitats in question, broader landscape context / matrix and understanding of species present or potentially present in the area, and based on corporate experience and other comparable sites.

### **7.3 LONG TERM ENVIRONMENTAL MONITORING PLAN & COMPREHENSIVE ADAPTIVE MANAGEMENT PLAN**

A Long-Term Environmental Monitoring Plan (LTEMP) and Comprehensive Adaptive Management Plan (CAMP) is required based on applicable policy. The primary objective of the LTEMP is to monitor changes to various environmental parameters over time, specifically during pre-development, development and post-development. The primary objective of the CAMP is to monitor the effectiveness of mitigation measures and the selected environmental management strategies that are implemented to support future development.

A detailed LTEMP and CAMP will be prepared for each parcel as part of future Site Plan Applications. At a minimum, those submission will include biological monitoring components (avifauna, herpetofauna, vegetation and monitoring of the proposed ecological corridor as discussed in Section 7.1.4), fluvial geomorphological and hydrogeological monitoring (as warranted for each parcel).

The detailed LTEMP and CAMP for each parcel will include the identification of environmental parameters and triggers to focus the monitoring activities. Items to consider could include: substantive changes in channel cross-section dimensions (i.e., > 10% change of average width and depth); inadequate vegetation coverage within enhanced areas (i.e., ecological corridor and buffer areas); inadequate establishment of woody vegetation (i.e., < 80% successful establishment). Additional triggers should be incorporated as warranted into the specific monitoring plans for each parcel. Any observed environmental parameter or trigger will require assessment and a potential adaptive management strategy will be developed in consultation with the TRCA and Town (as needed). The monitoring programs are recommended to continue for at least five full / consecutive calendar years, staged to coincide with the years of construction and buildout for each parcel. Each monitoring plan is to be undertaken in addition to typical during-construction monitoring (e.g., ESC / vegetation protection / wildlife exclusion fencing inspections).



# 8 CONCLUSIONS & RECOMMENDATIONS

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## 8.1 CONCLUSIONS

Based on the review discussed herein, we conclude that proposed development can be undertaken while protecting environmental features, with the implementation of the recommended development setbacks and other mitigation measures, and subject to technical studies that will be prepared as part of future submissions.

This conclusion reflects the following considerations:

- Natural Area Protection and Enhancement. There will be no intrusion into the *Key Natural Heritage Features* of the Protected Countryside of the Greenbelt Plan on the subject property and the riparian wetlands associated with Tributaries 4 and 5 of the West Humber River. These areas will be retained in full and their ecological functions will be protected with development setbacks, permanent fencing and buffer enhancement.
- The conceptual development design measures, as well as environmental management and setback / buffer implementation, conform to the environmental management and mitigation principles identified in the relevant policies outlined in the Town of Caledon Official Plan (April 2018 Consolidation).
- The proposed development incorporates the guidance / recommendations included in the Scoped SWS prepared as part of the Region of Peel SABE, including the implementation of the *Landscape Level Linkage* between the *Significant Woodland* and Kilamanagh Creek valley.
- A feature-based water balance analysis will be submitted under separate cover. Recommendations for specific mitigation measures and an updated ecological impact assessment with respect to the water balance should be included in future submissions as part of Site Plan Applications.

To ensure that environmental protection and mitigation is properly managed during site development the following measures are recommended, to be confirmed or refined as part of future Site Plan Applications:

- Prepare ESC plans for submission and approval by the TRCA and Town of Caledon prior



to any grading and site alteration.

- Implement vegetation and silt protection measures (e.g., diversion berms, temporary sediment control basins, temporary paige wire fencing and silt fencing) prior to site grading and maintain throughout construction.
- Install permanent fence at the development interfaces with retained natural areas as shown on Figure 4 in Appendix A (i.e., Kilamanagh Creek, *Significant Woodland*, proposed ecological corridor and Tributaries 4 and 5).

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## 8.2 RECOMMENDATIONS FOR FUTURE WORK

The following additional work is recommended to confirm or refine conclusions and recommendations herein. Note that these items are recommended to be completed as part of future Site Plan Applications / detailed design stages for each parcel:

- Confirm and document the post-development water balance to the five watercourses / associated wetlands and confirm no ecological impacts.
- Finalize the ESC plans and implement an approved SWM strategy for each parcel, including details regarding outlet locations and design, including incorporation of LID measures as needed.
- Undertake appropriate ESA compliance activities related to potential Endangered bat habitat within the farmhouse on the north parcel – as required.
- Confirm the location of the toe of slope along the Kilamanagh Creek within the south parcel in order to further refine the location of Redside Dace habitat in this reach and consider with respect to the Site Plan, including consultation with MECP with respect to the current classification of Redside Dace habitat on the subject property (i.e., occupied or contributing).
- Consult with MECP and DFO to determine approval requirements under the ESA, SARA and Fisheries Act for potential impacts to Redside Dace habitat resulting from installation of the SWM outlets to Kilamanagh Creek.
- Identify the LTEMP / CAMP for each parcel, confirming monitoring locations and numbers of plots / stations.



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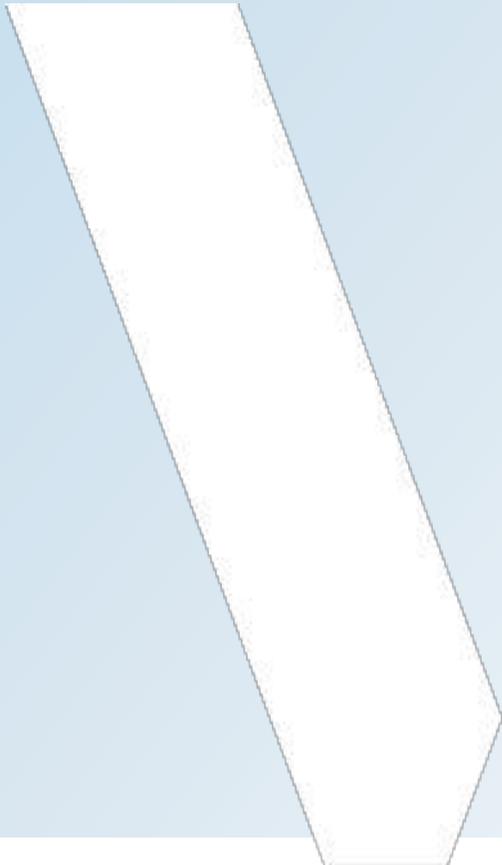
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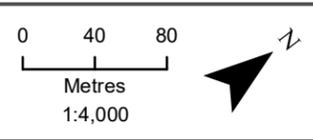
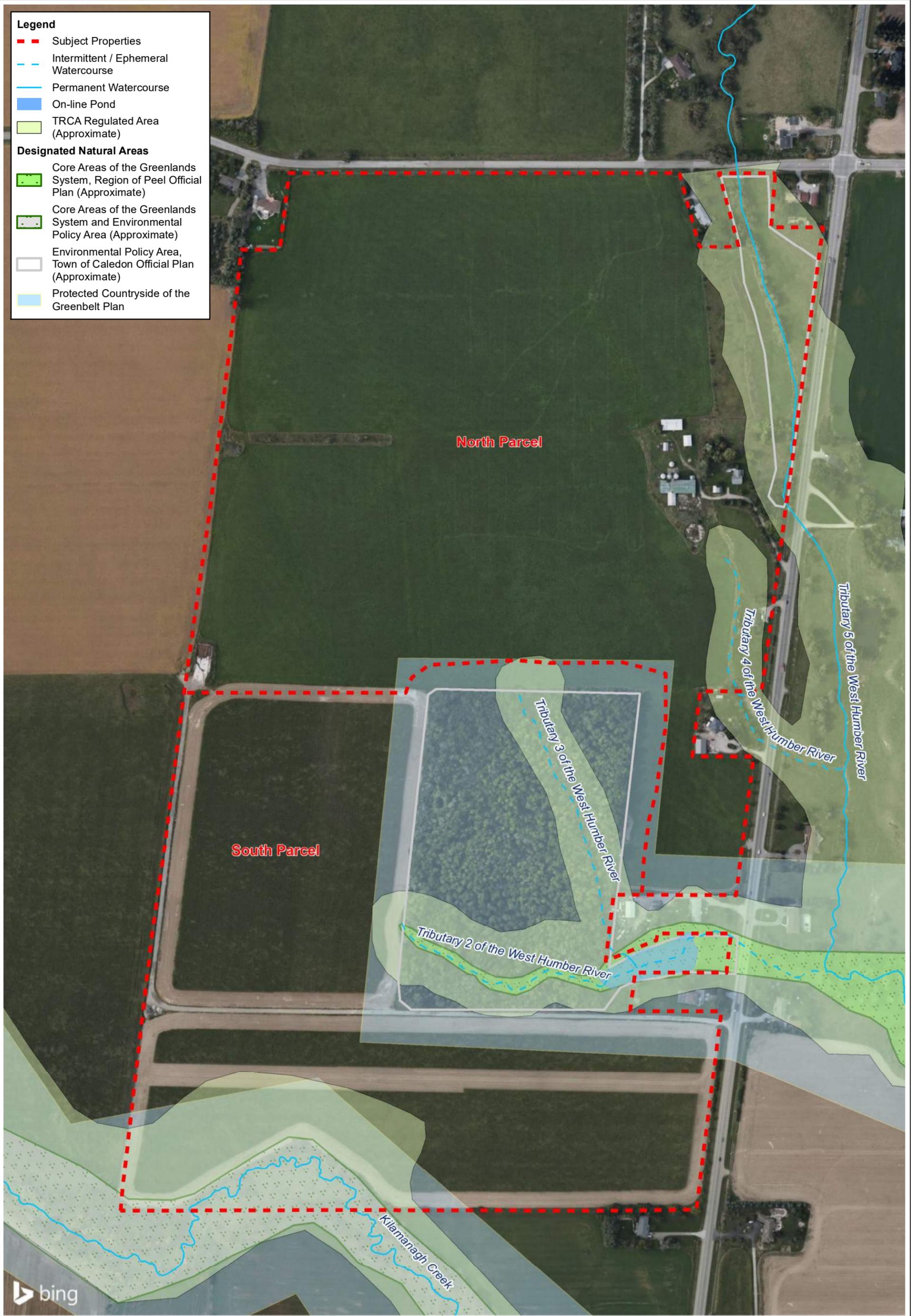
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# APPENDIX

## A FIGURES







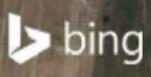


**Legend**

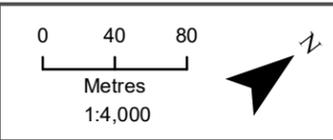
- Subject Properties
- Intermittent / Ephemeral Watercourse
- Permanent Watercourse
- On-line Pond
- Flow Direction
- Occupied Redside Dace Habitat (MECP, 2020); Redside Dace Critical Habitat (DFO, 2024)

**Feature Limits and Recommended Setbacks**

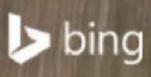
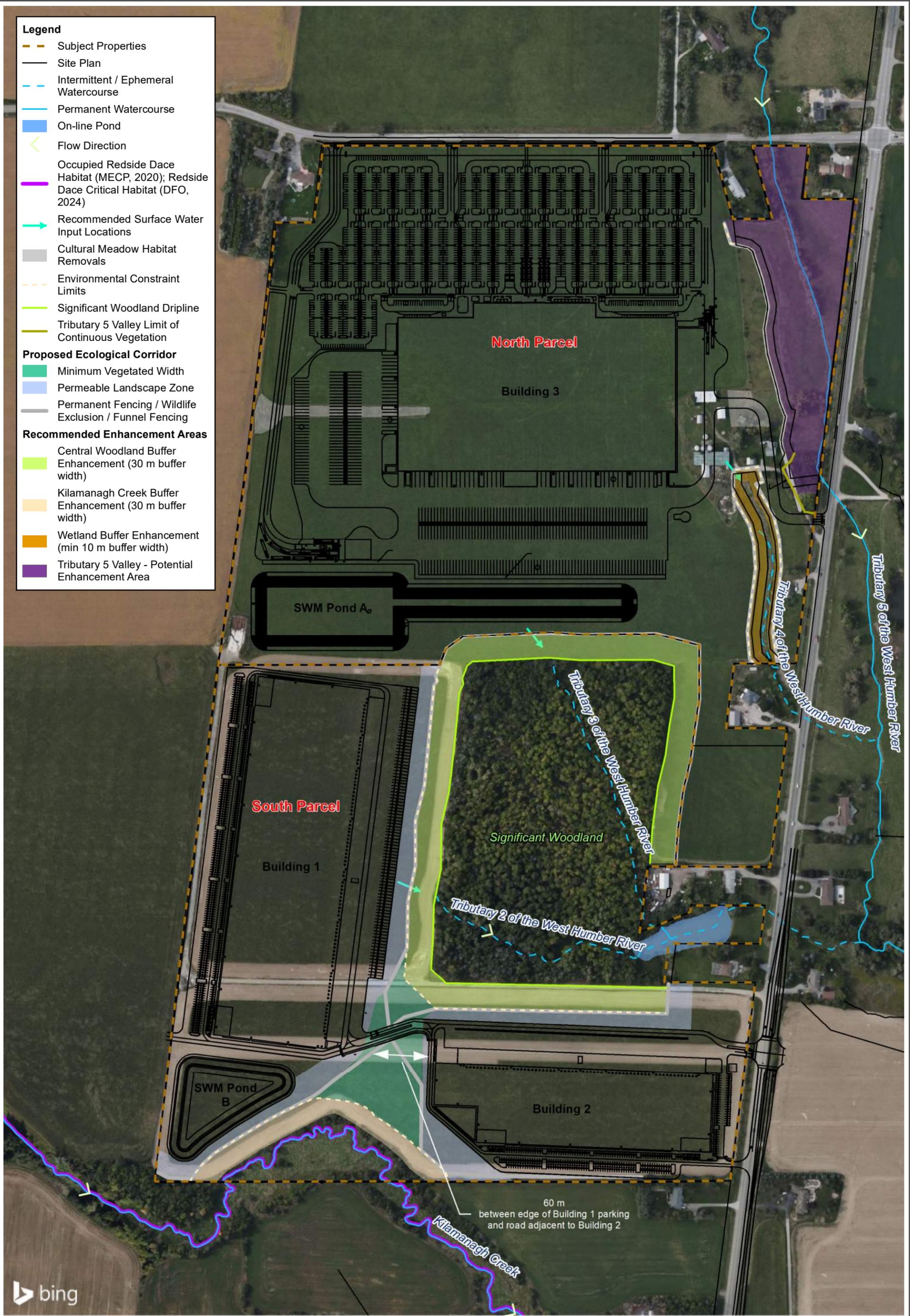
- Tributary 5 Valley Limit of Continuous Vegetation
- Kilamanagh Creek Riparian Wetland
- Kilamanagh Creek Erosion Setback
- Kilamanagh Creek Toe of Slope
- Kilamanagh Creek Top of Slope
- Kilamanagh Creek Wetland / Toe of Slope Setback (30 m)
- Significant Woodland Dripline
- Significant Woodland Setback (30 m)
- Tributary 5 Valley Top of Bank
- Tributary 5 Valley Top of Bank Setback (10 m)
- Wetland Limits (outside of Greenbelt Plan)
- Approximate Wetland Limits
- Tributary 4 Riparian Wetland Setback (10 m)



12892 and 12668 Dixie Road - Caledon, Ontario  
 Comprehensive Environmental Impact Study and Management Plan  
**Natural Feature Limits and Recommended Setbacks**



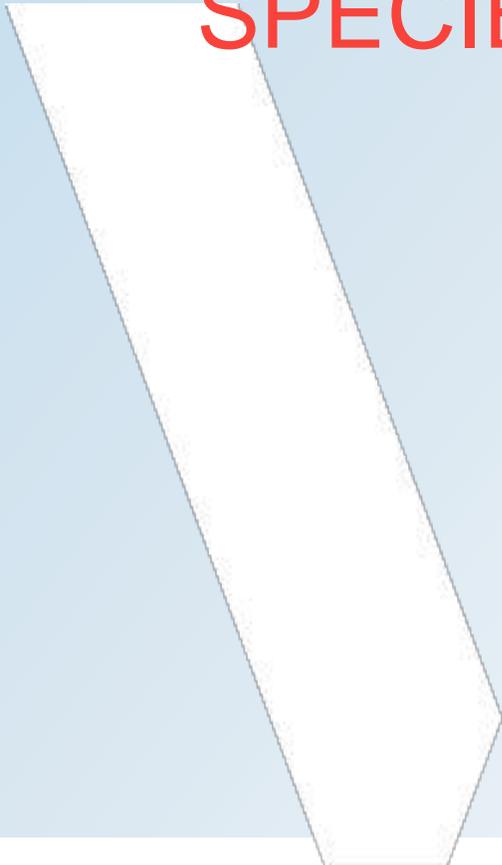
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# APPENDIX

