74 Berkeley Street, Toronto, ON M5A 2W7
Tel: 647-795-8153 | www.pecg.ca

Updated Environmental Impact Study for 2935 & 2955 Mississauga Road, City of Mississauga

Project #
1903701

Prepared For
590816 Ontario Inc.

May 6, 2021

74 Berkeley Street, Toronto, ON M5A 2W7
Tel: 647-795-8153 | www.pecg.ca

May 6, 2021

Frank Merulla
2616 Cynara Road
Mississauga, ON, L5B 2R7

Dear Frank Merulla:

Re: Updated Environmental Impact Study (EIS) for 2935 & 2955 Mississauga Road, City of Mississauga
Project #: 1903701

Palmer is pleased to submit the following Updated Environmental Impact Study (EIS) for 2935 & 2955 Mississauga Road in the City of Mississauga.

The findings of our study are the result of a background review, initial field investigation and an analysis of data using the current scientific understanding of the ecology of the area, as well as the current natural heritage policy requirements. Based on the EIS prepared by Dougan and Associates in 2017 and on Palmer's background review and recent field observation, we have identified the environmental sensitivities, constraints and development opportunities of the project site. Based on the findings and recommendations of this study, it is our professional opinion that with the implementation of the mitigation measures as provided in this report, the proposed development plan is environmentally feasible.

Please let us know if you have question or comments on this submission

Yours truly,

Dirk Janas, B.Sc.
Principal, Ecologist

Table of Contents

Letter

List of Figures

List of Tables

List of Appendices

1. Introduction

Palmer was retained to complete this updated Environmental Impact Study (EIS) for 2935 & 2955 Mississauga Road, City of Mississauga, Regional Municipality of Peel (**Figure 1**). This updated EIS is based on a previous EIS Report prepared by Dougan and Associates' (Dougan) in 2017 (Dougan, 2017).

The Project Site is composed of two properties (2935 and 2955 Mississauga Road) adjacent to each other that combined are 2.13 hectares (ha). The Project Site comprises a largely open meadow central area and is surrounded by naturalized treed areas to the east, south and west. The northern limit of the Project Site is directly adjacent to the Credit River. No structures, with the exception of an abandoned swimming pool, exist on the property. The proposed development consists of a multi-story apartment building and a group of mid-density stacked townhouses.

The objectives of this EIS are to update the EIS prepared by Dougan in 2017 by evaluating the existing natural heritage features and ecological functions associated with the site, identifying development constraints and restoration opportunities, assessing the impacts of the proposed development, and recommending suitable mitigation measures.

2. Environmental Policy

2.1 Migratory Birds Convention Act (1994)

The *Migratory Birds Convention Act,* MBCA (1994) and Migratory Birds Regulations, MBR (2014) protect most species of migratory birds and their nests and eggs anywhere they are found in Canada. General prohibitions under the MBCA and MBR protect migratory birds, their nests and eggs and prohibit the deposit of harmful substances in waters / areas frequented by them. The MBR includes an additional prohibition against incidental take, which is the inadvertent harming or destruction of birds, nests or eggs.

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 and Best Management Practices information on the Environment Canada website.

2.2 Endangered Species Act (2007)

Species designated as *Endangered* or *Threatened* by the Committee on the Status of Species at Risk in Ontario (COSSARO) are listed as Species at Risk in Ontario (SARO). These species at risk (SAR) and their habitats (e.g. areas essential for breeding, rearing, feeding, hibernation and migration) are afforded legal protection under the *Endangered Species Act* (ESA) (Government of Ontario, 2007).

The protection provisions for species and their habitat within the ESA apply only to those species listed as *Endangered* or *Threatened* on the SARO list, being Ontario Regulation 230/08 of the ESA. Species listed as *Special Concern* may be afforded protection through policy instruments respecting significant wildlife habitat (e.g. the Provincial Policy Statement) as defined by the Province or other relevant authority, or other protections contained in Official Plan policies.

CLIENT: Frank Merulla	0 10 20 30 40 metres	N	LEGEND: Subject Site
PROJECT: 2935 & 2955 Mississauga Rd			
PREPARED BY: Palmer™	PROJECT NO. 1903701	REVISION: 1	
	DATE: Jan 25, 2021	SCALE: 1:1500	
	DRAWN: CV/BE	DATUM: NAD 1983	
	CHECKED: ND	PROJECTION: UTM zone 17	

TITLE:

Site Location

Figure 1

Document Path: G:\Shared drives\Projects 2019\19037 - Frank Merulla\1903701 - 2935 & 2955 Mississauga Road\Mapping\Figures\5_ArcGIS\1903701_1-1_Site Location.mxd

2.3 Provincial Policy Statement (2020)

The Provincial Policy Statement (PPS) provides direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources (MMAH, 2020). Section 2.1 of the PPS defines ten natural heritage features (NHF) and adjacent lands and provides planning policies for each. Of these NHF, development is not permitted in:

- Significant Coastal Wetlands;
- Significant Wetlands in Ecoregions 5E, 6E and 7E;
- Fish Habitat, except in accordance with provincial and federal requirements; or
- Habitat of species designated as Endangered and Threatened, except in accordance with provincial and federal requirements.

Additionally, unless it can be demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions, development and site alteration are also not permitted in:

- Significant Wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
- Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Wildlife Habitat;
- Significant Areas of Natural and Scientific Interest;
- Other Coastal Wetlands in Ecoregions 5E, 6E and 7E; and
- Lands defined as *Adjacent Lands* to all the above natural heritage features.

Each of these natural heritage features is afforded varying levels of protection subject to guidelines, and in some cases, regulations. The Project Site is located in Ecoregion 7E (Crins *et al*., 2009).

2.4 Growth Plan for the Greater Golden Horseshoe (2019)

The Growth Plan for the Greater Golden Horseshoe (GGH) directs growth and the development to ensure economic prosperity, environmental protection and community support. This is intended to direct municipalities towards the establishment of appropriate policies to maintain, restore, or enhance biodiversity and connectivity of the system and long-term ecological function (MMAH, 2019). The Project Site is outside of the designated Natural Heritage System for the GGH.