**B**

## VASCULAR PLANT SPECIES LIST



SCIENTIFIC NAME	COMMON NAME	CC <sup>1</sup>	CW <sup>1</sup>	G_RANK <sup>3</sup>	S_RANK <sup>4</sup>	COSEWIC <sup>5</sup>	SARA <sup>6</sup>	SARO <sup>7</sup>	NATIVE STATUS <sup>9</sup>	GREATER TORONTO AREA (Varga et al. 2000) <sup>8</sup>	TRCA (2018) <sup>8</sup>	MAM2-2	CUM1-1	CUT1	FOD5-1
<i>Acer nigrum</i>	Black Maple	7	3	G5	S4?				N	X	L4				X
<i>Acer saccharum</i>	Sugar Maple	4	3	G5	S5				N	X	L4				X
<i>Amaranthus sp.</i>	Amaranth sp.												X		
<i>Arctium minus</i>	Common Burdock		3	GNR	SNA				I	X	L+		X		
<i>Asclepias syriaca</i>	Common Milkweed	0	5	G5	S5				N	X	L5		X		
<i>Bidens frondosa</i>	Devil's Beggarticks	3	-3	G5	S5				N	X	L5	X			
<i>Bromus inermis</i>	Smooth Brome		5	G5	SNA				I	X	L+		X		
<i>Cardamine pratensis</i>	Meadow Bittercress		-3	GU	SNA				I						X
<i>Carex gracillima</i>	Graceful Sedge	4	3	G5	S5				N	X	L5				X
<i>Carex intumescens</i>	Bladder Sedge	6	-3	G5	S5				N	X	L4				X
<i>Carex sp.</i>	Sedge sp.														X
<i>Carya cordiformis</i>	Bitternut Hickory	6	0	G5	S5				N	X	L4				X
<i>Chenopodium album</i>	Common Lamb's-quarters		3	G5	SNA				I	X	L+		X		
<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	2	3	G5	S5				N	X	L5				X
<i>Cirsium arvense</i>	Canada Thistle		3	G5	SNA				I	X	L+	X	X		
<i>Cirsium vulgare</i>	Bull Thistle		3	GNR	SNA				I	X	L+		X		
<i>Crataegus sp.</i>	Hawthorn sp.													X	
<i>Daucus carota</i>	Wild Carrot		5	GNR	SNA				I	X	L+		X		
<i>Dryopteris carthusiana</i>	Spinulose Wood Fern	5	-3	G5	S5				N	X	L5				X
<i>Echinocystis lobata</i>	Wild Cucumber	3	-3	G5	S5				N	X	L5	X			
<i>Elymus repens</i>	Quackgrass		3	GNR	SNA				I	X	L+		X		
<i>Epilobium sp.</i>	Willowherb sp.											X			
<i>Erigeron annuus</i>	Annual Fleabane	0	3	G5	S5				N	X	L5		X		
<i>Euonymus obovatus</i>	Running Strawberry-bush	6	5	G5	S4				N	X	L3				X
<i>Fagus grandifolia</i>	American Beech	6	3	G5	S4				N	X	L4				X
<i>Fragaria vesca ssp. americana</i>	American Woodland Strawberry	4	3	G5T5	S5				N	X	L5				X
<i>Fragaria virginiana ssp. virginiana</i>	Wild Strawberry	2	3	G5T5	S5				N	X	L5				X
<i>Fraxinus americana</i>	White Ash	4	3	G5	S4				N	X	L5				X
<i>Fraxinus nigra</i>	Black Ash	7	-3	G5	S3	THR			N	X	L4				X
<i>Fraxinus pennsylvanica</i>	Red Ash	3	-3	G5	S4				N	X	L5		X	X	
<i>Galium triflorum</i>	Three-flowered Bedstraw	4	3	G5	S5				N	X	L5				X
<i>Geranium robertianum</i>	Herb-Robert	2	3	G5	S5				I	X	L+?				X
<i>Geum sp.</i>	Avens sp.												X		X
<i>Hypericum perforatum</i>	Common St. John's-wort		5	GNR	SNA				I	X	L+		X		
<i>Impatiens capensis</i>	Spotted Jewelweed	4	-3	G5	S5				N	X	L5				X
<i>Laportea canadensis</i>	Canada Wood Nettle	6	-3	G5	S5				N	X	L5				X
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil		3	GNR	SNA				I	X	L+		X		
<i>Lythrum salicaria</i>	Purple Loosestrife		-5	G5	SNA				I	X	L+	X			
<i>Malus pumila</i>	Common Apple		5	G5	SNA				I	X	L+			X	
<i>Onoclea sensibilis</i>	Sensitive Fern	4	-3	G5	S5				N	X	L5				X
<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	4	3	G5	S5				N	X	L5				x
<i>Parthenocissus sp.</i>	Creeper sp.														X
<i>Persicaria sp</i>	Smartweed sp		-3	G3G5	SNA				I	X	L+				X
<i>Phalaris arundinacea var. arundinacea</i>	Reed Canarygrass	0	-3	G5TNR	S5				N	X	L+?	X			
<i>Phleum pratense</i>	Common Timothy		3	GNR	SNA				I	X	L+		X		
<i>Poa compressa</i>	Canada Bluegrass	0	3	GNR	SNA				I	X	L+		X		
<i>Poa pratensis ssp. pratensis</i>	Kentucky Bluegrass		3	G5T5	SNA				I	X	L+		X		
<i>Potentilla recta</i>	Sulphur Cinquefoil		5	GNR	SNA				I	X	L+		X		
<i>Quercus macrocarpa</i>	Bur Oak	5	3	G5	S5				N	X	L4		X		
<i>Quercus sp.</i>	Oak sp.														X
<i>Ranunculus abortivus</i>	Kidney-leaved Buttercup	2	0	G5	S5				N	X	L5				X

SCIENTIFIC NAME	COMMON NAME	CC <sup>1</sup>	CW <sup>1</sup>	G_RANK <sup>3</sup>	S_RANK <sup>4</sup>	COSEWIC <sup>5</sup>	SARA <sup>6</sup>	SARO <sup>7</sup>	NATIVE STATUS <sup>9</sup>	GREATER TORONTO AREA (Varga et al. 2000) <sup>8</sup>	TRCA (2018) <sup>8</sup>	MAM2-2	CUM1-1	CUT1	FOD5-1
<i>Ranunculus recurvatus</i>	Hooked Buttercup	4	-3	G5	S5				N	X	L5				X
<i>Rhamnus cathartica</i>	European Buckthorn		0	GNR	SNA				I	X	L+		X	X	X
<i>Rubus idaeus ssp. strigosus</i>	North American Red Raspberry	2	3	G5T5	S5				N	X	L5		X		X
<i>Rubus occidentalis</i>	Black Raspberry	2	5	G5	S5				N	X	L5				X
<i>Salix euxina</i>	Crack Willow		0	GNR	SNA				I			X			
<i>Scutellaria lateriflora</i>	Mad-dog Skullcap	5	-5	G5	S5				N	X	L5				X
<i>Solanum dulcamara</i>	Bittersweet Nightshade		0	GNR	SNA				I	X	L+	X	X		X
<i>Solidago altissima var. altissima</i>	Eastern Tall Goldenrod	1	3	G--T5	S5				N	X	L5		X		X
<i>Solidago flexicaulis</i>	Zigzag Goldenrod	6	3	G5	S5				N	X	L5				X
<i>Symphotrichum lanceolatum ssp. lanceolatum</i>	Eastern Panicked Aster	3	-3	G5T5	S5				N	X	L5	X			X
<i>Symphotrichum novae-angliae</i>	New England Aster	2	-3	G5	S5				N	X	L5		X		
<i>Taraxacum officinale</i>	Common Dandelion		3	G5	SNA				I	X	L+		X		
<i>Thalictrum dioicum</i>	Early Meadow-rue	6	3	G5	S5				N	X	L5				X
<i>Tilia americana</i>	Basswood	4	3	G5	S5				N	X	L5				X
<i>Toxicodendron radicans var. radicans</i>	Eastern Poison Ivy	2	0	G5T5	S5				N	X	L5		X		
<i>Toxicodendron radicans var. rydbergii</i>	Western Poison Ivy	2	0	G--T5	S5				N	X	L5				X
<i>Tragopogon pratensis</i>	Meadow Goatsbeard		5	GNR	SNA				I	X	L+		X		
<i>Ulmus americana</i>	White Elm	3	-3	G4	S5				N	X	L5			X	X
<i>Verbascum thapsus</i>	Common Mullein		5	GNR	SNA				I	X	L+		X		
<i>Vicia cracca</i>	Tufted Vetch		5	GNR	SNA				I	X	L+		X		
<i>Vincetoxicum rossicum</i>	European Swallowwort		5	GNR	SNA				I	X	L+			X	
<i>Viola sp.</i>	Violet sp.														X
<i>Vitis riparia</i>	Riverbank Grape	0	0	G5	S5				N	X	L5				X

**PLANT LIST LEGEND****Scientific Name, Common Name, and Family**

Based on Vascan and NHIC (February 28, 2020)

Vascan: <http://data.canadensys.net/vascan/search>

NHIC: [https://www.sdc.gov.on.ca/sites/MNRF-PublicDocs/EN/ProvincialServices/ONTARIO\\_SPECIES\\_LISTS.zip](https://www.sdc.gov.on.ca/sites/MNRF-PublicDocs/EN/ProvincialServices/ONTARIO_SPECIES_LISTS.zip)

**<sup>1</sup> Coefficient of Conservatism, Coefficient of Wetness, Weediness, and Physiology/Habit**

Oldham, M. J., W. D. Bakowsky and D. A. Sutherland. 1995. *Floristic Quality Assessment System for Southern Ontario*. Natural Heritage Information Centre, Ministry of Natural Resources. Peterborough, Ontario.

CC and CW values reflect updates by NHIC, current as of February 28, 2020).

CC: Coefficient of Conservatism. Rank of 0 to 10 based on plants degree of fidelity to a range of synecological parameters: (0-3) Taxa found in a variety of plant communities; (4-6) Taxa typically associated with a specific plant community but tolerate moderate disturbance; (7-8) Taxa associated with a plant community in an advanced successional stage that has undergone minor disturbance; (9-10) Taxa with a high fidelity to a narrow range of synecological parameters.

CW: Coefficient of Wetness. Value between 5 and -5. A value of -5 is assigned to Obligate Wetland (OBL) and 5 to Obligate Upland (UPL), with intermediate values assigned to the remaining categories.

Weediness: Assigned to all non-native species and range from -1 (low impact of the species on natural areas) to -3 (high impact of the species on natural areas).

Habit: Physiology/Habit. The growth form of the species (e.g. forb, shrub, tree).

**<sup>3</sup> G-Rank (Global)**

Global Status from Nature Serve (via NHIC, February 28, 2020)

Nature Serve: <http://explorer.natureserve.org/>

NHIC: [http://www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/ProvincialServices/Ontario\\_Vascular\\_Plants.xlsx](http://www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/ProvincialServices/Ontario_Vascular_Plants.xlsx)

Global ranks are assigned by a consensus of the network of Conservation Data Centres (CDCs), scientific experts, and the Nature Conservancy to designate a rarity rank based on the range-wide status of a species, subspecies, or variety.

*Global (G) Conservation Status Ranks*

G1: Critically Imperiled - At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.

G2: Imperiled - at high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

G3: Vulnerable - At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

G4: Apparently Secure - At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

G5: Secure - At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

G#G#: Range Rank – A numeric range rank (e.g., G2G3, G1G3) is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type. Ranges cannot skip more than two ranks (e.g., GU should be used rather than G1G4).

GX: Presumed Extinct - Not located despite intensive searches and virtually no likelihood of rediscovery.

GH: Possibly Extinct - Known from only historical occurrences but still some hope of rediscovery. Examples of evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is extinct or eliminated throughout its range.

GU: Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

GNR: Unranked – Global rank not yet assessed

- GNA:** Not Applicable – A conservation status rank is not applicable because the species is not a suitable target for conservation activities. A global conservation status rank may be not applicable for several reasons, related to its relevance as a conservation target. For species, typically the species is a hybrid without conservation value, or of domestic origin. For ecosystems, the type is typically non-native (e.g. many ruderal vegetation types), agricultural (e.g. pasture, orchard) or developed (e.g. lawn, garden, golf course).
- ?:** Inexact Numeric Rank – Denotes inexact numeric rank; this should not be used with any of the Variant Global Conservation Status Ranks or GX or GH.
- T#:** Intraspecific Taxon (trinomial) - The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species, for example, a G1T2 subrank should not occur. A vertebrate animal population (e.g., listed under the U.S. Endangered Species Act or assigned candidate status) may be tracked as an infraspecific taxon and given a T rank; in such cases a Q is used after the T-rank to denote the taxon's informal taxonomic status.
- Q:** Questionable taxonomy that may reduce conservation priority – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower priority (numerically higher) conservation status rank. The "Q" modifier is only used at a global level and not at a national or subnational level.
- C:** Captive or Cultivated Only – Taxon or ecosystem at present is presumed or possibly extinct or eliminated in the wild across their entire native range but is extant in cultivation, in captivity, as a naturalized population (or populations) outside their native range, or as a reintroduced population or ecosystem restoration, not yet established. The "C" modifier is only used at a global level and not at a national or subnational level. Possible ranks are GXC or GHC. This is equivalent to "Extinct" in the Wild (EW) in IUCN's Red List terminology (IUCN 2001).

#### **<sup>4</sup> S-Ranks (Provincial)**

*Provincial Status from the NHIC (February 28, 2020)*

NHIC: [http://www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/ProvincialServices/Ontario\\_Vascular\\_Plants.xlsx](http://www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/ProvincialServices/Ontario_Vascular_Plants.xlsx)

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario.

#### *Provincial/Sub-national (S) Conservation Status Ranks*

- S1:** Critically Imperiled – At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
- S2:** Imperiled – At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
- S3:** Vulnerable – At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
- S4:** Apparently Secure – At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or
- Secure** – At very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.
- S#S#:** Range Rank – A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
- SX:** Presumed Extirpated – Species or ecosystem is believed to be extirpated from the jurisdiction (province). Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered. [equivalent to "Regionally Extinct" in IUCN Red List terminology]
- SH:** Possibly Extirpated (Historical) – Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in the jurisdiction, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.
- SNR:** Unranked – Nation of state/province conservation status not yet assessed.

- SU: Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
- SNA: Not Applicable – A conservation status rank is not applicable because the species is not a suitable target for conservation activities (e.g., long distance aerial and aquatic migrants, hybrids without conservation value, and non-native species).
- ?: Inexact or Uncertain - Denotes inexact or uncertain numeric rank.
- T#: Intraspecific Taxon (trinomial) - The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the subnational rank of a critically imperiled subspecies of an otherwise widespread and common species would be S5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species, for example, a S1T2 subrank should not occur. A vertebrate animal population may be tracked as an intraspecific taxon and given a T rank; in such cases a Q is used after the T-rank to denote the taxon's informal taxonomic status.

#### **<sup>5</sup> COSEWIC (Committee on the Status of Endangered Wildlife in Canada)**

*The federal review process is implemented by COSEWIC (Status as of February 28, 2020)*

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is an independent advisory panel to the Minister of Environment and Climate Change Canada that meets twice a year to assess the status of wildlife species at risk of extinction.

<https://www.canada.ca/en/environment-climate-change/services/committee-status-endangered-wildlife.html>

#### *COSEWIC Conservation Status Ranks*

- EXT: Extinct – A species that no longer exists.
- EXP: Extirpated – A species no longer existing in the wild in Canada, but occurring elsewhere.
- END: Endangered – A species facing imminent extirpation or extinction.
- THR: Threatened – A species likely to become endangered if limiting factors are not reversed.
- SC: Special Concern (formerly vulnerable) – A species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.
- NAR: Not At Risk – A species that has been evaluated and found to be not at risk of extinction given the current circumstances.
- DD: Data Deficient – Available information is insufficient (a) to resolve a species' eligibility for assessment or (b) to permit an assessment of the species' risk of extinction.

#### **<sup>6</sup> SARA (Species at Risk Act) Status and Schedule**

*Federal status from the Government of Canada's Species at Risk Public Registry (Status as of February 28, 2020)*

<http://www.registrelep-sararegistry.gc.ca/>

The Act establishes Schedule 1, as the official list of species at risk in Canada. It classifies those species as being either Extirpated, Endangered, Threatened, or a Special Concern. Once listed, the measures to protect and recover a listed species are implemented. However, please note that while Schedule 1 lists species that are extirpated, endangered, threatened and of special concern, the prohibitions do not apply to species of special concern.

#### *SARA Conservation Status Ranks*

- EXT: Extinct – A species that no longer exists.
- EXP: Extirpated – A species that no longer exists in the wild in Canada, but exists elsewhere in the wild.
- END: Endangered – A species that is facing imminent extirpation or extinction.
- THR: Threatened – A species likely to become endangered if limiting factors are not reversed.
- SC: Special Concern – A species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

#### **<sup>7</sup> SARO (Species at Risk in Ontario)**

*Provincial status from MNR (Status as of February 28, 2020)*

<https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>

The provincial review process is implemented by the MNR's Committee on the Status of Species at Risk in Ontario (COSSARO). COSSARO is an independent advisory panel to the Ontario Ministry of Natural Resources and Forestry that assesses the status of species at risk of extinction.

*MNRF Conservation Status Ranks*

- EXP: Extirpated – Extirpated – Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.
- END: Endangered – Lives in the wild in Ontario but is facing imminent extinction or extirpation.
- THR: Threatened – Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.
- SC: Special Concern – Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

**<sup>8</sup> Regional Status**

**Halton, Peel, Toronto, York, Durham, GTA, 6E7, 7E4**

*Varga, S., et. al. 2000. The Distribution and Status of the Vascular Plants of the Greater Toronto Area. Ontario Ministry of Natural Resources, Aurora, ON. 103 pp.*

"Plant rarity is based on the number of locations for a native plant species" and also takes into account native species restricted to specialized rare habitats. For the Greater Toronto Area column, "A species is considered rare in the Greater Toronto Area if it is rare or uncommon in a least four of... Halton, Peel, Toronto, York, and Durham".

Codes are defined as follows:

- X: Present
- U: Uncommon native species
- R: Rare native species
- R#: Number of stations for a rare native species
- E: Extirpated native species
- + or I: Introduced species
- X+: Introduced in municipality
- SR: Sight record
- LR: Literature record

**Toronto and Region Conservation Authority (TRCA)**

*Toronto and Region Conservation Authority (TRCA). 2018. Annual Local Occurrence Score and Local Rank Update: Terrestrial Species and Vegetation Communities.*

L rank (Local Rank) – A rank assigned by TRCA to a species, vegetation community, or habitat patch which describes its rank and level of conservation concern in the TRCA Region. Species of concern, according to the TRCA methodology are any species with a local rank of L1 to L3, and some particularly sensitive species with a rank of L4. They are generally species which are disappearing in the landscape, primarily as a result of land use changes.

*Flora the ranks are defined as follows:*

- L1: Of concern regionally; almost certainly rare in TRCA jurisdiction; generally occur in high-quality natural areas, in natural matrix; unable to withstand disturbance.
- L2: Of concern regionally; probably rare in TRCA jurisdiction; generally occur in high-quality natural areas, in natural matrix; unable to withstand disturbance.
- L3: Of concern regionally; generally secure in natural matrix; able to withstand minor disturbance.
- L4: Of concern in urban matrix; generally secure in rural matrix; able to withstand some disturbance.
- L5: Not of concern; generally secure throughout jurisdiction, including urban matrix; able to withstand high levels of disturbance.
- LX: Extirpated from the TRCA region with remote chance of rediscovery. Presumably highly sensitive. Not scored.
- LH: Hybrid between two native species. Usually not scored unless highly stable and behaves like a species.
- L+: Exotic. Not native to TRCA jurisdiction. Includes hybrids between a native species and an exotic. Not scored.
- L+?: Origin uncertain or disputed (i.e., may or may not be native). Not scored.

**<sup>9</sup> Native Status**

*Based on Vascan and NHIC (February 28, 2020)*

Vascan: <http://data.canadensys.net/vascan/search>

NHIC: [https://www.sdc.gov.on.ca/sites/MNRF-PublicDocs/EN/ProvincialServices/ONTARIO\\_SPECIES\\_LISTS.zip](https://www.sdc.gov.on.ca/sites/MNRF-PublicDocs/EN/ProvincialServices/ONTARIO_SPECIES_LISTS.zip)

Codes are defined as follows:

N: Native

I: Introduced

# APPENDIX

## C WILDLIFE SPECIES LIST

Appendix C - Breeding Bird Survey Results

Common Name	Scientific Name	G-rank <sup>1</sup>	S-rank <sup>2</sup>	COSSARO Status <sup>3</sup>	ESA Status <sup>4</sup>	COSEWIC Status <sup>5</sup>	SARA Status <sup>6</sup>	SARA Schedule <sup>6</sup>	TRCA rank (2020) <sup>7</sup>	Area Sensitive Birds - Ecoregion 6E <sup>8</sup>	Habitat Use <sup>9</sup>	Protected Under MBCA	Agricultural, Meadow and Riparian Areas						Central Woodland						Overall Study Area		Comments	
													Round 1 - June 1, 2021		Round 2 - July 2, 2021		Overall		Round 1 - June 2, 2021		Round 2 - July 2, 2021		Overall		Highest Abundance	Highest Breeding Status		
													Number	Breeding Evidence	Number	Breeding Evidence	Abundance	Breeding Status	Number	Breeding Evidence	Number	Breeding Evidence	Abundance	Breeding Status				
American Crow	<i>Corvus brachyrhynchos</i>	G5	S5						L5		E	✓	1	X			1	OBS	2	H			2	POSS	2	POSS		
American Goldfinch	<i>Spinus tristis</i>	G5	S5						L5		E	✓	9	H			9	PROB	2	H	2	T	2	PROB	9	PROB		
American Robin	<i>Turdus migratorius</i>	G5	S5						L5		E	✓	7	FY	4	H	7	CONF	3	H			3	POSS	7	CONF		
Baltimore Oriole	<i>Icterus galbula</i>	G5	S4B						L5		E	✓	1	H			1	POSS							1	POSS		
Barn Swallow	<i>Hirundo rustica</i>	G5	S4B	SC	SC	SC	THR	1	L4			✓	8	H	7	NU	8	CONF							8	CONF		
Black-capped Chickadee	<i>Poecile atricapillus</i>	G5	S5						L5		I/E	✓							6	H	4	T	6	PROB	6	PROB		
Blue Jay	<i>Cyanocitta cristata</i>	G5	S5						L5		I/E	✓							6	H	3	T	6	PROB	6	PROB		
Bobolink	<i>Dolichonyx oryzivorus</i>	G5	S4B	THR	THR	SC	THR	1	L3		E	✓	2	X			2	OBS							2	OBS	Observed flying back and forth between the north parcel and adjacent lands. No suitable breeding habitat present on the subject properties. Assumed to be unpaired males.	
Brown Thrasher	<i>Toxostoma rufum</i>	G5	S4B						L3		E	✓	1	H			1	POSS							1	POSS		
Brown-headed Cowbird	<i>Molothrus ater</i>	G5	S5						L5		E	✓	3	H			3	POSS							3	POSS		
Canada Goose	<i>Branta canadensis</i>	G5	S5						L5		M/F	✓	10	X			10	OBS							10	OBS		
Cedar Waxwing	<i>Bombycilla cedrorum</i>	G5	S5						L5		E	✓	3	H	4	T	4	PROB							4	PROB		
Chipping Sparrow	<i>Spizella passerina</i>	G5	S5B,S3N						L5		E	✓	1	H	1	T	1	PROB							1	PROB		
Common Grackle	<i>Quiscalus quiscula</i>	G5	S5						L5		E	✓	2	H	2	T	2	PROB							2	PROB		
Common Raven	<i>Corvus corax</i>	G5	S5						L4		I	✓													1	OBS	Observed outside of the breeding season in the FOD5-1 woodland on December 7, 2020	
Dark-eyed Junco	<i>Junco hyemalis</i>	G5	S5									✓													5	OBS	Observed outside of the breeding season in the FOD5-1 woodland on December 7, 2020	
Downy Woodpecker	<i>Dryobates pubescens</i>	G5	S5						L5		I/E	✓							3	H	2	T	3	PROB	3	PROB		
Eastern Wood-pewee	<i>Contopus virens</i>	G5	S4B	SC	SC	SC	SC	1	L4		I/E	✓							2	H	3	T	3	PROB	3	PROB		
European Starling	<i>Sturnus vulgaris</i>	G5	SNA						L+		E	✓	33	FY	10	H	33	CONF							33	CONF		
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	G5	S5B						L4		I/E	✓							1	H			1	POSS	1	POSS		
Hairy Woodpecker	<i>Dryobates villosus</i>	G5	S5						L4		I	✓							1	H			1	POSS	1	POSS		
Horned Lark	<i>Eremophila alpestris</i>	G5	S4						L3			✓	2	H			2	POSS							2	POSS		
House Sparrow	<i>Passer domesticus</i>	G5	SNA						L+		E	✓			2	H	2	POSS							2	POSS		
Indigo Bunting	<i>Passerina cyanea</i>	G5	S5B						L4		E	✓							1	H	3	T	3	PROB	3	PROB		
Killdeer	<i>Charadrius vociferus</i>	G5	S4B						L4			✓	3	H	1	T	3	PROB							3	PROB		
Mourning Dove	<i>Zenaidura macroura</i>	G5	S5						L5		E	✓	4	H	4	T	4	PROB							4	PROB		
Northern Cardinal	<i>Cardinalis cardinalis</i>	G5	S5						L5		I/E	✓	1	H			1	POSS							1	POSS		
Northern Flicker	<i>Colaptes auratus</i>	G5	S5						L4		I/E	✓							1	H			1	POSS	1	POSS		
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	G5	S5						L5		I/E	✓							1	H			1	POSS	1	POSS		
Red-eyed Vireo	<i>Vireo olivaceus</i>	G5	S5B						L4		I/E	✓							4	H	5	T	5	PROB	5	PROB		
Red-tailed Hawk	<i>Buteo jamaicensis</i>	G5	S5		NAR	NAR			L5		E	✓									1	H	1	POSS	1	POSS		
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S5						L5		E	✓	19	H	12	CF	19	CONF							19	CONF		
Savannah Sparrow	<i>Passerculus sandwichensis</i>	G5	S5B,S3N						L4	X		✓	5	H	2	T	5	PROB							5	PROB		
Song Sparrow	<i>Melospiza melodia</i>	G5	S5						L5		E	✓	6	H	2	T	6	PROB							6	PROB		
Tree Swallow	<i>Tachycineta bicolor</i>	G5	S4S5B						L4		E	✓	2	NU			2	CONF							2	CONF		
Turkey Vulture	<i>Cathartes aura</i>	G5	S5B,S3N						L5			✓			1	X	1	OBS							1	OBS		
White-breasted Nuthatch	<i>Sitta carolinensis</i>	G5	S5						L4		I	✓													1	OBS	Observed outside of the breeding season in the FOD5-1 woodland on September 25, 2020	
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	G5	S5B,S3N						L3	X	I/E	✓																Feeding evidence observed in the FOD5-1 woodland on September 25, 2020
<b>Total No. of Species</b>		38		3	3	3	3	3		2		38	21		14		23		13		8		14		37			

## **WILDLIFE LIST LEGEND**

### **<sup>1</sup> G-Rank (global)**

Global ranks are assigned by a consensus of the network of Conservation Data Centres (CDCs), scientific experts, and the Nature Conservancy to designate a rarity rank based on the range-wide status of a species, subspecies, or variety.

- G1 Extremely rare - usually 5 or fewer occurrences in the overall range or very few remaining individuals; or because of some factor(s) making it especially vulnerable to Extinction.
- G2 Very rare - usually between 5 and 20 occurrences in the overall range or with many individuals in fewer occurrences; or because of some factor(s) making it vulnerable to Extinction.
- G3 Rare to uncommon - usually between 20 and 100 occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances.
- G4 Common - usually more than 100 occurrences; usually not susceptible to immediate threats.
- G5 Very common - demonstrably secure under present conditions.

### **<sup>2</sup> S-Rank (provincial)**

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario.

- S1 Critically Imperiled - Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
- S2 Imperiled - Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
- S3 Vulnerable - Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4 Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5 Secure - Common, widespread, and abundant in the nation or state/province.
- S#S Range Rank - A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., # SU is used rather than S1S4).
- SAN Non-breeding accidental.
- SE Exotic - not believed to be a native component of Ontario's fauna.
- SZN Non-breeding migrants/vagrants.
- SZB Breeding migrants/vagrants.

### **<sup>3</sup> COSSARO (Committee on the Status of Species at Risk in Ontario) Status**

The provincial review process is implemented by COSSARO (Status as of December 2023).

COSSARO is an independent advisory panel to the Ontario Ministry of Environment, Conservation and Parks (MECP) that assesses the status of species at risk of extinction.

<http://cossaroagency.ca/>

COSSARO Conservation Status Ranks

EXT Extinct - A species that no longer exists anywhere in the world.

- EXP Extirpated - A species that lives somewhere in the world, lived at one time in the wild in Ontario, but no longer lives in the wild in Ontario.
- END Endangered - A species that is facing imminent Extinction or extirpation.
- THR Threatened - A species that is likely to become Endangered if steps are not taken to address factors threatening to lead to its Extinction or extirpation.
- SC Special Concern – A species that may become Threatened or Endangered because of a combination of biological characteristics and identified threats.

#### **4 ESA (Endangered Species Act) Status**

Provincial status from MECP (Status as of December 2023)

<https://www.ontario.ca/page/species-risk-ontario>

##### ESA Conservation Status Ranks

- EXT Extinct - A species that no longer exists anywhere in the world.
- EXP Extirpated - A species that lives somewhere in the world, lived at one time in the wild in Ontario, but no longer lives in the wild in Ontario.
- END Endangered - A species that is facing imminent Extinction or extirpation.
- THR Threatened - A species that is likely to become Endangered if steps are not taken to address factors threatening to lead to its Extinction or extirpation.
- SC Special Concern – A species that may become Threatened or Endangered because of a combination of biological characteristics and identified threats.

#### **5 COSEWIC (Committee on the Status of Endangered Wildlife in Canada) Status**

The federal review process is implemented by COSEWIC (Status as of December 2023)

COSEWIC is an independent advisory panel to the Minister of Environment and Climate Change Canada that meets twice a year to assess the status of wildlife species at risk of extinction.

<https://www.cosewic.ca/index.php/en-ca/>

##### COSEWIC Conservation Status Ranks

- EXT Extinct - A species that no longer exists.
- EXP Extirpated - A species no longer existing in the wild in Canada, but occurring elsewhere.
- END Endangered - A species facing imminent extirpation or Extinction.
- THR Threatened - A species likely to become Endangered if limiting factors are not reversed.
- SC Special Concern (formerly vulnerable) - A species that may become a Threatened or an Endangered species because of a combination of biological characteristics and identified threats.
- NAR Not At Risk - A species that has been evaluated and found to be not at risk of Extinction given the current circumstances.
- DD Data Deficient (formerly Indeterminate) - Available information is insufficient to resolve a species' eligibility for assessment or to permit an assessment of the species' risk of Extinction.

#### **6 SARA (Species at Risk Act) Status and Schedule**

Federal status from the Government of Canada's Species at Risk Public Registry (Status as of December 2023)

<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>

The Act establishes Schedule 1, as the official list of wildlife species at risk. It classifies those species as being either Extirpated, Endangered, Threatened, or a Special Concern. Once listed, the measures to protect and recover a listed wildlife species are implemented.

- EXT Extinct - A wildlife species that no longer exists.

EXP	Extirpated - A wildlife species that no longer exists in the wild in Canada, but exists elsewhere in the wild.
END	Endangered - A wildlife species that is facing imminent extirpation or Extinction.
THR	Threatened - A wildlife species that is likely to become Endangered if nothing is done to reverse the factors leading to its extirpation or Extinction.
SC	Special Concern - A wildlife species that may become a Threatened or an Endangered species because of a combination of biological characteristics and identified threats.

Schedule 1: is the official list of species that are classified as Extirpated, Endangered, Threatened and Special Concern.

Schedule 2: species listed in Schedule 2 are species that had been designated as Endangered or Threatened, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

Schedule 3: species listed in Schedule 3 are species that had been designated as Special Concern, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

The Act establishes Schedule 1 as the official list of wildlife species at risk. However, please note that while Schedule 1 lists species that are Extirpated, Endangered, Threatened and Special Concern, the prohibitions do not apply to species of Special Concern.

Species that were designated at risk by COSEWIC prior to October 1999 (Schedule 2 & 3) must be reassessed using revised criteria before they can be considered for addition to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the List of Wildlife Species at Risk.

#### <sup>7</sup> **Toronto and Region Conservation Authority ranks**

L-rank (Local Rank) – A rank assigned by TRCA to a species, vegetation community, or habitat patch which describes its status in the TRCA Region. Species of conservation concern, according to the TRCA methodology are any species with a local rank of L1 to L3, and those L4 species found within the Urban (built-up area). Generally, species which are disappearing in the regional landscape, primarily as a result of land use changes. L1 – regional concern; L2 – regional concern; L3 – regional concern; L4 – urban concern  
(from TRCA, 2020)

#### <sup>8</sup> **MNR Area Sensitive Species**

Area Sensitivity is defined as species requiring large areas of suitable habitat in order to sustain population numbers

From: Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E. January, 2015. Regional Operations Division, Southern Region Resources Section. 39pp.

#### <sup>9</sup> **Habitat Use**

I=interior species, I/E=interior edge species, E=edge species (Freemark and Collins, 1989); M/F=Marsh/Fen, S/B=Treed Swamp/Bog. Interior bird species require habitat which is often found 100m from the forest edge while Interior/Edge species are found within both interior and edge habitat. Often Interior and Interior/Edge are more sensitive to urban encroachment as they require these large, relatively undisturbed forest habitats to support viable populations. The increasing urbanization of rural areas often results in increased parasitism and predation as well as disturbance from human recreational activities (e.g. illegal bike trails, dumping and pets.) (Freemark, K. and Collins, B. 1989. Landscape ecology of birds breeding in temperate forest fragments. – In: Hagan III, J. M. and Johnston, D. W. (eds), Ecology and conservation of neotropical migrant landbirds. Smithsonian Inst. Press, pp. 443–454)

## Ontario Breeding Bird Atlas - Breeding Evidence Codes

### OBSERVED

X Species observed in its breeding season (no breeding evidence).

### POSSIBLE

H Species observed in its breeding season in suitable nesting habitat.

S Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.

### PROBABLE

A Agitated behaviour or anxiety calls of an adult.

B Brood Patch on adult female or cloacal protuberance on adult male.

D Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulation.

M Multiple (at least 7) individuals with S

N Nest-building (Wren/Woodpecker)

P Pair observed in suitable nesting habitat in nesting season.

T Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more apart, at the same place.

V Visiting probable nest site

### CONFIRMED

AE Adult leaving or entering nest sites in circumstances indicating occupied nest.

CF Adult carrying food for young.

DD Distraction display or injury feigning.

FS Adult carrying fecal sac.

FY Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight.

NB Nest-building (non-Wren/Woodpecker)

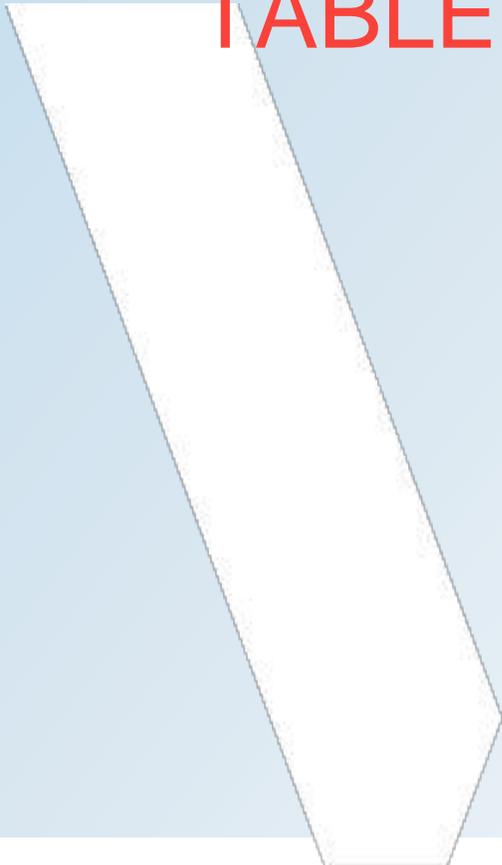
NE Nest containing eggs.

NU Used nest or egg shells found (occupied or laid within the period of the survey).

NY Nest with young seen or heard.

# APPENDIX

## D SAR SCREENING TABLE



Taxon	Common Name	Scientific Name	S-rank	ESA Status	SARA Status	COSEWIC Status	COSSARO Status	Habitat Requirements	Probability to Occur on the Subject Properties	Potential Project Impact and Mitigation
Birds	Bank Swallow	<i>Riparia riparia</i>	S4B	THR	THR	THR	THR	In Ontario, bank swallow breeds in a variety of natural and anthropogenic habitats, including lake bluffs, stream and riverbanks, sand and gravel pits, and roadcuts. Nests are generally built in a vertical or near-vertical bank. Breeding sites are typically located near open foraging sites such as rivers, lakes, grasslands, agricultural fields, wetlands and riparian woods. Forested areas are generally avoided (Garrison 1999).	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.
Birds	Barn Swallow	<i>Hirundo rustica</i>	S4B	SC	THR	SC	SC	In Ontario, barn swallow breeds in areas that contain a suitable nesting structure, open areas for foraging, and a body of water. This species nests in human made structures including barns, buildings, sheds, bridges, and culverts. Preferred foraging habitat includes grassy fields, pastures, agricultural cropland, lake and river shorelines, cleared rights-of-way, and wetlands (COSEWIC 2011). Mud nests are fastened to vertical walls or built on a ledge underneath an overhang. Suitable nests from previous years are reused (Brown and Brown 2019).	Confirmed - Seven vacant nests were observed in three farm buildings and this species was recorded using created nesting habitat during the breeding season in 2021 and 2022.	None - The buildings in which the nests were observed in have since been removed and replaced with a nesting habitat kiosk in the Tributary 5 valley. This kiosk will not be impacted by the proposed development and abundant suitable foraging habitat is present in the local landscape such that no impacts to individuals are anticipated.
Birds	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	THR	THR	SC	THR	In Ontario, bobolink breeds in grasslands or graminoid dominated hayfields with tall vegetation (Gabhauer 2007). Bobolink prefers grassland habitat with a forb component and a moderate litter layer. They have low tolerance for presence of woody vegetation and are sensitive to frequent mowing within the breeding season. They are most abundant in established, but regularly maintained, hayfields, but also breed in lightly grazed pastures, old or fallow fields, cultural meadows and newly planted hayfields. Their nest is woven from grasses and forbs. It is built on the ground, in dense vegetation, usually under the cover of one or more forbs (Renfrew et al. 2015).	Low - Two individuals were recorded incidentally during the June 2, 2021 breeding bird survey moving back and forth from the Tributary 5 valley to adjacent lands to the east. It is assumed that suitable breeding habitat for this species is present on adjacent lands and the individuals observed in this location were unpaired males, given that the habitat within the Tributary 5 valley is not suitable to support breeding for this species based on its size (~ 2.7 ha) and fragmented nature. Additionally, as no individuals were observed during other surveys, and no breeding or nesting behaviour was recorded during either survey, these individuals were concluded to be 'observed' with no breeding evidence per OBBA. There is no other potentially suitable habitat on either parcel.	None - There is no suitable habitat for this species within the subject properties. The observed individuals were likely unpaired males due to the lack of breeding or nesting evidence on the subject properties, in addition to the lack of suitable breeding habitat.