The Growth Plan for the GGH was developed as a supplement to the PPS, and "*builds upon the policy foundation provided by the PPS and provides additional and more specific land use planning policies to address issues facing specific geographic areas in Ontario. This Plan is to be read in conjunction with the PPS. The policies of this Plan take precedence over the policies of the PPS to the extent of any conflict, except where the relevant legislation provides otherwise."*

Schedule 2 of the Growth Plan depicts the Project Site as located within the "Built-up Area – Conceptual", outside of the "Greenbelt Area". The Growth Plan has been adopted by the Peel Region's Official Plan (OP), which was updated in 2018.

2.5 Greenbelt Plan (2017)

The Greenbelt Plan was prepared and approved under the *Greenbelt Act, 2005* and took effect in December 2004. The Greenbelt Plan builds on the PPS to identify 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 the landscape of the Greater Golden Horseshoe (MMAH, 2017).

The Project Site is within the Greenbelt's Urban River Valley System (**Map A**). The Urban River Valley designation applies to lands within the main corridors of river valleys connecting the rest of the Greenbelt to the Great Lakes and inland lakes (section 6.1). The goals for areas designated as Urban River Valley are to promote the following (section 1.2.3):

- *Protection of natural and open space lands along river valleys in urban areas which will assist in ecologically connecting the rest of the Greenbelt Area to the Great Lakes and other inland lakes;*
- *Protection of natural heritage and hydrologic features and functions along urban river valleys, including coastal wetlands;*
- *Conservation of cultural heritage resources;*
- *Provision of a gateway to the rural landscape of the Greenbelt; and*
- *Provision of a range of natural settings on publicly owned lands for recreational, cultural and tourism uses, including parkland, open space land and trails.*

The following policies apply to lands within the Urban River Valley designation (Greenbelt Plan Section 6.2):

1. *Only public owned lands are subject to the policies of the Urban River Valley designation. Any privately-owned lands within the boundary of the Urban River Valley area are not subject to the policies of this designation. For the purposes of this section, publicly owned lands mean lands in the ownership of the Province, a municipality or a local board, including a conservation authority.*
2. *The lands are governed by the applicable official plan policies provided they have regard to the objectives of the Greenbelt Plan.*
3. *All existing, expanded or new infrastructure which is subject to and approved under the Environmental Assessment Act, or which receives a similar approval, is permitted provided it supports the needs of adjacent settlement areas or serves the significant growth and economic development expected in southern Ontario and supports the goals and objectives of the Greenbelt Plan.*
4. *The Protected Countryside policies do not apply except for:*
   a. *The policies of section 3.2.6; and*
   b. *The policies of section 3.3.*

Section 3.2.6 (1.b.) states that municipalities, conservation authorities, other agencies and stakeholders should promote and undertake appropriate planning and design to ensure that external connections and Urban River Valley areas are maintained and/or enhanced. Section 3.3 is not applicable to this Project Site as it refers to parkland, open space, and trails.

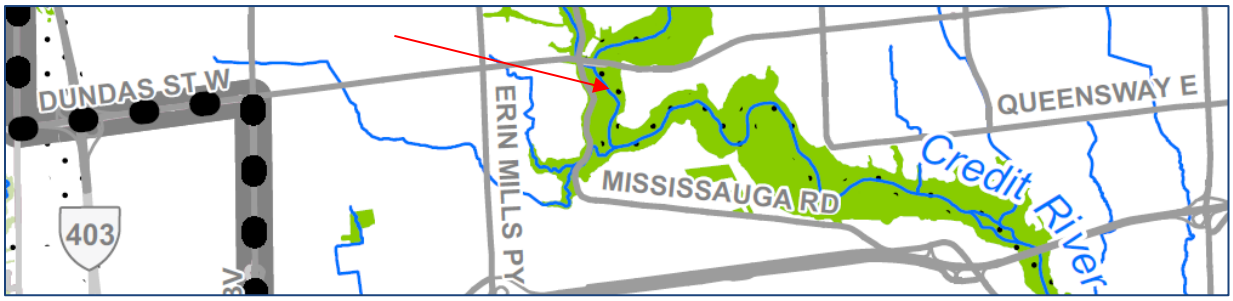
Map A. Greenbelt (dark green outline) with Urban River Valley (blue shading) (MNRF, 2020).

2.6 Peel Region Official Plan (2018)

The Peel Region Official Plan (OP) was adopted by the Regional Council on July 11, 1996. The in-effect OP underwent office consolidation in 2018. Natural heritage features in Peel Region are protected by its Greenlands System, which consists of Core Areas, Natural Areas and Corridors, and Potential Natural Areas and Corridors. Core Areas are designated on Schedule A (Core Areas of the Greenlands System of Peel) of the Official Plan and are intended to represent the most important natural features in Peel, providing the best uninterrupted natural systems and highest biodiversity as identified through the OP.

Natural Areas and Corridors and Potential Natural Areas and Corridors are to be identified and protected in lower tier municipal official plans in accordance with the policies outlined in the Peel Official Plan (Region of Peel, 2018).

The Project Site is identified as part of the Region's Greenlands System (**Map B**). Per Section 2.3.2.6, development and site alteration are prohibited within Core Areas, however, "*the area municipalities are directed to adopt appropriate policies to allow the exceptions subject to it being demonstrated that there is no reasonable alternative location outside of the Core Area and the use, development or site alteration is direction away from the Core Area feature to the greatest extent possible; and the impact to Core Area features is minimized and any impact to the feature or its functions that cannot be avoided is mitigated through restoration or enhancement to the greatest extent possible*". (Region of Peel, 2018).