Taxon	Common Name	Scientific Name	S-rank	ESA Status	SARA Status	COSEWIC Status	COSSARO Status	Habitat Requirements	Probability to Occur on the Subject Properties	Potential Project Impact and Mitigation
Birds	Canada Warbler	<i>Cardellina canadensis</i>	S5B	SC	THR	SC	SC	In Ontario, breeding habitat for Canada warbler consists of moist mixed forests with a well-developed shrubby understory. This includes low-lying areas such as cedar and alder swamps, and riparian thickets (McLaren 2007). It is also found in densely vegetated regenerating forest openings. Suitable habitat often contains a developed moss layer and an uneven forest floor. Nests are well concealed on or near the ground in dense shrub or fern cover, often in stumps, fallen logs, overhanging stream banks or mossy hummocks (Reitsma et al. 2010).	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.
Birds	Cerulean Warbler	<i>Setophaga cerulea</i>	S2B	THR	END	END	END	In Ontario, breeding habitat of cerulean warbler consists of second-growth or mature deciduous forest with a tall canopy of uneven vertical structure and a sparse understory. This habitat occurs in both wet bottomland forests and upland areas, and often contains large hickory and oak trees. This species may be attracted to gaps or openings in the upper canopy. The cerulean warbler is associated with large forest tracks but may occur in woodlots as small as 10 ha (COSEWIC 2010). Nests are usually built on a horizontal limb in the mid-story or canopy of a large deciduous tree (Buehler et al. 2013).	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.
Birds	Chimney Swift	<i>Chaetura pelagica</i>	S3B	THR	THR	THR	THR	In Ontario, chimney swift breeding habitat is varied and includes urban, suburban, rural and wooded sites. They are most commonly associated with towns and cities with large concentrations of chimneys. Preferred nesting sites are dark, sheltered spots with a vertical surface to which the bird can grip. Unused chimneys are the primary nesting and roosting structure, but other anthropogenic structures and large diameter cavity trees are also used (COSEWIC 2007).	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.
Birds	Common Nighthawk	<i>Chordeiles minor</i>	S4B	SC	SC	SC	SC	In Ontario, these aerial foragers require areas with large open habitat. This includes farmland, open woodlands, clearcuts, burns, rock outcrops, alvars, bogs, fens, prairies, gravel pits and gravel rooftops in cities (Sandilands 2007)	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.
Birds	Eastern Meadowlark	<i>Sturnella magna</i>	S4B,S3N	THR	THR	THR	THR	In Ontario, eastern meadowlark breeds in pastures, hayfields, meadows and old fields. Eastern meadowlark prefers moderately tall grasslands with abundant litter cover, high grass proportion, and a forb component (Hull 2019). They prefer well drained sites or slopes, and sites with different cover layers (Roseberry and Klimstra 1970).	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.

Taxon	Common Name	Scientific Name	S-rank	ESA Status	SARA Status	COSEWIC Status	COSSARO Status	Habitat Requirements	Probability to Occur on the Subject Properties	Potential Project Impact and Mitigation
Birds	Eastern Wood-pewee	<i>Contopus virens</i>	S4B	SC	SC	SC	SC	In Ontario, eastern wood-pewee inhabits a wide variety of wooded upland and lowland habitats, including deciduous, coniferous, or mixed forests. It occurs most frequently in forests with some degree of openness. Intermediate-aged forests with a relatively sparse midstory are preferred. In younger forests with a relatively dense midstory, it tends to inhabit the edges. Also occurs in anthropogenic habitats providing an open forested aspect such as parks and suburban neighborhoods. Nest is constructed atop a horizontal branch, 1-2 m above the ground, in a wide variety of deciduous and coniferous trees (COSEWIC 2012).	Confirmed - Three individuals were recoded in the Significant Woodland with 'probable' breeding evidence in 2021.	None - Suitable woodland habitat will be retained in full with development setbacks and other mitigation / protection measures.
Birds	Golden-winged Warbler	<i>Vermivora chrysoptera</i>	S3B	SC	THR	THR		In Ontario, golden-winged warbler breeds in regenerating scrub habitat with dense ground cover and a patchwork of shrubs, usually surrounded by forest. Their preferred habitat is characteristic of a successional landscape associated with natural or anthropogenic disturbance such as rights-of-way, and field edges or openings resulting from logging or burning. The nest of the golden-winged warbler is built on the ground at the base of a shrub or leafy plant, often at the shaded edge of the forest or at the edge of a forest opening (Confer et al. 2011).	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.
Birds	Grasshopper Sparrow	<i>Ammodramus savannarum</i>	S4B	SC	SC	SC	SC	In Ontario, grasshopper sparrow is found in medium to large grasslands with low herbaceous cover and few shrubs. It also uses a wide variety of agricultural fields, including cereal crops and pastures. Close-grazed pastures and limestone plains (e.g. Carden and Napanee Plains) support highest density of this bird in the province (COSEWIC 2013).	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.
Birds	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	S3	END	END	END	END	In Ontario, red-headed woodpecker breeds in open, deciduous woodlands or woodland edges and are often found in parks, cemeteries, golf courses, orchards and savannahs (Woodliffe 2007). They may also breed in forest clearings or open agricultural areas provided that large trees are available for nesting. They prefer forests with little or no understory vegetation. They are often associated with beech or oak forests, beaver ponds and swamp forests where snags are numerous. Nests are excavated in the trunks of large dead trees (Frei et al. 2017).	Low - This species was not recorded during field surveys, however, potentially suitable habitat is present along the woodland edge and other treed habitats on the subject properties.	None - Potentially suitable habitat along the woodland edge will be retained in full and protected with development setbacks and other mitigation / protection measures. Any required tree removals should be completed outside of the breeding bird window (i.e., not completed between April 1 and August 31) to mitigate potential impact to individuals that may use habitat on the subject properties.

Taxon	Common Name	Scientific Name	S-rank	ESA Status	SARA Status	COSEWIC Status	COSSARO Status	Habitat Requirements	Probability to Occur on the Subject Properties	Potential Project Impact and Mitigation
Birds	Wood Thrush	<i>Hylocichla mustelina</i>	S4B	SC	THR	THR	SC	In Ontario, wood thrush breeds in moist, deciduous hardwood or mixed stands that are often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches. This species selects nesting sites with the following characteristics: lower elevations with trees less than 16 m in height, a closed canopy cover (>70 %), a high variety of deciduous tree species, moderate subcanopy and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter (COSEWIC 2012).	Low - This species was not recorded during field surveys, however, potentially suitable habitat is present within the Significant Woodland.	None - Suitable woodland habitat will be retained in full with development setbacks and other mitigation / protection measures.
Birds	Yellow-breasted Chat	<i>Icteria virens</i>	S1B	END	END	END	END	In Ontario, yellow-breasted chat breeds in early successional, shrub-thicket habitats including woodland edges, regenerating old fields, railway and transmission line rights-of-way, young coniferous reforestations, and wet thickets bordering wetlands. Tangles of grape ( <i>Vitis</i> spp.) and raspberry ( <i>Rubus</i> spp.) vines are features of most breeding sites. There is some evidence that the yellow-breasted chat is an area sensitive species. Nests are located in dense shrubbery near to the ground (COSEWIC 2011).	None - No suitable habitat is present. Not recorded during field surveys.	None - There is no suitable habitat for this species within the subject properties.
Fishes	Redside Dace	<i>Clinostomus elongatus</i>	S1	END	END	END	END	In Ontario, redbside dace, a small cool water species common in the USA but less so in Canada, is found in tributaries of western Lake Ontario, Lake Erie, Lake Huron and Lake Simcoe. They are found in pools and slow-moving areas of small headwater streams with clear to turbid water. Overhanging grasses, shrubs, and undercut banks, are an important part of their habitat, as are instream boulders and large woody debris. Preferred substrates are variable and include silt, sand, gravel and boulders. Spawning occurs in shallow riffle areas (Redside Dace Recovery Team 2010).	High - While the presence of individuals has not been confirmed on the subject properties, MECP considers the reach of Kilamangh Creek on the south parcel as occupied habitat for this species (per MECP correspondence in December 2020). As such, this habitat is considered regulated Redside Dace habitat per O. Reg. 832/21. Additionally, per DFO aquatic SAR mapping, the reach of Kilamangh Creek on the south parcel is considered critical habitat for this species and is subject to the provisions of the Species at Risk Act.	Stormwater management infrastructure will be required within regulated (occupied) Redside Dace habitat in Kilamangh Creek as identified by MECP in December 2020; also considered critical habitat by DFO as of 2024. Consultation with MECP and DFO will be required at the detailed design stage to determine compliance with relevant legislation (Endangered Species Act, Fisheries Act and Species at Risk Act) and any required compensation / offsetting measures.
Insects	Monarch	<i>Danaus plexippus</i>	S2N,S4B	SC	SC	END	SC	In Ontario, monarch is found throughout the northern and southern regions of the province. This butterfly is found wherever there is milkweed ( <i>Asclepias</i> spp.) plants for its caterpillars and wildflowers that supply a nectar source for adults. It is often found on abandoned farmland, meadows, open wetlands, prairies and roadsides, but also in city gardens and parks. Important staging areas during migration occur along the north shores of the Great Lakes (COSEWIC 2010).	Confirmed - A single individual was observed flying over the north parcel on September 25, 2020 (likely migrant).	None - Removal of a small amount of potential foraging / migration habitat; similar quality habitat abundant in surrounding landscape. No concentrations of milkweed or notable stands of other pollinator species were observed.

Taxon	Common Name	Scientific Name	S-rank	ESA Status	SARA Status	COSEWIC Status	COSSARO Status	Habitat Requirements	Probability to Occur on the Subject Properties	Potential Project Impact and Mitigation
Mammals	Eastern Small-footed Myotis	<i>Myotis leibii</i>	S2S3	END			END	In Ontario, eastern small-footed myotis is not known to roost in trees, but there is very little known about its roosting habits. The species generally roosts on the ground under rocks, in rock crevices, talus slopes and rock piles, but it occasionally inhabits buildings. Entrances of caves or abandoned mines where humidity is low, and temperatures are cool and sometimes subfreezing may be used as hibernacula (Humphrey 2017).	Moderate - The existing farmhouse on the north parcel may provide suitable roosting habitat for this species.	Consultation with MECP regarding potential SAR bat habitat in the existing farmhouse should be completed if any modifications to the farmhouse are proposed (currently identified for relocation).
Mammals	Little Brown Myotis	<i>Myotis lucifugus</i>	S3	END	END	END	END	In Ontario, this species' range is extensive and covers much of the province. It will roost in both natural and man-made structures. Roosting colonies require a number of large dead trees, in specific stages of decay and that project above the canopy in relatively open areas. May form nursery colonies in the attics of buildings within 1 km of water. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Moderate - The Significant Woodland and isolated trees across the subject properties may provide suitable maternity and day roost habitat for this species, however, large numbers of dead trees have not been observed. Additionally, this species may roost in the attics of buildings, the potential for which exists in the farmhouse on the north parcel.	Any tree removals required for the proposed development should be completed outside of the bat active period (i.e., not between April 1 and September 30). There is abundant suitable habitat within the Significant Woodland that will be retained in full and protected with development setbacks and other mitigation / protection measures, such that the removal of isolated trees is not expected to impact the form or function of treed roosting habitat. Consultation regarding potential SAR bat habitat in the existing farmhouse should be completed if any modifications to the farmhouse are proposed (currently identified for relocation).
Mammals	Northern Myotis	<i>Myotis septentrionalis</i>	S3	END	END	END	END	In Ontario, this species' range is extensive and covers much of the province. It will usually roost in hollows, crevices, and under loose bark of mature trees. Roosts may be established in the main trunk or a large branch of either living or dead trees. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Moderate - The Significant Woodland and isolated trees across the subject properties may provide suitable maternity and day roost habitat for this species. Additionally, this species may roost in the attics of buildings, the potential for which exists in the farmhouse on the north parcel.	Any tree removals required for the proposed development should be completed outside of the bat active period (i.e., not between April 1 and September 30). There is abundant suitable habitat within the Significant Woodland that will be retained in full and protected with development setbacks and other mitigation / protection measures, such that the removal of isolated trees is not expected to impact the form or function of treed roosting habitat. Consultation regarding potential SAR bat habitat in the existing farmhouse should be completed if any modifications to the farmhouse are proposed (currently identified for relocation).

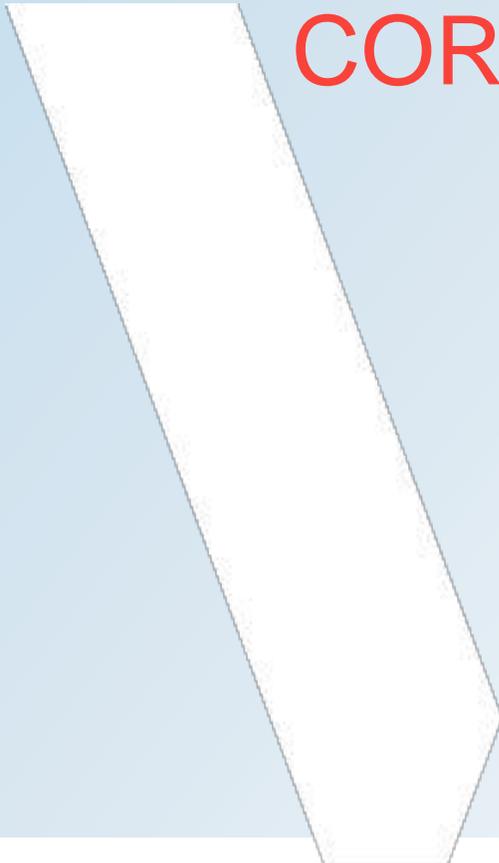
Taxon	Common Name	Scientific Name	S-rank	ESA Status	SARA Status	COSEWIC Status	COSSARO Status	Habitat Requirements	Probability to Occur on the Subject Properties	Potential Project Impact and Mitigation
Mammals	Tricolored Bat	<i>Perimyotis subflavus</i>	S3?	END	END	END	END	In Ontario, tri-colored bat may roost in foliage, in clumps of old leaves, hanging moss or squirrel nests. They are occasionally found in buildings although there are no records of this in Canada. They typically feed over aquatic areas with an affinity to large-bodied water and will likely roost in close proximity to these. Hibernation sites are found deep within caves or mines in areas of relatively warm temperatures. These bats have strong roost fidelity to their winter hibernation sites and may choose the exact same spot in a cave or mine from year to year (ECCC 2018).	Moderate - The Significant Woodland and isolated trees across the subject properties may provide suitable maternity and day roost habitat for this species. Additionally, this species may roost in the attics of buildings, the potential for which exists in the farmhouse on the north parcel.	Any tree removals required for the proposed development should be completed outside of the bat active period (i.e., not between April 1 and September 30). There is abundant suitable habitat within the Significant Woodland that will be retained in full and protected with development setbacks and other mitigation / protection measures, such that the removal of isolated trees is not expected to impact the form or function of treed roosting habitat. Consultation regarding potential SAR bat habitat in the existing farmhouse should be completed if any modifications to the farmhouse are proposed (currently identified for relocation).
Reptiles	Snapping Turtle	<i>Chelydra serpentina</i>	S4	SC	SC	SC		In Ontario, snapping turtle uses a wide range of waterbodies, but shows preference for areas with shallow, slow-moving water, soft substrates and dense aquatic vegetation. Hibernation takes place in soft substrates under water. Nesting sites consist of sand or gravel banks along waterways or roadways (COSEWIC 2008).	Low - Potentially suitable habitat for this species is present within the watercourses and riparian wetlands (primarily associated with Kilamanagh Creek and Tributary 5), and an online pond between the Significant Woodland and Dixie Road, though no individuals were observed during field surveys.	None - Potentially suitable habitat will be retained in full and protected with development setbacks and other mitigation / protection measures, including wildlife exclusion fencing to prevent movement of any individuals into the development envelope.
Vascular Plants	Black Ash	<i>Fraxinus nigra</i>	S4	END		THR	END	Found throughout Ontario in moist ecosystems; commonly found in northern swampy woodlands (MNR 2018). This species typically grows on mucky or peaty soils and is considered a facultative wetland species (Reznicek et al. 2011).	Confirmed - Ten young trees were recorded near the centre of the Significant Woodland.	None - The woodland will be retained in full with development setbacks and other mitigation / protection measures.
Vascular Plants	Butternut	<i>Juglans cinerea</i>	S2?	END	END	END	END	In Ontario, butternut is found along stream banks, on wooded valley slopes, and in deciduous and mixed forests. It is commonly associated with beech, maple, oak and hickory (Voss and Reznicek 2012). Butternut prefers moist, fertile, well-drained soils, but can also be found in rocky limestone soils. This species is shade intolerant (Farrar 1995).	Low - This species was not recorded during field surveys, however, potentially suitable habitat is present along the edges of the Significant Woodland as well as in riparian areas.	None - This species was not recorded during field surveys.

# APPENDIX

**E**

AGENCY

CORRESPONDENCE





December 6, 2020

Ministry of the Environment, Conservation and Parks  
Permissions and Compliance  
Species at Risk Branch

Dear Ministry of the Environment, Conservation and Parks staff,

WSP Canada Inc. (WSP) has been retained by Tribal Partners Canada Inc. to complete natural environment investigations and reporting in support of two future development applications in Caledon. The subject properties are located at 12035 and 12892 Dixie Road. The natural heritage component will evaluate impacts to natural heritage features on and adjacent to each subject property, documented in Comprehensive Environmental Impact Study and Management Programs (CEISMP) for each application. As part of our investigations, updated ecological background information is required for each subject property and adjacent natural areas (see attached figures). As such, we are formally contacting you to request any available natural heritage information pertinent to the subject properties.

- Upon review of the Natural Heritage Information Centre (NHIC) database, there are records of the following Species at Risk and provincially rare species within 1 km of the each of the properties:
  - Bank Swallow (*Riparia riparia*; THR, no date)
  - Bobolink (*Dolichonyx oryzivorus*; THR, no date)
  - Eastern Meadowlark (*Sturnella magna*; THR, no date)
  - Eastern Wood-pewee (*Contopus virens*; SC, no date)

Additional information we are seeking includes any of the following information that is not publicly available through Land Information Ontario (LIO) / NHIC:

Species at Risk (SAR)

- Locations, observation dates and any other relevant information about SAR – if possible, please provide the UTM's/accuracy codes;
- Locally rare species lists or species records and/or rare vegetation communities known from the study area
- Records of Significant Wildlife Habitat

If further information is required, please feel free to contact the undersigned at 519-904-1798 or through email at [steven.leslie2@wsp.com](mailto:steven.leslie2@wsp.com). Thank you for your assistance, it is greatly appreciated.

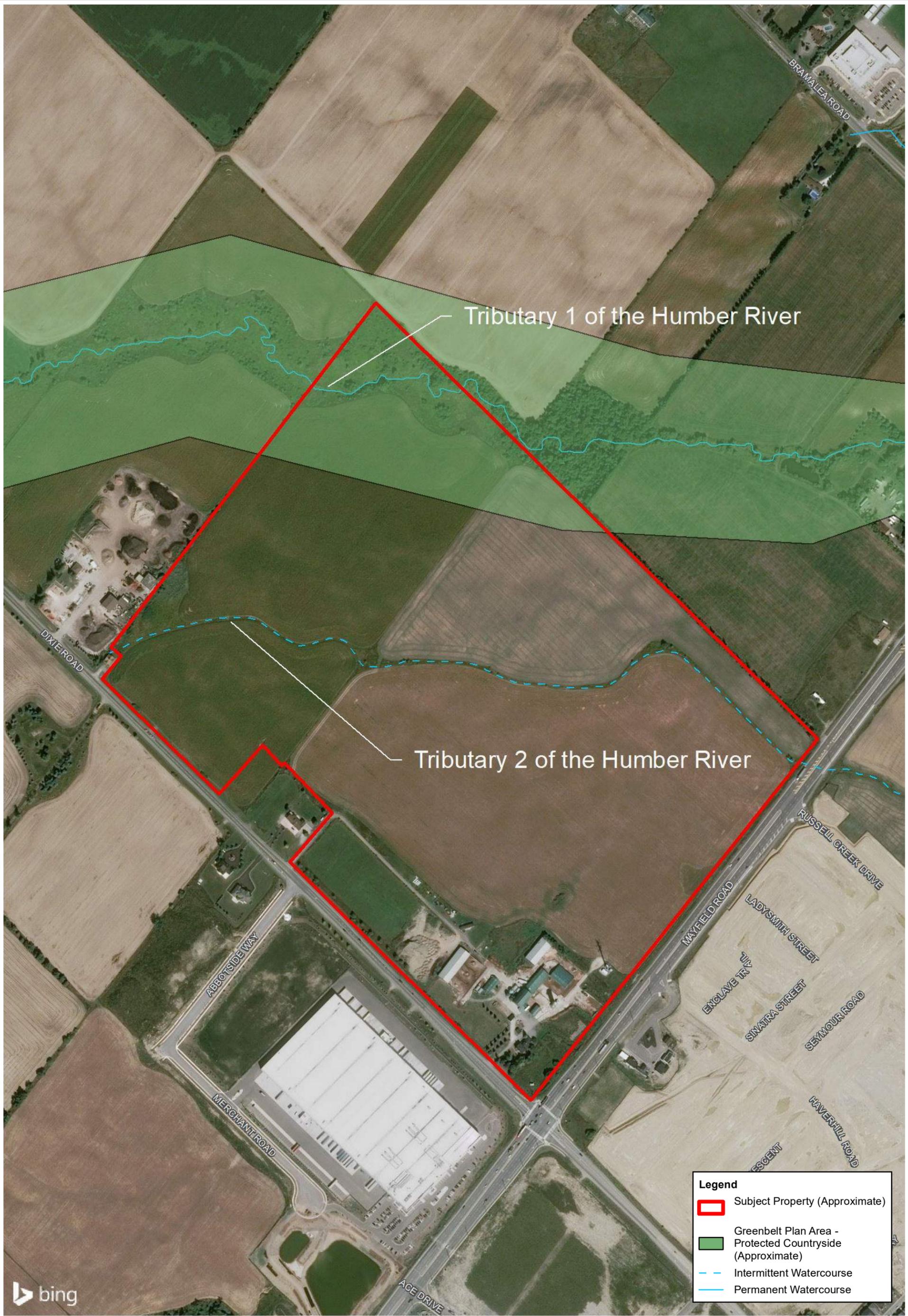
Yours sincerely,

Steven Leslie  
Ecologist, WSP

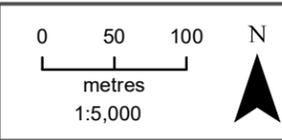
cc: Carleigh Oude-Reimerink, Armstrong Planning & Project Management  
Jeff Gross, WSP

582 Lancaster Street West  
Kitchener, ON  
Canada N2K 1M3

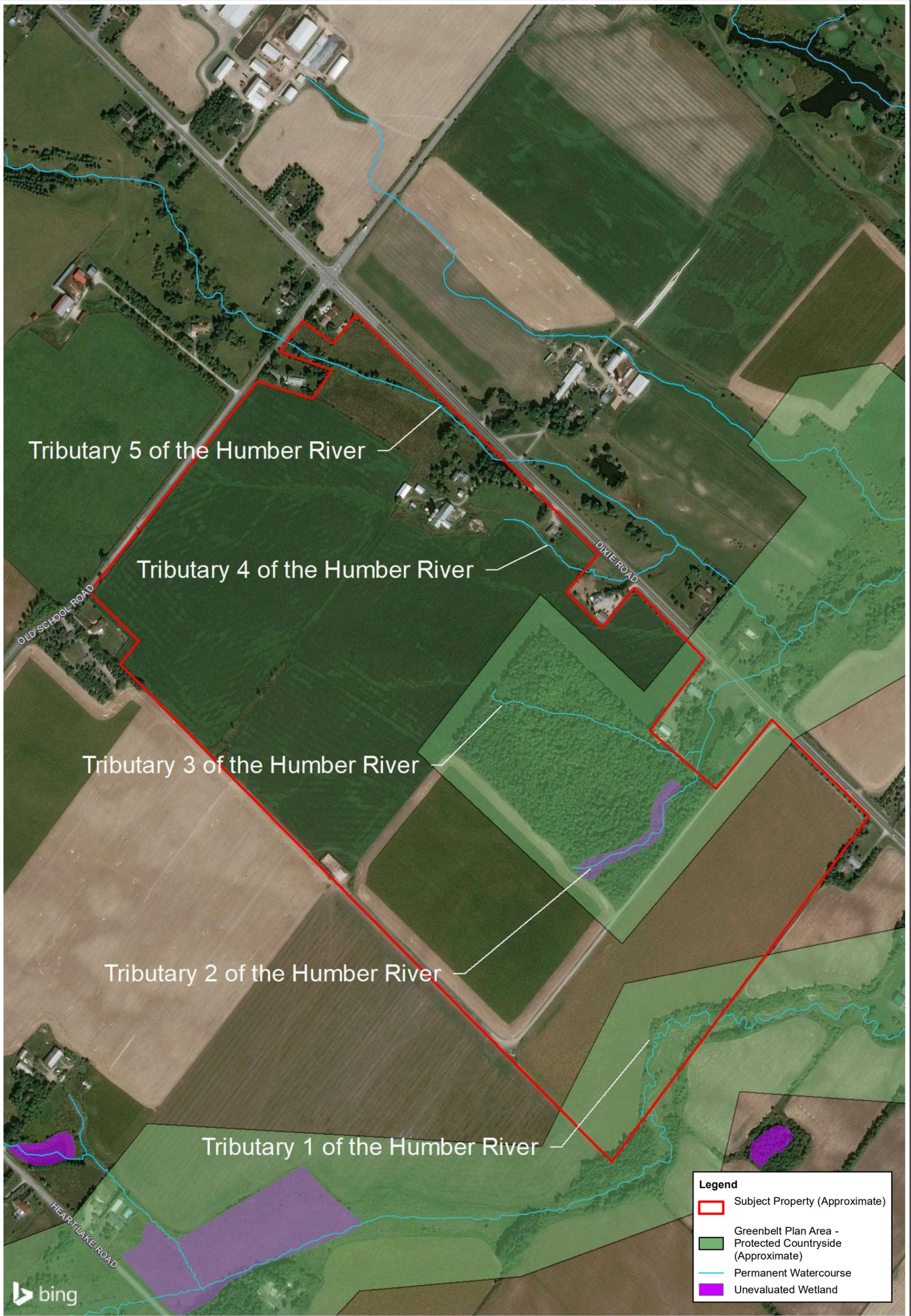
T: +1 519 743-8778  
F: +1 519 743-8778  
[wsp.com](http://wsp.com)



12035 Dixie Road - Caledon, Ontario  
**Subject Property Overview**



Date: October 2020  
Project No: 20M-01036-00  
Appendix A

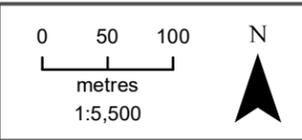


**Legend**

- Subject Property (Approximate)
- Greenbelt Plan Area - Protected Countryside (Approximate)
- Permanent Watercourse
- Unevaluated Wetland



12892 Dixie Road - Caledon, Ontario  
**Subject Property Overview**



Date: November 2020  
Project No: 20M-01275-00  
Appendix A

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**From:** Eplett, Megan (MECP) [<mailto:Megan.Eplett@ontario.ca>]  
**Sent:** December 21, 2020 11:07  
**To:** Leslie, Steven <[Steven.Leslie2@wsp.com](mailto:Steven.Leslie2@wsp.com)>  
**Cc:** Gross, Jeff <[Jeff.Gross@wsp.com](mailto:Jeff.Gross@wsp.com)>; Carleigh Oude-Reimerink <[carleigh@armstrongplan.ca](mailto:carleigh@armstrongplan.ca)>  
**Subject:** RE: SAR Info Request - 12892 and 12035 Dixie Road

Hello Steven,

Apologies for not being more clear in my initial response. Tributary 1 (Kilamanagh Creek) on both 12892 and 12035 Dixie Road is considered occupied Redside Dace habitat.

Thanks,

Megan

**Megan Eplett | Management Biologist | Permissions and Compliance | Species at Risk Branch | Ontario Ministry of Environment, Conservation and Parks  
50 Bloomington Road, Aurora, Ontario, L4G 0L8 | Phone: 289-221-1794 |  
Email: [megan.eplett@ontario.ca](mailto:megan.eplett@ontario.ca)**

---

**From:** Leslie, Steven <[Steven.Leslie2@wsp.com](mailto:Steven.Leslie2@wsp.com)>  
**Sent:** Wednesday, December 16, 2020 3:06 PM  
**To:** Eplett, Megan (MECP) <[Megan.Eplett@ontario.ca](mailto:Megan.Eplett@ontario.ca)>  
**Cc:** Gross, Jeff <[Jeff.Gross@wsp.com](mailto:Jeff.Gross@wsp.com)>; Carleigh Oude-Reimerink <[carleigh@armstrongplan.ca](mailto:carleigh@armstrongplan.ca)>  
**Subject:** RE: SAR Info Request - 12892 and 12035 Dixie Road

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Hi Megan,

Thank you very much for the quick response, it is greatly appreciated.

One thing I was hoping to confirm is the status of Tributary 1 on 12035 Dixie Road and Tributary 1 on 12892 Dixie Road. Within each subject property, does MECP consider these watercourses to be Redside Dace habitat?

Thanks,

Steven

---

**From:** Eplett, Megan (MECP) [<mailto:Megan.Eplett@ontario.ca>]  
**Sent:** December 16, 2020 14:56  
**To:** Leslie, Steven <[Steven.Leslie2@wsp.com](mailto:Steven.Leslie2@wsp.com)>  
**Cc:** Gross, Jeff <[Jeff.Gross@wsp.com](mailto:Jeff.Gross@wsp.com)>; Carleigh Oude-Reimerink <[carleigh@armstrongplan.ca](mailto:carleigh@armstrongplan.ca)>  
**Subject:** RE: SAR Info Request - 12892 and 12035 Dixie Road

Hello Steven,

Please find below species at risk information for both sites.

12035 Dixie Road – In addition to the species listed in your letter, please note MECP also has records of Butternut in the vicinity of the property. With regards to Tributary 2 this does connect with a Redside Dace occupied reach of the West Humber River further downstream. The tributary should be evaluated to determine if it meets the criteria to be considered contributing habitat for Redside Dace as per O.reg. 242/08.

12892 Dixie Road – The tributaries on the property connect further downstream to a Redside Dace occupied portion of the West Humber River. The tributaries on site should be evaluated to determine if they meet the criteria to be considered contributing habitat for Redside Dace as per O.reg. 242/08. As there is a woodlot located on the property if tree removal is proposed Butternut and species at risk bats should be considered.

Should you have any questions please feel free to contact MECP for further advice.

Thanks,

Megan

**Megan Eplett | Management Biologist | Permissions and Compliance | Species at Risk Branch | Ontario Ministry of Environment, Conservation and Parks  
50 Bloomington Road, Aurora, Ontario, L4G 0L8 | Phone: 289-221-1794 |  
Email: [megan.eplett@ontario.ca](mailto:megan.eplett@ontario.ca)**

---

**From:** Leslie, Steven <[Steven.Leslie2@wsp.com](mailto:Steven.Leslie2@wsp.com)>  
**Sent:** Sunday, December 6, 2020 8:09 PM  
**To:** Species at Risk (MECP) <[SAROntario@ontario.ca](mailto:SAROntario@ontario.ca)>  
**Cc:** Gross, Jeff <[Jeff.Gross@wsp.com](mailto:Jeff.Gross@wsp.com)>; Carleigh Oude-Reimerink <[carleigh@armstrongplan.ca](mailto:carleigh@armstrongplan.ca)>  
**Subject:** SAR Info Request - 12892 and 12035 Dixie Road

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

To whom it may concern,

Please see attached information request letter and Subject Property figures for two properties located in Caledon. This letter serves as a request for available information related to Species at Risk that are relevant to each property.

If there are any questions or concerns, please do not hesitate to reach out to the undersigned.

Thank you,

**Steven Leslie, B.E.S.**

Ecologist

Ecology & Environmental Impact Assessment (EIA)



T+ 1 519-904-1798

582 Lancaster Street West  
Kitchener, Ontario,  
N2K 1M3 Canada

wsp.com

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-LAEmHhHzdJzBITWfa4Hgs7pbKl

August 21, 2020

Town of Caledon  
6311 Old Church Road  
Caledon, ON L7C 1J6

RE: DART Request  
12862 and 12892 Dixie Road, Town of Caledon

---

Armstrong Planning & Project Management was retained by Tribal Partners to submit a request for a DART Meeting for the lands approximately 197 acres (80 hectares) in size and municipally known as 12862 and 12892 Dixie Road in the Town of Caledon. The lands are located on the south side of Old School Road and on the west side of Dixie Road with frontage along both roads. We are proposing to rezone and redesignate the subject lands as employment lands to facilitate the development of an e-commerce facility.

**SITE DESCRIPTION:**

The lands are located within the Mayfield West Study Area Boundary and are designated Agricultural and Rural Area of the Growth Plan with a portion being designated Greenbelt Plan Area. Immediately south of the site is the Rural Service Centre of the Mayfield West Secondary Plan which includes employment uses, and further south is the built up settlement area of the City of Brampton which includes both employment and residential uses.

We have submitted requests to both the Town of Caledon and Region of Peel to request inclusion of these lands within the Urban Boundary and Settlement Area. We recognize that these lands are within the area being considered for Urban Boundary Expansion within the Region of Peel, as per the latest mapping (Focus Study Area (FSA) (2041) map).

It is important to note that two areas within the lands are designated Greenbelt Plan Area under the Town of Caledon Official Plan and Region of Peel Official Plan. These lands will be avoided with the proposed development. There is also a portion of the lands that are regulated by the TRCA. TRCA will be engaged through the development application process.

**PROPOSED DEVELOPMENT:**

Due to the GTA West Transportation Corridor Route Planning and Environmental Assessment Study ('GTA West Study') the majority of available Employment Lands are 'frozen'. Once a final route is picked for the 410 extension a significant amount of employment lands will effectively be removed from the 'employment lands' bank within the Mayfield West Secondary Plan Area to be used for the highway. It is essential that these lands be replaced in a timely manner to ensure there is viable land available for

employment, which will ultimately ensure targets for job creation are met within the Town of Caledon and Region of Peel. It is our opinion that there is a lack of available (and viable) employment lands within the Town of Caledon that would support a large e-commerce development.

Please note that this is part of a 2-property development (see 12035 Dixie Road and Pt Lt 19 Con 4, Caledon ON – DART Meeting Request Letter). We are proposing to rezone and redesignate the subject lands as employment lands to facilitate the development of an e-commerce facility that would span over both sites, creating 3,000 new jobs for the Region of Peel and Town of Caledon.

#### **CONCEPT PLAN:**

The subject site would host three e-commerce buildings with a floorplate of approximately 520,000 square feet for Building A, and a floorplate of approximately 830,000 square feet for Building B and a floorplate of approximately 510,000 square feet for Building C. A total of 2,270 parking spaces are proposed to be provided. In addition, 630 truck trailer stalls are proposed and loading is provided around the perimeter of Building A and Building B. Building heights would be 45 feet, 100 feet, and 150 feet respectively, however, all of our submissions are subject to an automation equipment design exercise. The employee count, shipping, site coverage and setbacks will not either be impacted or change as a result of the additional building space being increased as a result of final automation design. Access is planned off of both Old School Road and Dixie Road.

#### **SITE ADDRESS, LEGAL DESCRIPTION, AND SITE AREA**

	<b>PROPERTY 1 (SHEARD NORTH)</b>
<b>Municipal Address</b>	12862/12892 Dixie Road, Caledon ON
<b>Legal Description</b>	Pt Lt 21 Con 3 Ehs Chinguacousy; Pt Lt 22 Con 3 Ehs Chinguacousy Pt 1, 43r15184 Except Pts 30-33 & 35-37, 43r20345 & Pt 23, 43r20416 & Pt 2, 43r7014 & Pt 2, 43r5085 ; Caledon
<b>Site Area</b>	791,601m <sup>2</sup>
<b>Roll Number</b>	212413000713900
<b>PIN</b>	142350693

#### **APPLICANT AND AGENT CONTACT INFORMATION:**

##### *Applicant:*

Armstrong Planning & Project Management  
 Carleigh Oude-Reimerink  
 416-444-3300 x3003  
[carleigh@armstrongplan.ca](mailto:carleigh@armstrongplan.ca)

##### *Agent:*

Tribal Partners  
 Robin Comfort  
 905-567-0808  
[robin.comfort@tribalpartners.com](mailto:robin.comfort@tribalpartners.com)

Should you have any questions please do not hesitate to contact me further at extension 3003 or at [carleigh@armstrongplan.ca](mailto:carleigh@armstrongplan.ca).