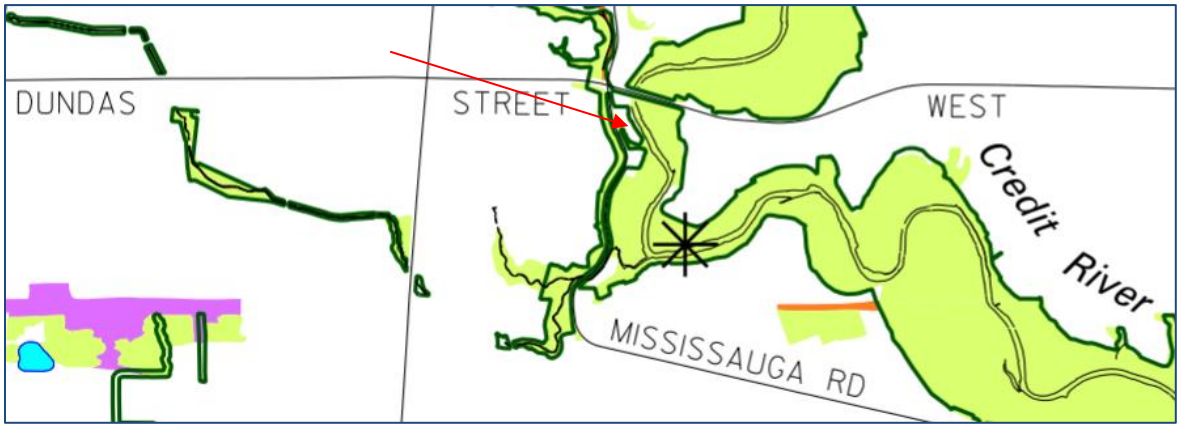
Map B. Core Area in green present within and adjacent to the Project Site (Peel Region OP, Schedule A).

2.7 City of Mississauga Official Plan (2019)

The office consolidation of the City of Mississauga Official Plan has recently been updated which includes Ontario Municipal Board decisions and City Council approved Official Plan Amendments. As there are still outstanding appeals, the 2003 Mississauga OP remains partially in effect

The City's Green System makes up about 23% of the land area of Mississauga and is comprised of the Natural Heritage System (NHS), Urban Forest, Natural Hazard Lands, and Parks and Open Spaces. The Official Plan, Section 6.3.8 states that: *Buffers will be determined on a site-specific basis as part of an Environmental Impact Study or other similar study to the satisfaction of the City and appropriate conservation authority.* Section 6.3.12 (f) provides criteria for the identification of Significant Woodland. Section 6.3.47 and 6.3.48 provides study requirements for development adjacent to Valleylands.

The Project Site is within the Green System. It is surrounded by Significant Natural Areas and Natural Green Spaces and by Natural Hazards (**Map C**). Per Section 6.3.27, *development and site alteration as permitted in accordance with the Greenlands designation within or adjacent to a Significant Natural Area will not be permitted unless all reasonable alternatives have been considered and any negative impacts minimized* (City of Mississauga, 2019).



Map C. Significant Natural Areas and Natural Green Spaces (light green shading) and Natural Hazards (dark green outline) (City of Mississauga OP, Schedule 3).

2.8 Credit Valley Conservation Policies and Regulations

The Project Site is located within the jurisdiction of the Credit Valley Conservation Authority (CVC). Relevant CVC regulations and policies include the following:

- Ontario Regulation 160/06 - *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*. Through this regulation, the CVC regulates activities in natural and hazardous areas (*e.g.*, areas in and near rivers, streams, floodplains, wetlands, and slopes and shorelines).

- *Watershed Planning and Regulation Policies* (April 2010). This document presents the CVC's planning and permit review practices and technical guidelines. Relevant policies will be discussed in applicable sections of this EIS (CVC, 2010).

3. Study Approach

3.1 Planning Context

A Planning Justification and Rational Report has been prepared by Beacon Planning Services as part of the proposed development approval process (Beacon, 2020). The planning report provides a detailed summary of the site history, natural features and natural hazards, and environmental planning management considerations. It also describes the proposed development and includes a policy conformity assessment. This report provides supplementary information to this EIS report.

3.2 Natural Heritage Information

Palmer has reviewed relevant background material to provide a focus on field investigation and ensure compliance with applicable regulations and policy. Background information collection is guided by the *Natural Heritage Information Request Guide (*MNRF, 2018*)*. Current direction from the Ministry of Natural Resources and Forestry (MNRF) and the Ministry of Environment, Conservation and Parks (MECP) is to gather natural heritage information and species occurrence records from available sources; the Natural Heritage Information Centre (NHIC) Make-a-Map application being the main source of information and records from the Ministry itself (MNRF, 2020). Information gathered is recommended to be balanced and supplemented by a professional ecological review of potential habitats and characteristics of a project site.

Background review for the Project Site included the collection and review of relevant mapping and reports, including regulations and policies, Official Plans, and zoning by-laws; and the NHIC Make-a-Map application for species occurrences and designated area mapping. In addition to these sources, the following data sources were reviewed for the project:

- **Natural Area Inventory (NAS):** The NAS provides factsheets for the Natural Areas in the City of Mississauga (City of Mississauga, 2017).
- **Fisheries and Oceans Canada (DFO):** The DFO maintains mapping of aquatic SAR habitats, including the critical habitat, occupied, and contributing habitat ranges of SAR and *Special* Concern species (DFO, 2020).

Following the *Information Request Guide* (MNRF, 2018*)*, MECP advice and direction should be solicited once SAR interactions or potential interactions are identified via field investigation and analysis.

3.3 Agency Consultation

A Terms of Reference was circulated to the CVC and the City of Mississauga on June 14, 2019. Comments were received from both agencies on November 26, 2019. The agency comments have been reviewed and taken into account in the preparation of this EIS (**Appendix A**).

A preliminary site meeting was conducted on September 17, 2019 with Palmer, CVC, and City staff. A second site meeting was conducted on January 24, 2020 to verify the top-of-slope limit and woodland limit pre-staked by Beacon Planning Services. The top-of-slope limit was accepted and confirmed by CVC during the site meeting. The woodland limit was not approved by CVC, however CVC and the City recommended

minor revisions to the dripline. Minor differences between the two woodland delineations are portrayed on Figure 2. The minor revisions to the woodland limit are reflected in this report to represent the woodland limit in a manner that is satisfactory to the review agencies.