Regards,



Carleigh Oude-Reimerink, RPP

# Pre-Consultation (DART) Meeting Form

Date: August 10, 2020  
 Development Team: Planning & Development Services

File Number: PRE 20-0096  
 Lead Planner: Justin Cook

## Project Information

Project Name: Sheard Lands  
 Proposal: Tribal Partners is proposing to build 1.2 to 1.5 million square foot E-commerce facilities that are in close proximity to Highway 410.  
 Proposed GFA: 345599.3 m<sup>2</sup> / 3,720,000 ft<sup>2</sup>

## Applicant Information

Applicant Name: TRIBAL PARTNERS INC.  
 Telephone Number: (416) 427-7637  
 Email Address: robin.comfort@tribalpartners.com  
 Owner Name: William Sheard

## Property Information

Municipal Address: 12862 Dixie ROAD;  
 Legal Description: CON 3 EHS PT E LOTS 21,22 RP 43R15184 PART 1 196.11AC;  
 2124130007139000000;  
 PIN: 122070 Site Area: 79.14 ha / 195.57 ac

## Planning Documents

Provincial Documents: Provincial Policy Statement:  Places to Grow Plan:   
 Oak Ridges Moraine Conservation Plan:  Greenbelt Plan:   
 Region of Peel Official Plan: See Region of Peel Official Plan  
 Town of Caledon Official Plan: Prime Agriculture and Environmental Policy Area  
 Zoning By-law: Agricultural (A1) & Environmental Policy Area 2 (EPA2)  
 Conservation Authority: TRCA:  CVC:  NVCA:  LSRCA:

## Existing Planning Applications on the Property

File Number	Type/Stream	Status
PRE 2020-0096	Preliminary Meeting	PreConsultation

## Required Planning Approvals

Plan of Subdivision:	Regular Stream: <input type="checkbox"/>	Palgrave Estates Stream: <input type="checkbox"/>
Plan of Condominium:	Conversion: <input type="checkbox"/>	Leasehold Stream: <input type="checkbox"/> Freehold Stream: <input type="checkbox"/>
	Standard: <input type="checkbox"/>	Common Elements: <input type="checkbox"/> Phased: <input type="checkbox"/> Vacant Land: <input type="checkbox"/>
Official Plan Amendment:	Regular Stream: <input checked="" type="checkbox"/>	Expansion of Settlement Area: <input checked="" type="checkbox"/>
Zoning By-law Amendment:	Regular Stream: <input checked="" type="checkbox"/>	Lifting of 'H': <input type="checkbox"/> Temporary Use: <input type="checkbox"/>
Site Plan Approval:	Full Stream: <input checked="" type="checkbox"/>	Development Agreement Required: <input type="checkbox"/>
	Amendment: <input type="checkbox"/>	Scoped: <input type="checkbox"/> Fast Track: <input type="checkbox"/>
	FIT Facility Protocol: <input type="checkbox"/>	Telecommunication Facility Protocol: <input type="checkbox"/>

## Other Approvals/Requirements

Niagara Escarpment Plan Amendment: <input type="checkbox"/>	Niagara Escarpment Development Permit: <input type="checkbox"/>
Region of Peel Official Plan Amendment: <input checked="" type="checkbox"/>	Conservation Authority Approval: <input checked="" type="checkbox"/>
Building Permit: <input checked="" type="checkbox"/>	Fill Permit: <input type="checkbox"/>
Development Charges: <input checked="" type="checkbox"/>	Cash-in-Lieu of Parkland*: <input checked="" type="checkbox"/>
Securities: <input checked="" type="checkbox"/>	Other: <u>MTO Approval</u> <input checked="" type="checkbox"/>

\* May require peer review at the Applicant's cost



## Complete Application Requirements

Document	Required Number of Copies	Document	Required Number of Copies
Completed Application Form	X	Fee(s) <sup>3</sup>	X
Pre-Consolidation (DART) Meeting Form	X	Cover Letter	X
OBC Data Matrix	X	Zoning Matrix	X
Scalable Concept Plan	X	Survey Plan	
Full-Size, Scalable Site Plan Drawings	X	Draft Zoning By-Law Amendment	X
Plan of Subdivision		Draft Official Plan Amendment	X
Plan of Condominium		Agricultural Impact Assessment	X
Aggregate Resource Impact Study		Archaeological Resource Assessment	X
Air Quality Assessment		Architectural Design Plan	
Architectural Design Guidelines		Commercial Impact Study	
Built Heritage and Cultural Heritage		Cultural Heritage Impact Assessment	X
Comprehensive Broader Scale		Elevation Drawings	X
Demarcation of Areas Regulated by a Conservation Authority		Erosion and Sediment Control Plan	X
Comprehensive Environmental Impact Study and Management Program	X	Fiscal Impact Analysis	
Feature Stakings	X	Fiscal Market Study	
Floodplain Analysis		Floor Plan Drawings	X
Functional Servicing Plan	X	Geotechnical Reports	X
Heritage Conservation Plan		Housing Distribution Analysis	
Hydrogeological Impact Assessment <sup>1</sup>	X	Landscape Plan	X
Neighbourhood Concept Plan		Noise and Vibration Study <sup>1</sup>	X
On-street Parking Analysis		On-street Utilization Plan	
Pedestrian Circulation and Trail Plan		Phase 1 Environmental Site Assessment	X
Planning Justification report	X	Sub-watershed Study or CEISMP <sup>2</sup>	X
Site Grading Plan	X	Site Servicing Plan	X
Soil Stability Report		Stormwater Management Plan	X
Traffic Impact Study	X	Tree Inventory Analysis	X
Urban Design Brief	X	Visual Impact Report	X
Water Balance / Budget Analysis		Woodlot Edge Hazard Risk Assessment	
Engineering Cost Estimate	X	Landscaping Cost Estimate	X
Engineering Letter of Conformance	X	Landscape Letter of Conformance	X
Other		Other	

1. Town will require report to be peer reviewed at the applicant's expense
2. Containing necessary studies (Natural Heritage, HDF assessment and Aquatics, Feature-Based Water Balance evaluation and assessment if required, Geomorphic Analysis and Erosion Hazard delineation, Hydrology and Hydraulics, Hydrogeological investigation/Overall Water balance, and Functional Servicing Report) and identification of existing conditions, potential impacts, and mitigation/implementation/management plans for the development area. A Terms of Reference should be submitted to TRCA for approval prior to undertaking the study.
3. See Fees By-law for Details



# Pre-Consultation (DART) Meeting Form

## Confirmation

For Official Plan amendment and/or Zoning By-law Amendment applications, templates will be forwarded to you electronically. Please sign below to confirm that you have received and reviewed the following documents:

### Official Plan Amendment Template:

\_\_\_\_\_

Name

\_\_\_\_\_

Date

### Zoning By-law Amendment Template:

\_\_\_\_\_

Name

\_\_\_\_\_

Date

Where design guidelines are applicable, the documents below are to be reviewed, consulted and addressed through the proposed application. All documents can be found on the Town's website. Please sign below to confirm that you have consulted with the necessary guidelines.

Industrial/Commercial Design Guidelines



Urban Design Guidelines



\_\_\_\_\_

Name

\_\_\_\_\_

Date

## Notes

This form addresses only those items that are required in order for the Town to deem that application complete and be able to begin the review process. If an application does not contain the items noted above along with the items included in the appropriate process manual, the application will be deemed incomplete and will not be accepted by the Town of Caledon. As a result of comments received during the processing of the application(s), amendments, addendums, and/or additional studies and material may be required.

Submitted studies may be required to be peer reviewed, for which the costs would be born by the applicant.

## Consultation

Is further consultation required? Yes  No

If yes, please explain: As the Town and Region are currently undertaking Official Plan Reviews, advancing an application prior to the conclusion of these reviews will require consultation with the Town, Region, and TRCA to determine possible approval processes.

\* The applicant is to request further consultation, unless otherwise described above, upon addressing the issue to be discussed.

## Expiration

As per By-law No. 2008-118, a new Pre-Consultation Meeting will be required should the application not be submitted by the expiry date. If additional consultation is required, it should be held prior to the expiry date to ensure all matters have been addressed and the application submission is complete.

Pre-Consultation (DART) Meeting Expiry Date: March 23, 2021

## Agreement of Complete Application Requirements

The proposal as described on this form has been reviewed during the Pre-Consultation Meeting and both the applicant and Town of Caledon staff are in agreement that the terms checked on the list contained in this Form identify all material that will be required for the indicated application to be deemed complete.

### Applicant

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Lead Planner

Name: Justin Cook

Signature: 

Date: September 23, 2020



6311 Old Church Road  
Caledon, ON L7C 1J6  
www.caledon.ca

T. 905.584.2272 | 1.888.225.3366 | F. 905.584.4325

## Checklist

### Application Form/Amendment

- Completed municipal application form
- Proposed draft Regional Official Plan Amendment
- Proposed draft Local Official Plan Amendment
- Proposed draft Zoning By-law Amendment

### Plans/Drawings

- Site Plan –6 Copies
- Landscape Plan - 6 Copies
- Condominium Draft Plan – Copies
- Concept Plan - 4 Copies
- Grading Plan – 6 Copies
- Drainage Plan – 6 Copies
- Plan of Survey - 4 Copies
- Draft Reference Plan -6 Copies
- Servicing Plan(s) – 6 Copies
- M-Plan - \_\_\_\_ Copies

### Studies/Questionnaires

- Planning Justification Report
- Environmental Impact Study
- Noise Report
- Healthy Development Assessment (Caledon only)
- Sustainability Assessment (Brampton only) -
- Healthy by Design Questionnaire (Mississauga only)
- Wellhead Protection Questionnaire
- Hydrogeological Report
- Geotechnical Report
- Traffic Impact Study

### Fees

- Fees are payable to the Region and must be submitted in the form of a certified cheque as a requirement of a complete submission
- Regional Official Plan Amendment Processing Fee (\$20,000)
  - Local Official Plan Amendment Processing Fee (\$12,000)
  - Subdivision Processing Fee (\$20,000)
  - Condominium Processing Fee (\$3,000)
  - Site Plan Application Processing Fee for Major (\$1,000) and Minor (\$500)
  - Other fees:

Report Fee of \$515 as per current bylaw 67-2019
--------------------------------------------------

**Please be advised that additional processing fees, including agreement fees, may be required. This will be determined after the initial submission is received.**

### Other Information

For subdivision applications, a digital copy of the proposed plan of subdivision must adhere to the following specifications:

- 6-degree UTM projection (zone 17)
- NAD 83
- All external boundaries of 21T-plan and internal lot/block layout plus lot/block numbers
- One of the following formats:
  - Double precision ARC/INFO polygon coverage with 0.01 fuzzy tolerance and lot/block information as an attribute in export format – E00 file
  - ArcView shape file with the same attribute information
  - Microstation DGN file with linework on level #1 and lot/block numbers on level #2

- Functional Servicing Report
- Single/Multi use Demand Table ( Water only /  Water & Wastewater)
- Stormwater Management Report
- PINS/Parcel Abstract
- Agricultural Impact Study
- Subwatershed Study
- Conceptual Study (ROPA)
- Environmental Site Assessment Report
  - Phase I Environmental Site Assessment;
  - Phase II Environmental Site Assessment;
  - Record of Site Condition
- Waste Management Plan
- Other

**NOTE: All opinions offered by staff are based on preliminary review and subject to change based on review of additional information and studies received at the subsequent application stage(s)**

**Servicing:**

- The site does not have frontage on existing municipal sanitary sewer
- The proposal requires connection to a minimum municipal watermain size of 300mm.
- Servicing of this site may require municipal and/or private easements and the construction, extension, twinning and/or upgrading of municipal services.
- All works associated with the servicing of this site will be at the applicant's expense. The applicant will also be responsible for the payment of applicable fees, DC charges, legal costs and all other costs
- A full Engineering Submission is required for the construction of the infrastructure. The Infrastructure must be operational/commissioned by the region prior to Site Servicing Approval

**Access:**

- The access type and location on Dixie Road and Mayfield Road will be determined via the TIS. Terms of reference must be submitted for our review prior to the commencement of the study.
- ROW Requirements
  - o Dixie Road: 41.5m ultimate (20.75m from the centerline) 0.3m Reserve

Date: September 17, 2020

Planner: Abiral Homagain

File Number: DART-20-043C / PRE-2020-0097

Applicant Name: Armstrong Planning & Project Management / William Charles Sheard & 1058063 Ontario Limited

Location: 12862 Dixie Road

**Notes:**

Please be advised that any preliminary work on the Local Official Plan Amendment prior to the approval of the Regional Official Plan Amendment for the Settlement Area Boundary Expansion study as Part of the MCR– would be proceeding at the Town's and applicant's own risk.

**Waste**

Not in the vicinity of a landfill site  
Private waste collection will be required

**Health**

Explore permeable/porous paving instead of black asphalt to reduce negative aesthetic and environmental impacts;  
Preferential parking for carpool and carshare vehicles is encouraged.

## General Requirements

At the pre-consultation stage, the applicant will be notified of the required submission materials to fulfill the needs of a complete application. All submissions must be provided directly to the planning department at the local area municipality (Brampton, Caledon, Mississauga) unless otherwise instructed by a Region of Peel Planner. All submissions must include a covering memo indicating the file number, address and/or location, nature of the proposal, a list of submitted material and a copy of this completed checklist provided by the Regional Planner at the pre-consultation stage.

- II Plans (e.g. site plan, landscape plan) must include the following:
  - A Key Plan illustrating the general geographic location of the subject lands must be located on all proposed copies of the plan
  - Waste collection area, if applicable; and,
  - Regional property requirements, if abutting a Regional road.
  - must show all easements (including Instrument Numbers and party to)
- Plans/drawings must be collated into sets and be folded to 216mm x 356mm (8.5" x 14") with the title box exposed.
- Along with the required number of physical copies, a digital copy (PDF) of all materials must be submitted.

## Development Information and Materials

Region of Peel Official Plan: <https://www.peelregion.ca/planning/officialplan/>

Public Works Manuals

- Infrastructure within proximity of LRT:  
<https://www.peelregion.ca/pw/other/standards/linear/design/pdfs/lrt-design-standard-april2015.pdf>
- Regional Roads and Traffic:  
<https://www.peelregion.ca/pw/other/standards/linear/design/pdfs/designroads-july2009.pdf>
- Functional Servicing and Stormwater Management Report Criteria:  
<http://www.peelregion.ca/pw/other/standards/linear/reports/pdfs/swm-fsr-final-july2009.pdf>
- Standard Drawings (to determine which standards apply):  
<http://www.peelregion.ca/pw/other/standards/linear/drawings>
- Site Plan Process for Site Servicing Submission Requirements:  
<http://www.peelregion.ca/pw/other/standards/linear/procedures/pdf/site-plan-process2009.pdf>
- Sanitary Sewer: <https://www.peelregion.ca/pw/other/standards/linear/design/pdfs/sani-sewer.pdf>
- Storm Water: <https://www.peelregion.ca/pw/other/standards/linear/design/pdfs/sewer-design-update.pdf>
- Waste Collection: <https://www.peelregion.ca/pw/standards/design/waste-collection-design-manual-2016.pdf>
- Watermain Design: <https://www.peelregion.ca/pw/other/standards/linear/design/pdfs/water-design.pdf>

Region of Peel Fees By-Law: <https://www.peelregion.ca/council/bylaws/2010s/2019/bl-67-2019.pdf>

Traffic Impact Study – Terms of Reference: <http://www.peelregion.ca/pw/transportation/business/traffic-impact-study.asp>

Street Naming Guidelines: <https://www.peelregion.ca/planning/pdf/street-name-guidelines.pdf>

Healthy Peel by Design: <https://www.peelregion.ca/healthy-communities>

Affordable Housing Active Design: Guidelines and Standards:  
<http://www.peelregion.ca/health/resources/healthybydesign/pdf/CDI-0560.pdf>

Region of Peel's Housing & Homelessness Plan: <https://www.peelregion.ca/housing/homelessness/pdf/plan-2018-2028.pdf>

Conservation Authority Protocol for Plan Review and Technical Clearance:

<https://www.peelregion.ca/planning/business/pdf/ConservationAuthorityProtocolPlanReviewTechClearance.pdf>

General Guidelines for the Preparation of Acoustical Reports: <https://www.peelregion.ca/planning/noise-guidelines.pdf>

Pedestrian and Bicycle Facility Design Guidelines: <http://www.peelregion.ca/pw/construction/pdf/pedestrian-bicycle-facility-design-guidance.pdf>

Protocol for the Use of Non-Potable Groundwater Criteria in Brownfield Redevelopment in Peel Region:  
<http://www.peelregion.ca/planning/pdf/water.pdf>

### **Municipal Planning Resources**

City of Brampton: <http://www.brampton.ca/EN/Business/planning-development/Pages/welcome.aspx>

Town of Caledon: <https://www.caledon.ca/en/townhall/developmentplanning.asp>

City of Mississauga: <http://www.mississauga.ca/portal/residents/planningandbuilding>

## Public Works

10 Peel Centre Dr.  
Suite A  
Brampton, ON  
L6T 4B9  
tel: 905-791-7800

peelregion.ca

September 21, 2020

Justin Cook  
Town of Caledon  
6311 Old Church Road  
Caledon ON L7C 1J6

**Re: Planning Application Requirements Checklist  
12862 Dixie Road (Cation Lands) # DART-20-043C  
Town of Caledon**

Regional staff have reviewed the materials provided by the applicant as part of the September 10<sup>th</sup> Development Application Review Team (DART) meeting. We offer the following preliminary comments and application requirements for the proposed Town of Caledon Official Plan Amendment (OPA), Zoning By-law Amendment (RZ).

Please note that these are preliminary comments only that are based on the limited information that we have from the DART meeting. Further comments will be provided when more information becomes available.

### **Preliminary Comments**

The Region's Official Plan (ROP), Schedule D, shows the settlement boundary limits. The subject site falls outside of these limits and is not in a settlement boundary. Section 7.9.2.12 of the ROP states that the Region will consider an expansion to the boundary "only through a Regional Official Plan Amendment which is based on municipal comprehensive review" provided certain criteria are met.

For these reasons, the applicant was advised at the DART that the lands need to be included in the settlement area through a Regional Official Plan Amendment (ROPA) prior to approval of a Local Official Plan Amendment (LOPA). As per Peel Region By-Law 1-2000, until such time as ROP approvals are in effect, the LOPA application would be forwarded to the Region for approval by the Commissioner after the related ROPA comes into force.

Regional staff is supportive of Town OPA, RZ, and applications being processed concurrently, but please be advised that until such time as the ROPA is approved it is at the applicant's risk.

### **Next Steps – Settlement Boundary Expansion**

#### *Regional Official Plan and Municipal Comprehensive Review:*

Through the Peel 2041+ Official Plan and Municipal Comprehensive Review (MCR), the ROP is currently being reviewed in order to keep it current, meet the goals and requirements of Provincial plans and legislation, and support Regional and local community building objectives. It was noted at the DART meeting that the applicant has made a submission for consideration of the subject lands to be included in the settlement area as part of the Settlement Area Boundary Expansion Study which is being undertaken as part of the Region's Official Plan Review. This request will be considered through this process.

It is mandated that the Region's Official Plan Amendment be approved by the Province by July 1, 2022. Further information on the Region's Official Plan Review is available at the following link:

<http://www.peelregion.ca/officialplan/review/>

*Planning Application Requirements Checklist:*

Should the subject lands be brought into the settlement boundary through an approved planning process, a checklist has been provided which sets out the Regional requirements to review applications for a Local Official Plan Amendment and Zoning By-law Amendment. The Region's Planning Application Requirements Checklist is attached.

**Concluding Comments**

I am available to discuss this proposal further with the Town and applicant. If there are any questions or concerns, please contact me at your earliest convenience at 905-791-7800 ext. 8730, or by email at: [abiral.homagain@peelregion.ca](mailto:abiral.homagain@peelregion.ca).

Best,



Abiral Homagain, Junior Planner  
Development Services

Enc. Planning Application Requirements Checklist

---

**Public Works**

10 Peel Centre Dr., Suite A, Brampton, ON L6T 4B9  
Tel: 905-791-7800 [www.peelregion.ca](http://www.peelregion.ca)



## TECHNICAL MEMORANDUM

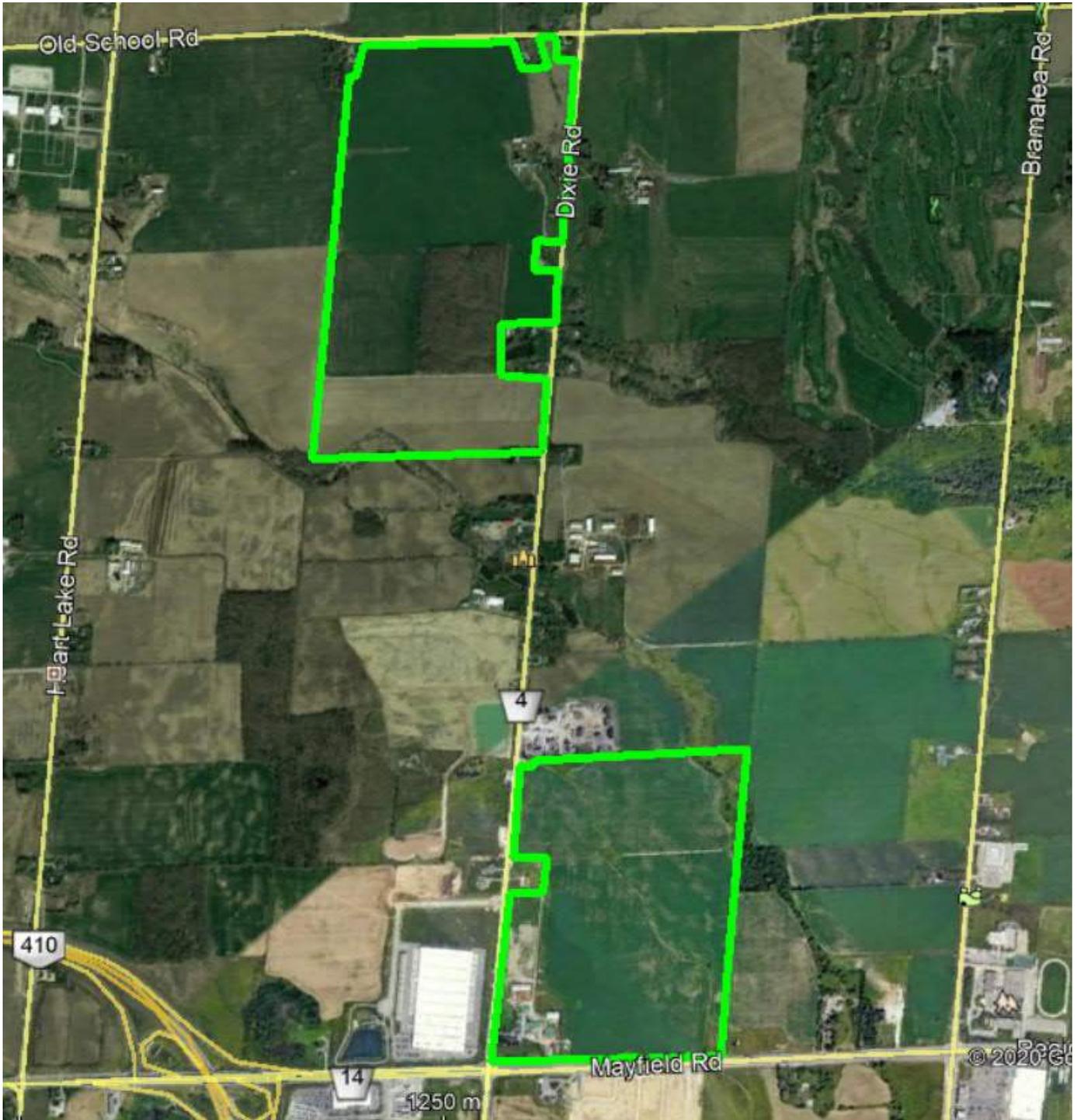
To:	Jason Wagler, Senior Planner, TRCA Evan Bearss, Ecologist, TRCA Lina Alhabash, Planner, TRCA Tychon Carter-Newman, Planner, TRCA Kyle Poole, Landscape Architect, Town of Caledon Jay Menary, Development Engineering Technologist, Town of Caledon
From:	Leanne Wallis, Ecologist, WSP Carleigh Oude-Reimerink, Senior Planner and Project Manager, Armstrong Planning and Project Management
RE:	12035 Dixie Rd and 12892 Dixie Rd, Caledon Site Walk (October 27, 2020) to Confirm Wetland and Woodland Limits
Date:	November 19, 2020
Revision:	

## INTRODUCTION

WSP Canada Inc. and Armstrong Planning and Project Management have been retained by Tribal Partners Canada Inc. to provide ecological, planning, and project management services related to the proposed e-commerce facility developments at 12035 Dixie Rd (“the south property”) and 12892 Dixie Rd (“the north property”), Caledon, Ontario. Both properties are located on Dixie Rd between Mayfield Rd and Old School Rd, just north of the Caledon/Brampton boundary (see Figure 1).

This technical memorandum documents the results of a site walk involving staff from WSP Canada Inc. (Leanne Wallis), Armstrong Planning and Project Management (Carleigh Oude-Reimerink), Toronto and Region Conservation Authority (TRCA) (Jason Wagler, Evan Bearss, Lina Alhabash, Tychon Carter-Newman) and Town of Caledon (Kyle Poole, Jay Menary) on October 27, 2020 to confirm the wetland and woodland limits on the subject properties.

Figure 1: Study Area showing north property (12892 Dixie Rd) and south property (12035 Dixie Rd), approximate limits



## 12035 DIXIE RD

Two adjacent properties (12035 Dixie Rd and Pt Lt 19 Con 4 EHS Chinguacousy as in RO811026; except 29, 30, 33 & 34 43R20417, PT 1 & 2 43R16098 & PT 4 43R16437; Caledon) are herein referred to as 12035 Dixie Rd. The combined size is approximately 147 acres (59 hectares) and the property is currently zoned and designated agricultural and is used for agricultural purposes. A linear drainage feature is present through the farm field, a creek is present along the northeast corner of the property, and small wetland patches are present elsewhere along the north, east, and south property boundaries. A woodland is present on the neighboring property to the east, with the woodland abutting the boundary with the subject property.

Wetland limits were pre-flagged by WSP prior to the site walk. These limits were reviewed and accepted by TRCA representatives. Woodland limits were pre-flagged by WSP prior to the site walk. These limits were reviewed and accepted by Town of Caledon representatives.

TRCA representatives stated a top of bank limit would be required along the valley crest in the northeast corner of the property. TRCA flagged the limit during the site walk.

The wetland, woodland, and top of bank limits will be professionally surveyed by R. Avis Surveying. The surveyed limits will be provided in digital format to TRCA and the Town of Caledon for review and inclusion into their GIS data set.

TRCA representatives stated a slope stability study would be required at a steep point ("Flag 3") along the valley crest in the northeast corner of the property.

## 12892 DIXIE RD

12892 Dixie Rd is approximately 197 acres (80 hectares) and the property is also zoned and designated agricultural and is currently used for agricultural purposes. Two drainage features are present in the northeast corner, and a creek is present along the south property boundary. A woodland is also present on the subject property.

Wetland limits were pre-flagged by WSP prior to the site walk. These limits were reviewed and accepted by TRCA representatives. Woodland limits were pre-flagged by WSP prior to the site walk. These limits were reviewed and accepted by Town of Caledon representatives.

Town of Caledon representatives stated that the ongoing selective cutting of trees within the woodland should follow forestry and arboriculture best management practices. The Town of Caledon representatives requested a copy of the forestry management plan (Jackson Stewardship, 2019) which was submitted to the Town via electronic transfer on November 19, 2020.

TRCA representatives stated a top of bank limit would be required at two locations: 1) along the valley crest above the drainage feature in the northeast corner of the property, and 2) along the valley crest above the creek along the south property boundary. TRCA flagged the limits during the site walk.

In addition, TRCA representatives stated a valley contiguous vegetation limit was required in the northeast corner of the property. This limit is an extension of the top of bank limit and includes contiguous vegetation in the vicinity of the farmhouse.

The wetland, woodland, and top of bank limits will be professionally surveyed by R. Avis Surveying. The surveyed limits will be provided in digital format to TRCA and the Town of Caledon for review and inclusion into their GIS data set.

TRCA representatives stated a feature-based water balance would be required for the watercourse within the woodland.

TRCA representatives stated an erosion analysis would be required for the watercourse within the woodland.

TRCA representatives stated a headwater drainage feature (HDF) analysis would be required upstream of the drainage feature south of the farmhouse.

TRCA representatives stated a slope stability analysis would be required along the south property limit in the vicinity of the creek.

## OTHER COMMENTS

Terms of Reference for the study are to be reviewed by TRCA staff.

Town of Caledon Development Engineering staff are to be circulated all engineering reports and studies for review through future development application submission.

## CONCLUSIONS

- The wetland limits at 12035 Dixie Rd and 12892 Dixie Rd as delineated by WSP received approval from TRCA representatives.
- The woodland limits at 12035 Dixie Rd and 12892 Dixie Rd as delineated by WSP received approval from Town of Caledon representatives.
- Top of bank limits at 12035 Dixie Rd and 12892 Dixie Rd were flagged by TRCA representatives.
- All verified limits at 12035 Dixie Rd and 12892 Dixie Rd will be professionally surveyed. The surveyed limits will be provided in digital format to TRCA and the Town of Caledon for review and inclusion into their GIS data set.
- TRCA and Town of Caledon representatives advised that the following surveys will be required, at the locations outlined above:
  - 12035 Dixie Rd: Slope Stability Study
  - 12892 Dixie Rd: Feature-based Water Balance; Erosion Analysis, HDF Analysis, Slope Stability Study

Thank you,



Leanne Wallis  
Terrestrial Ecologist  
WSP Canada



Carleigh Oude-Reimerink  
Senior Planner, Project Manager  
Armstrong Planning and Project Management



Steve Leslie  
Ecologist  
WSP Canada



## **CONFIRMATION OF REGISTRATION**

Form Name: Barn Swallow - Activities in built structures that are habitat (s.23.5)  
Date Registration Filed: 03/12/2021  
Confirmation ID: M-102-5415453912  
Version Number: 001  
Update Date:

Dear Sir/Madam,

It is your responsibility to understand all the applicable requirements of registration and to be aware of which species are eligible or excluded in relation to your activity. Some requirements apply to all activities being initiated on the landscape, such as the minimization of adverse effects on the species. Other requirements vary by activity such as record keeping, monitoring, and creation of mitigation plans and reports. **Please go to <https://www.ontario.ca/page/alter-structure-habitat-barn-swallow> for specific requirements, information and resources.**

**It is also your responsibility to monitor changes to the SARO List (O. Reg. 230/08) as well as eligibility and requirements in the General Regulation O. Reg. 242/08.**

**When documents are requested by the Ministry of Natural Resources and Forestry (MNRF) they are due within 14 days.**

Tribal Partners

2700 Steeles AVE W, SUITE, 201  
VAUGHAN, ON L4K3C8

You have completed the registration portion of Ontario Regulation Reg. 242/08 of the *Endangered Species Act, 2007* and your Notice form has been received by the Ministry of Natural Resources and Forestry for activities eligible under the following regulatory provision:

Barn Swallow - Activities in built structures that are habitat (s.23.5)

located at:

12892 Dixie RD

For the species listed in Appendix A.

Species observations must be reported directly to the Natural Heritage Information Centre, within three months, by completing a Rare Species Reporting Form available at <http://www.ontario.ca/page/report-rare-species-animals-and-plants>.

In addition to the General Regulation, information is available at <http://www.ontario.ca/page/natural-resources-approvals>.

You are required to show this Confirmation of Registration upon request of the Ministry. Please refer to Ontario Regulation 242/08 for requirements that apply to your activity.

Any questions related to this registration and/or the Natural Resources and Forestry Registry should be directed to:

Registry and Approval Services Centre  
Ministry of Natural Resources and Forestry  
300 Water Street  
Peterborough, ON, K9J8M5  
Toll-free: 1-855-613-4256  
E-mail: [mnr.rasc@ontario.ca](mailto:mnr.rasc@ontario.ca)

Appendix A:

Species impacted by the registered activity:

Barn Swallow (*Hirundo rustica*)

# APPENDIX

**F**

TERMS OF  
REFERENCE



12892 DIXIE ROAD  
CALEDON, ONTARIO

# COMPREHENSIVE ENVIRONMENTAL IMPACT STUDY AND MANAGEMENT PROGRAM (CEISMP)

## NATURAL HERITAGE TERMS OF REFERENCE



Prepared for:  
**Tribal Partners Canada Inc.**  
Prepared By:  
**WSP Canada Inc.**  
December 2020

## Signatures

### Prepared by



Steven Leslie, B.E.S.,  
Ecologist

December 7, 2020

Date

### Reviewed by



Jeff Gross, MSc.,  
Senior Ecologist

December 7, 2020

Date

WSP Canada Inc. prepared this report solely for the use of the intended recipient, **Tribal Partners Canada Inc.**, in accordance with the professional services agreement. The intended recipient is solely responsible for the disclosure of any information contained in this report. The content and opinions contained in the present report are based on the observations and/or information available to **Tribal Partners Canada Inc.** at the time of preparation. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. WSP Canada Inc. does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report. This limitations statement is considered an integral part of this report.

The original of this digital file will be conserved by WSP Canada Inc. for a period of not less than 10 years. As the digital file transmitted to the intended recipient is no longer under the control of WSP Canada Inc. its integrity cannot be assured. As such, WSP Canada Inc. does not guarantee any modifications made to this digital file subsequent to its transmission to the intended recipient.



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**Appendix A:** Subject Property Overview Figure



## 1.0 INTRODUCTION

WSP Canada Inc. (WSP) has been retained by Tribal Partners to provide input to a Comprehensive Environmental Impact Study and Management Program (CEISMP) in support of future development for a property, herein identified as 12892 Dixie Road (the Subject Property), located at the south corner of the Dixie Road and Old School Road intersection in Caledon. To confirm the natural heritage scope of work for the CEISMP, we have prepared these Terms of Reference (TOR), based on relevant policies in the Town of Caledon Official Plan (2018), Toronto and Region Conservation Authority (TRCA) Environmental Impact Statement Guidelines (2014), pre-consultation (DART meeting) comments from the Town of Caledon dated September 23, 2020, background information and 2020 field surveys of the Subject Property. This also includes scope for a fluvial geomorphic analysis, provided by GeoMorphix Ltd. The Subject Property location and the surrounding landscape are shown on the Figure in Appendix A.

To document existing natural environment conditions, WSP has completed background information review and field investigations on the Subject Property in September and October 2020 (refer to Section 4.1). WSP's Ecology Group completed a preliminary characterization of existing natural features and assessed natural heritage features and functions. Field investigations included documenting vegetation communities, and determining the potential for Species at Risk (SAR) or their habitat to occur within the Subject Property. To identify constraint limits, woodland and wetland delineations were completed by WSP staff. These delineations were confirmed in the field with Town of Caledon and TRCA staff on October 27, 2020. Limits will be surveyed for inclusion on all base plans that accompany the future submission.

## 2.0 SITE CONTEXT

### 2.1 Overview

The Subject Property has a total area of approximately 79 hectares, adjacent lands include agricultural fields, woodlands / riparian areas along tributaries of the Humber River, and rural residential homes. Most of the Subject Property is under active agricultural use (crops), though there are natural areas associated with multiple tributaries of the Humber River, as discussed below and shown in Appendix A.

### 2.2 Natural Features

The natural heritage overview presented below is based on two field surveys in the fall of 2020 and review of available background information. Natural areas, which comprise approximately 13.65 ha (or 17%) of the Subject Property, include: a central woodlot; wetland and riparian areas along tributaries of the Humber River; and areas of cultural meadow within to the northeast corner of the Subject Property.

Aquatic habitat includes the aforementioned tributaries of the Humber River. Tributary 1 and Tributary 5 (Appendix A) are permanent watercourses that originate off of the Subject Property and have associated riparian areas located within and adjacent to the Subject Property. Tributary 2 and Tributary 3 are narrower, less defined features that originate as overland drainage from the agricultural field, conveying flows from



the field into the woodlot on the Subject Property, ultimately outletting to an on-line pond located on an adjacent residential property. Tributary 4 also originates as overland drainage from the agricultural field and is conveyed off the property to a residential property fronting the south side of Dixie Road. Based on air photo interpretation, it is likely that Tributaries 1 and 5 are permanent watercourses with the potential to support direct fish habitat, whereas Tributaries 2, 3 and 4 are ephemeral / intermittent drainage features .

## 2.3 Designations

There are a number of existing natural heritage designations and natural heritage features on or adjacent to the Subject Property (see Appendix A):

**Areas Regulated by TRCA** under Ontario Regulation 166/06 of the Conservation Authorities Act:

- Five regulated watercourses are present (per TRCA online mapping; December 2020):
  - The five tributaries of the Humber River (and associated riparian areas), generally flowing west to east as described above (per TRCA online mapping; December 2020).

### **Region of Peel Official Plan (2018)**

- Tributaries 1, 2 and 3 of the Humber River, and associated natural areas (riparian and woodland) on and adjacent to the Subject Property are designated as *Core Areas of the Greenlands System* in the Official Plan (Schedule A; Section 2.3).
- The remainder of the Subject Property is designated as *Prime Agricultural Area* (per Schedule B).

### **Mayfield West Secondary Plan (2018)**

- Tributaries 1, 2, 3 and 5 of the Humber River, and associated natural areas (riparian and woodland) on and adjacent to the Subject Property are designated as *Environmental Policy Area* (per Schedule B)
- The remainder of the Subject Property is designated as *Open Space Policy Area* (per Schedule B).

### **Greenbelt Plan (2017)**

- Tributaries 1, 2 and 3 of the Humber River, and associated natural areas (riparian and woodland) on and adjacent to the Subject Property are designated as *Protected Countryside – Natural Heritage System of the Greenbelt Area* (per Schedule 4); generally coincident with *Environmental Policy Area* in the Mayfield West Secondary Plan (2018), with approximate limits shown on the Figure in Appendix A.

No other existing regional, provincial, or federal natural heritage designations apply to the Subject Property.



## 3.0 BACKGROUND INFORMATION REVIEW

Background information reviewed includes the following:

- Relevant Region of Peel Official Plan (2018); Town of Caledon Official Plan (2018); and Greenbelt Plan (2017) policies and guidelines;
- Natural Heritage Information Centre (NHIC) database;
- Land Information Ontario and air photo mapping;
- Ontario Reptile and Amphibian Atlas (ORAA; Ontario Nature 2020);
- Ontario Breeding Bird Atlas (OBBA; Bird Studies Canada 2006);
- eBird.org data (Audubon and Cornell Lab of Ornithology, no date);
- Atlas of the Mammals of Ontario (Dobbyn 1994);
- Inaturalist (Inaturalist.org 2020); and
- Fisheries and Oceans Canada (DFO) – Aquatic Species at Risk Mapping (2020).

## 4.0 SCOPE OF WORK

### 4.1 Field Surveys & Analyses Completed to Date

Field investigations completed to date are summarized below:

- General Field Reconnaissance (multiple dates in 2020)
- Aquatic Field Survey (targeted survey on one date; December 7, 2020):
  - Headwater Drainage Features (HDF) field assessment across the site – based on guidance provided in the Evaluation, Classification and Management of Headwater Drainage Features Guidelines (CVC & TRCA, January 2014)
- Fluvial geomorphological assessment (GeoMorphix Ltd.)
  - Desktop analysis
  - Field verification on one date (November 26, 2020) including the following tasks at each watercourse on the Subject Property:
    - Rapid Geomorphic Assessments (MOE, 2003) to evaluate channel stability;
    - Rapid Stream Assessments (Galli, 1996) to determine stream health;
    - Channel classification using the modified Channel Evaluation Model (Downs, 1995); and
    - Habitat sketch maps per Newson and Newson (2000).
- Vegetation Surveys (targeted surveys on 2 dates – September 17, 2020 and October 27, 2020):
  - General vegetation overview
  - ELC habitat classification and mapping (as per Ecological Land Classification for Southern Ontario protocols)



- Botanical inventory
- Wetland and woodland delineation flagged by a qualified WSP ecologist (September 17, 2020)
  - WSP delineations were confirmed during a site walk with TRCA and Town of Caledon staff on October 27, 2020.
- General Wildlife and SAR habitat Assessments (three dates from October to December 2020)
  - A list of SAR potentially present in the study area was developed using background information review sources, including database information from NHIC, avian and herpetofauna atlases and other sources, as relevant. This approach is consistent with recent MECP guidance, specifically the Client's Guide to Preliminary Screening for Species at Risk (Draft, MECP 2019).

## 4.1 Outstanding Tasks For CEISMP

Outstanding reporting / data analysis tasks to be initiated upon acceptance of the TOR:

- Submit agency information requests (TRCA, MECP);
- Documentation of results and conclusions of the Headwater Drainage Feature assessment;
- Confirmed feature limits will be surveyed for inclusion on all plans that accompany the submission;
- Feature-based water balance focusing on the woodlot;
- Erosion hazard delineation through erosion setback or meander belt width;
- Submit CEISMP Report for agency review; and
- Revise and finalize CEISMP Report in consideration of agency comments.