3.4 Field Investigations

Field investigations were conducted to collect existing conditions data on flora, fauna, natural features and ecological functions. Fieldwork was conducted by Dougan from 2013 to 2017 and by Palmer in 2019 (**Table 1**). Survey methodology for Palmer's 2019 fieldwork is described below.

Table 1. Field Investigations

Ecological Survey	Dougan's Fieldwork (2013-2017)	Palmer's Fieldwork (2019)
Vegetation surveys	October 2013, June 2014, May 2017	June 27, 2019
Breeding bird surveys	May and June 2014	June 14, 2019
Nocturnal amphibian surveys	April and May 2014	June 27, 2019 *
Snapping Turtle and Eastern Milksnake search	May and June 2014	No specific survey *

*Incidental observations were recorded when on site with an emphasis on the area with the abandoned pool.

Dougan completed Snapping Turtle (*Chelydra serpentina*) and Eastern Milksnake (*Lampropeltis Triangulum)* searches. Four Snapping Turtle surveys were conducted in 2014 during mornings under fair weather conditions. The entire site was searched for any activity. Four surveys for Eastern Milksnake were conducted in 2014 following the MNRF Guelph District Milksnake Survey Protocol (MNRF, 2013).

Vegetation Communities and Flora

Vegetation community boundaries were delineated on field maps through the interpretation of recent aerial photographs and refined in the field based in Ecological Land Classification (ELC) System for Southern Ontario (Lee *et al*., 1998). Information collected during ELC surveys includes dominant species cover, community structure, as well as level of disturbance, presence of indicator species, and other notable features.

Botanical surveys were completed by traversing the site and recording species observed in each vegetation community. Local plant rarity status for Mississauga is based on CVC/Peel species ranks (CVC, 2002). Provincial plant status was based on the NHIC species list (MNRF, 2020a) and the SARO list (MNRF, 2020b).

Breeding Bird Survey

A breeding bird survey was conducted following the principles of the *Ontario Breeding Bird Atlas Guide for Participants* (Bird Studies Canada, 2001). One breeding bird survey was conducted on the Project Site on June 14, 2019 to document the bird communities on the Project Site along with flyovers and adjacent areas. Surveys were carried out between 07:00 and 09:00 h. Weather conditions during the survey were 80% overcast, with moderate breezes, no precipitation, and 12°C. The surveyor recorded all bird species seen and heard within and flying over the survey area. The number, breeding evidence, and approximate location of each bird or bird group was recorded on the site map.

Breeding Amphibians

An amphibian breeding survey was completed following the Environment Canada's Marsh Monitoring Program protocol (Bird Studies Canada, 2008) and was conducted on June 27, 2019. Species, calling locations and approximate numbers of calling individuals are recorded and mapped when present. A list of Area Sensitive species was referenced to determine habitat and species sensitivities (OMNR, 2000). The survey method provides an indication of amphibian abundance during the breeding season. The air temperature at the time of the survey was 25°C, with light winds and clear skies. The survey location was focused on the swimming pool for breeding amphibians and snapping turtles.

Incidental Wildlife Observations

Incidental observations of wildlife were recorded during all visits to the Project Site. Recorded wildlife observations included direct and indirect evidence. Direct evidence included visual or auditory observations of species. Evidence considered "indirect" included observation of tracks, scat, and browse.

4. Existing Conditions

4.1 Site Description

The Project Site is composed of two adjacent properties that combined are 2.13 ha (**Figure 2**). The Project Site consists of a large open central area which is surrounded by treed vegetation communities to the east, south and west. The property at 2935 Mississauga Road historically supported a residential dwelling. No structures are currently present on the Project Site except for remnants of the concrete bridge abutments for the small bridge that spanned over Sawmill Creek as part of the driveway that provided access to dwelling from Mississauga Rd. Several elements of the former dwelling also remain, including a concrete swimming pool, sections of foundation footings, the cement floor and the partial back wall of the garage (Dougan, 2017).

The northern limit of the Project Site is directly adjacent to the Credit River. A channelized segment of Sawmill Creek at the confluence with the Credit River runs parallel to Dundas Street West, directly west of the Project Site. This segment of Sawmill Creek underwent major changes in the 1970s when the creek was relocated and constructed into a concrete spillway. An ephemeral naturalized drainage channel is present along the part of the southern site boundary and bends along the eastern site boundary towards the Credit River. This feature is remnant of the diversion channel for Sawmill Creek created in the 1970s. The ephemeral naturalized drainage channel supports water flowing from the ravine lands located on the south side of Mississauga Road through culverts and seepage.

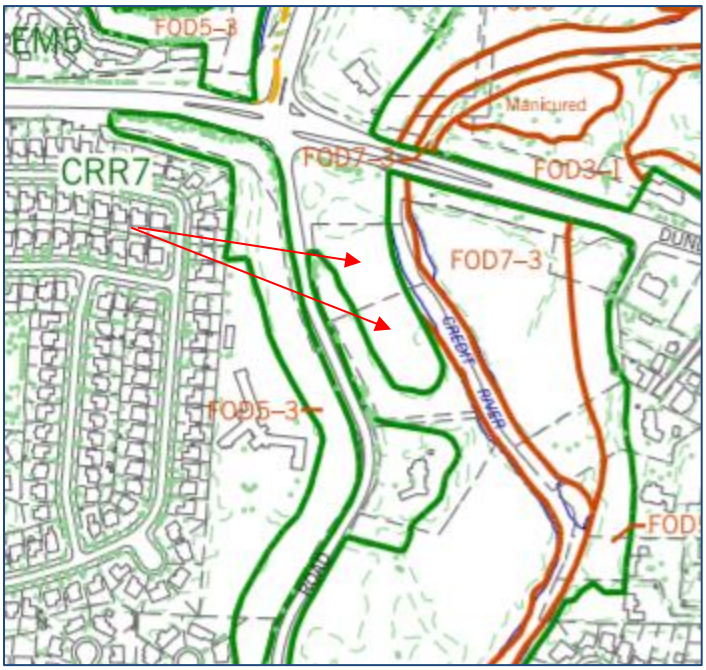
4.2 Physiography, Geography, and Hydrology