## 5.0 REPORT

A CEISMP Report will be prepared in consideration of Region of Peel, Town of Caledon and TRCA policies and guidelines and the approved Terms of Reference, including the following components:

- Description of historical and present land uses of the Subject Property, including but not limited to: grading / filling activities; and easements or restrictions.
- Mapping natural areas on and immediately adjacent to the Subject Property, including natural area designations as defined by the Town, Region, the MNRF / MECP, etc. A general location aerial photograph will be provided that identifies the Subject Property, proposed development and natural areas both onsite and on the adjacent lands.
- Description of natural heritage attributes, including field survey existing conditions results / secondary source information and analyses assessment of headwater drainage features, and SAR habitat potential.
- Results of fluvial geomorphological assessment, hazard delineation, and conceptual channel



realignment designs.

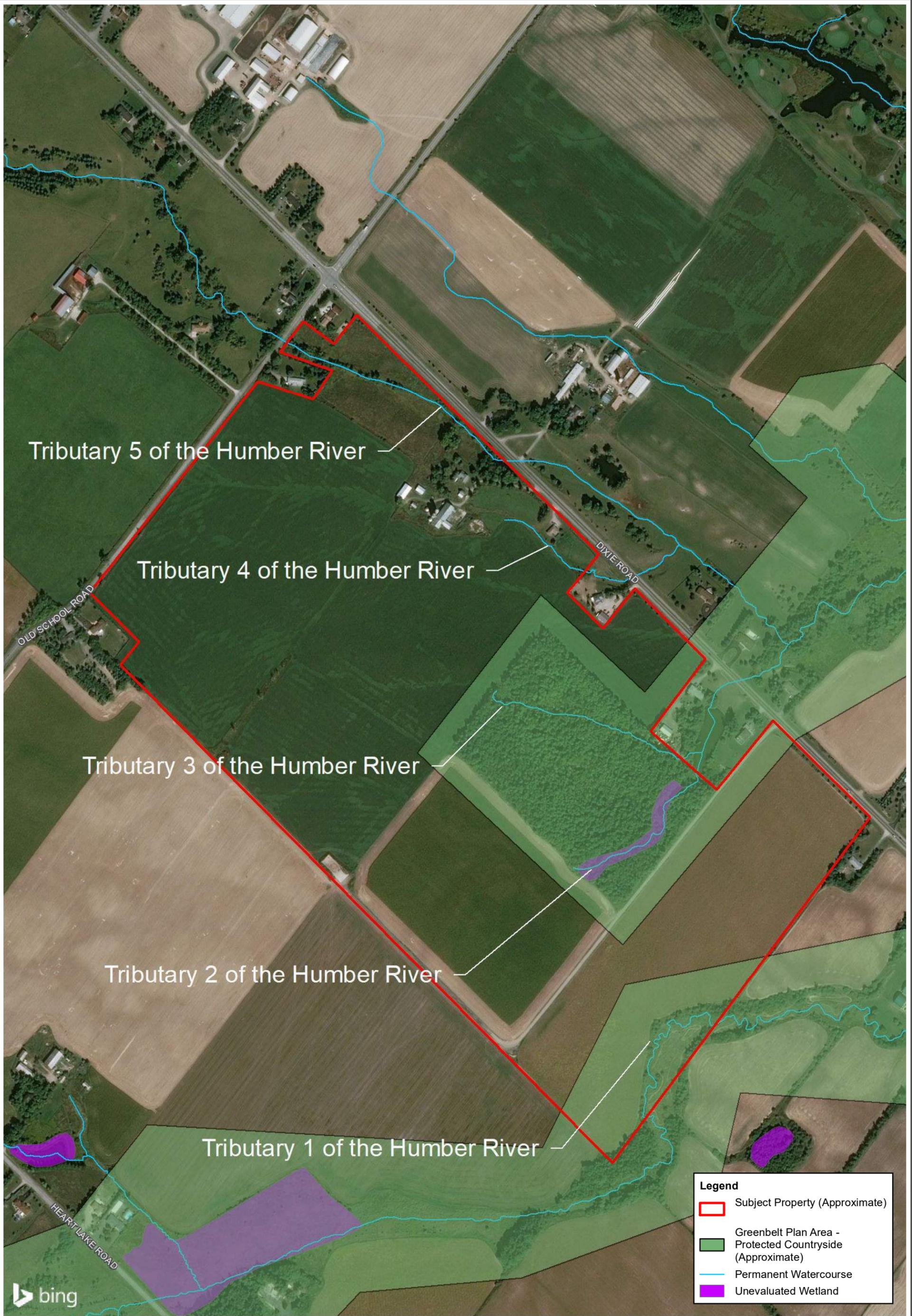
- Evaluation of *Significant Wildlife Habitat* using the Significant Wildlife Habitat EcoRegion Criteria Schedules for EcoRegion 6E (MNRF January 2015), based on available background information and result of field surveys identified herein.
- Evaluation of SAR habitat and policy compliance discussion based on available background information and result of field surveys identified herein.
- Identification of natural heritage constraints and recommended development limits
- Integration of relevant technical information as relevant (e.g., feature-based water balance, geotechnical, stormwater management, floodplain analysis)
- Description of the proposed activities during construction and post-construction activities
- Commentary on potential direct and indirect impacts to ecological features and functions resulting from proposed activities.
- Discussion of relevant policies, regulations and guidelines at the municipal/regional, provincial and federal levels; discussion of policy compliance
- Identification of proposed mitigation, protection, and restoration / enhancement measures
- Recommendations for a Biological Monitoring program.

The report will also include technical appendices, such as species lists, photographs etc. Mapping of natural features identified and recommended setbacks will be provided on an air photo base at an appropriate scale. A final report will be submitted to the Town, Region and TRCA for review and comment as part of the development application, with revisions addressed as part of a resubmission, as required.



# **APPENDIX A**

## **SUBJECT PROPERTY OVERVIEW FIGURE**

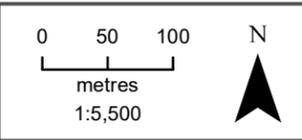


**Legend**

- Subject Property (Approximate)
- Greenbelt Plan Area - Protected Countryside (Approximate)
- Permanent Watercourse
- Unevaluated Wetland



12892 Dixie Road - Caledon, Ontario  
**Subject Property Overview**

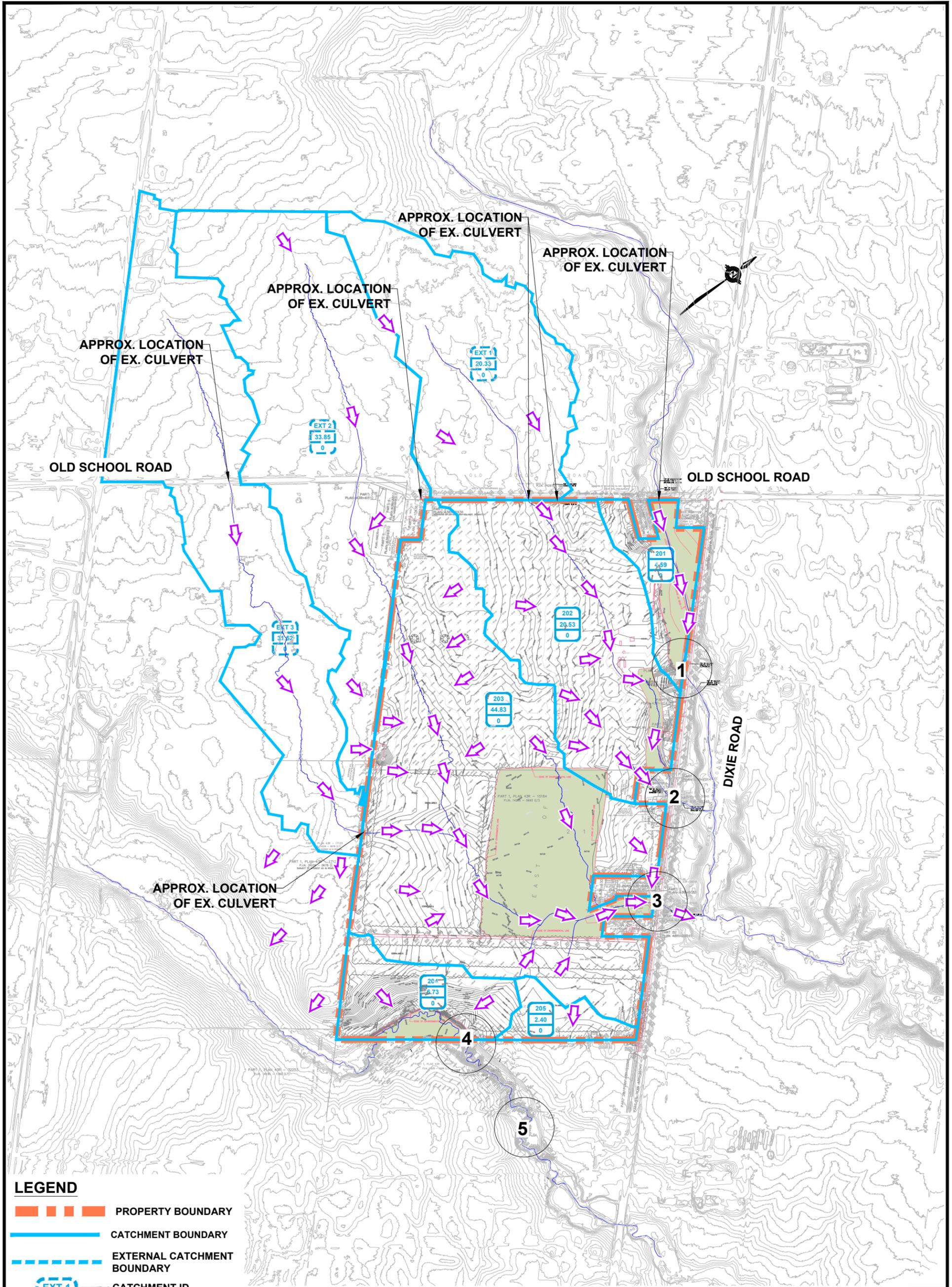


Date: November 2020  
Project No: 20M-01275-00  
Appendix A

# APPENDIX

**G**

STORMWATER  
MANAGEMENT PLANS



**LEGEND**

- PROPERTY BOUNDARY
- CATCHMENT BOUNDARY
- EXTERNAL CATCHMENT BOUNDARY
- EXT 1  
19.38  
0 CATCHMENT ID, DRAINAGE AREA (ha)
- EXT 2  
33.85  
0 IMPERVIOUSNESS (%)
- ENVIRONMENTAL PROTECTION AREA
- DRAINAGE DIRECTION

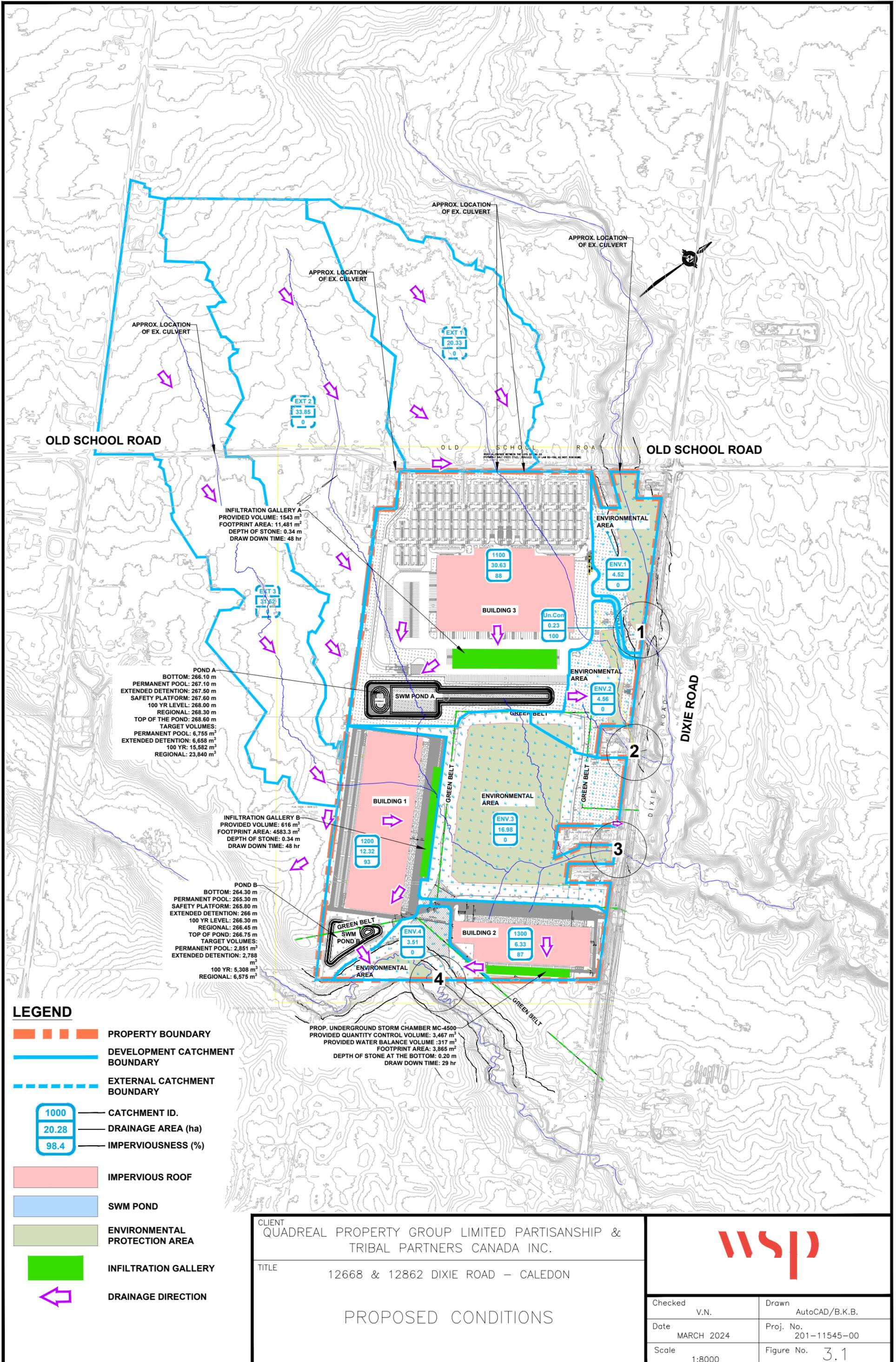
CLIENT  
 QUADREAL PROPERTY GROUP LIMITED PARTISANSHIP &  
 TRIBAL PARTNERS CANADA INC.

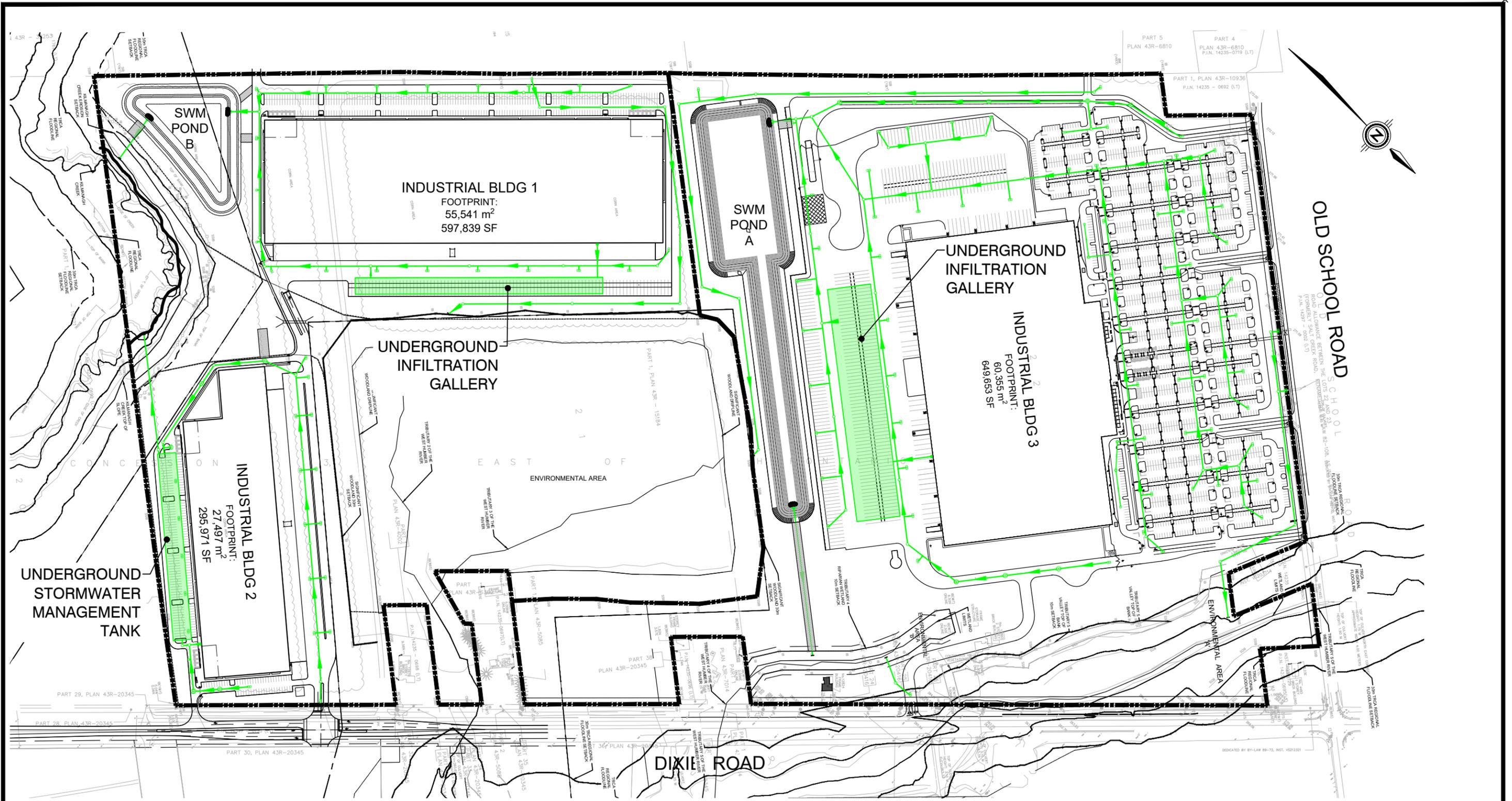
TITLE  
 12668 & 12862 DIXIE ROAD – CALEDON

EXISTING CONDITIONS



Checked	V.N.	Drawn	AutoCAD/F.A.
Date	MARCH 2024	Proj. No.	201-11545-00
Scale	1:8000	Figure No.	2.1





**LEGEND**

- LIMIT OF PROPERTY
- GREENBELT BOUNDARY
- EX. STORM SEWER
- PROP. STORM CONNECTION

CLIENT **QUADREAL PROPERTY GROUP LIMITED PARTNERSHIP & TRIBAL PARTNERS CANADA INC**

TITLE **12668 & 12862 DIXIE ROAD**

**STORM SERVICING PLAN**



100 Commerce Valley Dr. West, Thornhill, ON Canada L3T 0A1  
 t: 905.882.1100 f: 905.882.0055 www.wsp.com

Checked	D.A.	Drawn	E.K.
Date	FEB 2024	Proj. No.	201-11545
Scale	1: 4000	Figure No.	6

PLOTDATE: Mar 05, 2024 - 11:49am, CAD:A069760