The Project Site is located within the Iroquois Plain physiographic region. The slightly sloping plain is mostly covered with stratified sands of varying depths (Chapman and Putman, 1984). The Project Site comprises undulating tableland and a steep ravine with bluffs associated with the Credit River watercourse valley system on the north side of the properties (Dougan, 2017). A portion of the Project Site drains towards Mississauga Road where runoff is captured in an ephemeral naturalized drainage swale (not a natural watercourse as it is a remnant of the historical diversion channel created for Sawmill Creek) which runs along the bottom part of the southern portion of the site and then along the eastern edge of the Project Site

before flowing into the Credit River (**Figure 2**). This naturalized swale captures runoff from a very limited catchment area; the Project Site and three culverts coming from the ravine on the opposite side of Mississauga Road, and as a result has minimal flow (Parish Aquatic Service, 2016).

4.3 Environmental Designations

The Project Site does not include provincially designated features such as significant woodland, wetlands, Area of Natural and Scientific Interest (ANSIs) or Environmentally Significant/Sensitive Areas (ESAs). The natural area located adjacent to the site is identified as a Significant Natural Area (CRR7) as part of the NAS (City of Mississauga, 2017) (**Map E**) and partly within the Greenbelt's Urban River Valley.



Map E. Significant Natural Area (CRR7) (City of Mississauga, 2017)

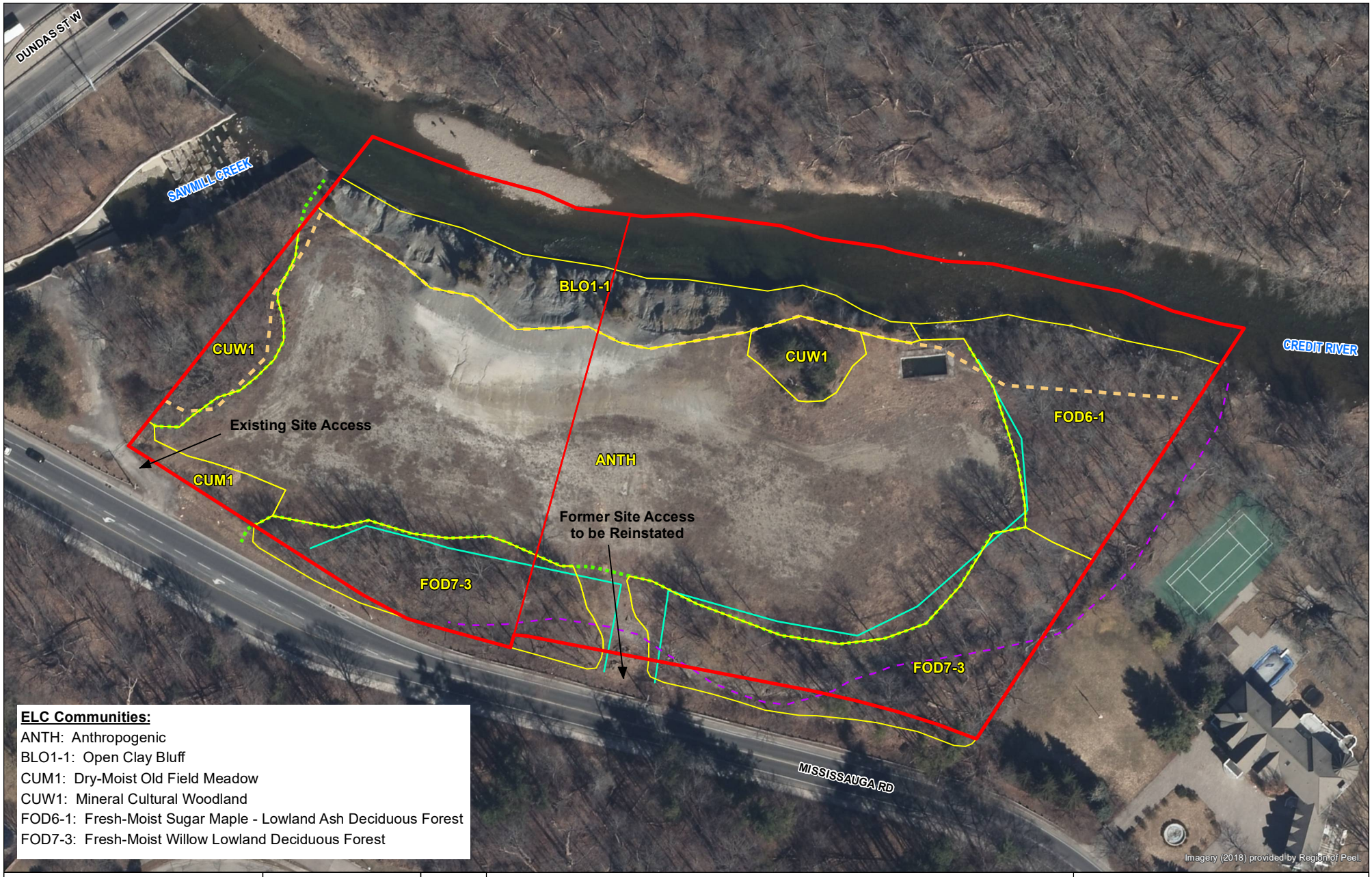
4.4 Vegetation Communities

The previous EIS identified six (6) ELC vegetation communities on the Project Site, including Anthropogenic (ANTH), Dry-Moist Old Field Meadow (CUM1-1), Mineral Cultural Woodland (CUW1), Fresh-moist Sugar Maple – Lowland Ash Deciduous Forest (FOD6-1), Fresh-moist Willow Lowland Deciduous Forest (FOD7-3), and Open Clay Bluff (BLO1-1) (**Table 2; Figure 2**). During the 2019 field surveys, the ELC communities were found to have remained large unchanged but have been updated based on current site conditions.

Table 2. Vegetation Community Descriptions

Vegetation Community	Descriptions
Mineral Cultural Woodland (CUW1)	The western community adjacent to the channelized Saw Mill Creek has a canopy consisting of White Ash (*Fraxinus americana*), Norway Maple (*Acer platanoides*), American Elm (*Ulmus americana*), and Sweet Cherry (*Prunus avium*), providing approximately 50% cover. The understory layer is mostly comprised of invasive shrubs such as Tartarian Honeysuckle (*Lonicera tatarica*) and European Buckthorn (*Rhamnus cathartica*) along with Staghorn Sumac (*Rhus typhina*) and Black Raspberry (*Rubus occidentalis*). The ground layer is dominated by Garlic Mustard (*Alliaria petiolaris*). Evidence of past soil and debris dumping was noted (Dougan, 2017). The small northern community adjacent to the bluffs and the abandoned swimming pool has a higher diversity of native plants. The canopy comprises Black Oak (*Quercus velutina*) and Red Oak (*Quercus rubra*) along with Bur Oak (*Quercus macrocarpa*), White Oak (Quercus alba), Sugar Maple (*Acer saccharum*), Black Cherry (*Prunus serotina*), Sweet Cherry (*Prunus avium*), Green Ash, Eastern Hophornbeam (*Ostrya virginiana*), Trembling Aspen (*Populus tremuloides*), American Basswood (*Tilia americana*), Scots Pine (*Pinus sylvestris*), and Norway Spruce (*Picea abies*). The understorey layer consists of Roundleaf Dogwood (*Cornus rugosa*), Juneberries (*Amelanchier arborea* and *A. spicata*), Chokecherry (*Prunus virginiana*), Red-osier Dogwood (*Cornus sericea*) alongside the invasive Tatarian Honeysuckle. The ground layer includes Canada Goldenrod (*Solidago canadensis*), Yarrow (*Achillea millifolium*), Spreading Dogbane (*Apocynum androsaemifolium*), Rough Cinquefoil (*Potentilla recta*), Canada Bluegrass (*Poa compressa*), King Devil (*Hieracium praealtum*), Field Goldenrod (*Solidago nemoralis*), Heart-leaf Aster (*Symphyotrichum cordifolium*), Ditch-stonecrop (*Penthorum sedoides*) and Pussytoes (*Antennaria* sp.) (Dougan, 2017).
Anthropogenic (ANTH)	The Project Site is mostly occupied by this anthropogenic area which has been cleared, graded, and tilled in the past. Herbaceous vegetation present mostly comprises White Sweet Clover (*Melilotus albus*), Canada Goldenrod (*Solidago canadensis*), Birds-foot Trefoil (*Lotus corniculatus*), Yarrow, Chickory (*Cichorium intybus*), Canada Thistle (*Cirsium arvense*), Wild Carrot (*Daucus carota*), and Fuller's Teasel (*Dipsacus follunum*). Many patches of bare soil are present throughout (Dougan, 2017).
Fresh-Moist Sugar Maple – Lowland Ash Deciduous Forest (FOD6-1)	This community located in the northeastern portion of the Project Site has a canopy comprised of Sugar Maple and Green Ash (*Fraxinus pennsylvanica*) with Paper Birch (*Betula papyrifera*), Black Cherry, American Elm, Eastern Hophornbeam, Eastern Cottonwood (*Populus deltoides*), Black Maple (*Acer nigrum*), and Manitoba Maple (*Acer negundo*) along the bank of the valleyland. The understorey comprises various native and introduced shrubs including Chokecherry, Gray Dogwood (*Cornus racemosa*), Rose (*Rosa* sp.), Tartarian Honeysuckle, Raspberries (*Rubus* sp.) and Japanese Barberry (*Berberis thunbergii*). The very sparse ground layer includes such species as Yellow Avens (*Geum aleppicum*), Rough Avens (*Geum laciniatum*), Tall Butter-cup (*Ranunculus acris*), Garlic Mustard, Broad-leaved Goldenrod (*Solidago flexicaulis*), and Poison Ivy (*Toxicodendron radicans*) (Dougan, 2017).
Fresh-Moist Willow Lowland	This linear deciduous forest fragment runs parallel to Mississauga Road. The narrowness of the woodland results in the dominance of edge habitat. The canopy consists of Willows (*Salix* spp.) with Green Ash, American Basswood, American Elm, native and non-native Maples (*Acer* spp.) and

Vegetation Community	Descriptions
Deciduous Forest (FOD7-3)	Eastern White Pine (*Pinus strobus*). The understorey layer includes Common Buckthorn, Roundleaf Dogwood, Common Red Raspberry (*Rubus idaeus*), Purple Flowering Raspberry (*Rubus odoratus*), Riverbank Grape (*Vitis riparia*) and Japanese Barberry. A relatively rich spring flora was observed including Jack-in-the-Pulpit (*Arisaema triphyllum*), Yellow Trout-lily (*Erythronium americanum*), Wood Anemone (*Anemone quinquefolia*), Narrow-leaved Spring Beauty (*Claytonia virginica*) Wild Geranium (*Geranium maculatum*), Yellow Avens, Large-leaved Avens (*Geum macrophyllum*), John's Cabbage (*Hydrophyllum virginianum*), Cut-leaved Toothwort (*Dentaria laciniata*), False Solomon's Seal (*Maianthemum racemosum*), May Apple (*Podophyllum peltatum*), Bloodroot (*Sanguinaria canadensis*), Broad-leaved Goldenrod, Tall Meadow Rue (*Thalictrum polygamum*), and Violets (*Viola sororia*, and others). Invasive plants including Garlic Mustard, Goutweed (*Aegopodium podagraria*), Creeping Euonymus (*Euonymus fortunei*), Scilla (*Silla siberica*) and Lily-of-the-Valley (*Convallaria majalis*) were also observed (Dougan, 2017).
Dry-Moist Old Field Meadow (CUM1)	The small patch of cultural meadow located beside the laneway entrance along Mississauga Road has a mix of early-successional, disturbance-tolerant forbs and grasses. These include Canada Goldenrod, White Sweet Clover, Birds-foot Trefoil, Orchard Grass (*Dactylis glomerata*), Kentucky Bluegrass (*Poa pratensis)*, Creeping Wild-rye (*Elymus repens*) and Wild Carrot. A few woody species have begun to emerge including Tartarian Honeysuckle, Norway Maple, Sugar Maple and Trembling Aspen (Dougan, 2017).
Open Clay Bluff (BLO1-1)	This polygon is a steep clay and shale face which is largely open and eroding, with sparse cover of trees and shrubs, including Eastern White Cedar (*Thuja occidentalis*), Blasam Poplar (*Populus balsamifera*), Hop Hornbeam, and White Birch trees, and several severely leaning/hanging Eastern Hemlock (*Tsuga canadensis*) trees affected by steep grades and erosion. Understorey shrubs include Juneberries and Round-leaved Dogwood. The ground layer is sparsely covered by White Sweet Clover and Goldenrod (*Solidago* sp.). Towards the west end, there is growth of Scots Pine, Gray Dogwood, European Buckthorn, and Goldenrod (*Solidago* sp.) (Dougan, 2017).



ELC Communities:

ANTH: Anthropogenic
BLO1-1: Open Clay Bluff
CUM1: Dry-Moist Old Field Meadow
CUW1: Mineral Cultural Woodland
FOD6-1: Fresh-Moist Sugar Maple - Lowland Ash Deciduous Forest
FOD7-3: Fresh-Moist Willow Lowland Deciduous Forest

CLIENT: Frank Merulla

PROJECT: 2935 & 2955 Mississauga Rd

PREPARED BY: Palmer

0 10 20 30
metres

N

PROJECT NO. 1903701 | REVISION: 2
DATE: Apr 18, 2021 | SCALE: 1:1200
DRAWN: CV/BE | DATUM: NAD 1983
CHECKED: ND | PROJECTION: UTM zone 17

LEGEND:

- Staked Top of Bank - approved by CVC (Feb 2020)
- Woodland Limit (delineated on-site by Palmer, Feb 2020)
- Forest Dripline (Staked by Dirk Blyleven)
- Ephemeral Naturalized Drainage Swale
- ELC Community (Dougan, 2017 & Palmer, 2020)
- Subject Site

TITLE:

Existing Environmental Conditions

Figure 2

Document Path: G:\Shared drives\Projects 2019\19037 - Frank Merulla\1903701 - 2935 & 2955 Mississauga Road\Mapping\Figures\5_ArcGIS\1903701_2-1_Existing Conditions.mxd

4.5 Flora

A total of 176 flora species were recorded within and directly adjacent to the Project Site (**Appendix B**). Of the species identified, 15 species were recorded to the genus only. The majority of plants recorded are native to the Peel Region and CVC's watershed. As many as13 native species of regional / local significance were recorded of which all were found within the deciduous forest/woodland, and open bluff habitats on the property, except for Canada Honewort (*Cryptotaenia canadensis*) located in the Mineral Cultural Meadow (CUM1) in the southwest corner of the Project Site (Dougan, 2017). No flora species provincial significance was recorded on the properties.

4.6 Breeding Birds

The previous EIS documented 30 bird species, of which 25 were likely breeding on-site or in the local area (Dougan, 2017). In 2019, 14 bird species were documented, including two species that were newly recorded within the Project Site (**Appendix C)**.

One area-sensitive species, White-breasted Nuthatch (*Sitta carolinensis*) was found within the Project Site. Area-sensitive species require large areas of continuous habitat for breeding and foraging. One species, Bank Swallow (*Riparia riparia*) is designated as *Threatened* on the SARO list. As many as six Bank Swallows were observed foraging and flying over the Credit River during the 2014 and 2019 breeding bird surveys. Bank Swallow are believed to be nesting on the buffs at the northern limit of the Project Site.

4.7 Breeding Amphibians

No amphibians were detected during the 2014 or 2019 formal breeding amphibian surveys. However, a few frogs have been incidentally observed during other field surveys. All observations were within the abandoned swimming pool, including a Green Frog (*Lithobates clamitans*; adult and tadpole) and adult American Toads (*Anaxyrus americanus*; adult) observed in 2014 as well as two unidentified frogs observed in 2019. Given the small size of the swimming pool, as well as the urban context, it is likely only very small numbers of the more tolerant amphibians would be supported; thus, no significant level of breeding is expected.

4.8 Incidental Wildlife Observations

A raptor nest was observed in the Fresh-moist Willow Lowland Deciduous Forest (FOD7-3) in the southeast corner of the Project Site.

No Snapping Turtle was observed during species surveys, but an individual was incidentally observed in 2014 in the abandoned swimming pool. This is a species of *Special Concern*. No Eastern Milksnake was observed during 2014 surveys and 2019 field visits.

The previous EIS included the finding of four mammal species during their 2014 field investigation; including Gray Squirrel (*Sciurus carolinensis*), Coyote (*Canis latrans*), Raccoon (*Procyon lotor*) and White-tailed Deer (*Odocoileus virginianus*). An Eastern Gartersnake (*Thamnophis sirtalis sirtalis*) was also observed. All of these species are considered common and widespread in southern Ontario and the local region.

4.9 Aquatic Assessment

The Credit River directly adjacent to the northern limit of the Project Site is approximately 23 to 28 metres (m) wide with low to moderately sloped shallow riffles and runs, and shallow pools (Dougan, 2017). In-stream habitat is fairly diverse with gravelly portions and variable velocities. The upstream cobble and gravel bar potentially provide spawning habitat for suckers and migratory salmonids (Dougan, 2017). A moderate variety of substrates with interstitial spaces and variable depths and velocities may provide habitat for migratory American Eel (*Anguilla rostrata*) (Dougan, 2017).

There is an ephemeral naturalized drainage swale, also referred to as the old Sawmill Creek channel along the eastern property limit. The presence of downstream-oriented small woody debris and a conspicuous absence of vegetation and organic litter along the centre of the channel suggest the channel periodically conveys minor flow. Periodic flow could be a result of stormwater from the small upstream catchment or the falling limb of floods from the Credit River that inundate the lower section of the old channel. Along the periphery of the over-widened channel, deciduous trees are present suggesting flows rarely inundate the entire channel bed. A naturally formed levee and rafted woody debris block the mouth of the old Sawmill Creek channel at the confluence with Credit River. This feature is not hydrologically connected to an upstream watercourse. Fish passage from the Credit River is not possible due to the steep drop in grades. Therefore, this feature is not believed to provide fish habitat.

5. Assessment of Significance

5.1 Significant Woodland

The Fresh-Moist Sugar Maple – Lowland Ash Deciduous Forest (FOD6-1) and Fresh-Moist Willow Lowland Deciduous Forest (FOD7-3) are identified as a Core Area of the Region's Greenlands System. These forest communities are also identified as part of the City's Significant Natural Areas and Natural Green Spaces.

Based on the City's Significant Woodland criteria provided in section 6.3.12.f of the OP, the woodland is considered significant. On a landscape level assessment, the woodland extends south and east of the Project Site. The woodland is greater than 0.5 ha and is located within 30 m of a watercourse. The City's OP states that woodland buffers are to be determined on a site-specific basis.

Based on the urban nature of the area, the historical use of the site, and the features and functions of the woodland, it is believed that a 10 m in width along the southern and eastern portions of the Project Site would provide a suitable buffer between the existing woodland edge and the future medium density development. A 10 m buffer is consistent with CVC's regulatory requirements.

5.2 Significant Valleyland

The Project Site is occupied by a valleyland feature associated with the Credit River where the valley slope is characterized as an Open Clay Bluff (BLO1-1) vegetation community along the northern boundary of the site. The area is identified as Natural Hazards in the City's OP. The top of bank was staked in 2019 and approved by CVC staff in 2020. CVC's regulations require a 10 m setback for the stable top of slope. A geotechnical slope stability assessment was completed by Terraprobe in 2008 and an addendum report

was issued in 2010 (Terraprobe, 2008; Terraprobe, 2010). Terraprobe's study determined the Long Term Stable Slope (**Figure 4**). Based on the City's policies (section 6.3.48), any development adjacent to valleyland and watercourse features may be required to be supported by a detailed slope stability and stream erosion studies. Palmer has prepared a Stream Stability/Erosion Assessment review provided under a separate cover (Palmer, 2020). A 10 m setback from the Long Term Stable Slope, as instructed in CVC's Regulation, is considered suitable.

5.3 Species at Risk Screening

Screening for potential SAR habitat was completed based on the background information review and data collected during field investigations. According to the Make-a-Map online resource (MNRF, 2020), Barn Swallow (*Hirundo rustica*) and American Eel have been recorded in the general vicinity. Historical records for Henslow's Sparrow (*Ammodramus henslowii)* and Lake Sturgeon (*Acipenser fulvescens*) have been excluded from this screening assessment. Furthermore, a correspondence letter between Dougan and the MNRF Aurora District in 2013 identified nearby records for Butternut (*Juglans cinerea*), Snapping Turtle (*Chelydra serpentina*) and American Eel (Dougan, 2017). Habitat screening for SAR on the Project Site was assessed by comparing habitat preferences of species deemed to have potential to occur against current site conditions, as well as previously recorded evidence of Bank Swallow and Snapping Turtle (Dougan, 2017) (**Table 3**).

Table 3: Species at Risk Habitat Screening

Species	Habitat Requirement Overview	Habitat Suitability
Barn Swallow (Threatened)	Barn Swallows largely to nesting in and on artificial structures, including barns and other outbuildings, garages, houses, bridges, and road culverts. Barn Swallows prefer various types of open habitats for foraging, including grassy fields, pastures, various kinds of agricultural crops, lake and river shorelines, cleared rights-of-way, cottage areas and farmyards, islands, wetlands, and subarctic tundra.	Absent (no observed and no suitable nesting habitat)
American Eel (Endangered)	The American Eel preferred habitat can be found in lakes and rivers including all waters extending from the high-water mark down to at least a 10 m depth. Eelgrass, rock outcrops and other benthic features offering hiding places are important to American Eel as cover, particularly during daylight hours	Potential (likely to migrate through the Credit River curing their life cycle [Dougan, 2017])
Bank Swallow (Threatened)	The Bank Swallow readily breeds in a wide variety of low-elevation (< 900 m), natural and anthropogenic habitats, including: lake and ocean bluffs; stream and river banks; sand and gravel pits; roadcuts; and piles of sand, topsoil, sawdust, coal ash, and other materials. Nest burrows are nearly always in a vertical or near-vertical bank (range: 76-105° slope).	Present (observed in 2014 and 2019)
Snapping Turtle (Special Concern)	Snapping turtles spend most of their lives in water. They prefer shallow waters so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe. Snapping turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.	Present (observed in 2014)

Species	Habitat Requirement Overview	Habitat Suitability
Butternut (Endangered)	Found in mixed deciduous forests, with openings giving access to partial to full sun conditions.	Absent (not observed)
Eastern Small-footed Bat (Endangered)	Maternity Roosts: primarily under loose rocks on exposed rock outcrops, crevices and cliffs, and occasionally in buildings, under bridges and highway overpasses and under tree bark (MNRF, 2019b).	Potential (suitable habitat observed)
Little Brown Myotis (Endangered)	Maternal Roosts: Often associated with buildings (attics, barns etc.). Occasionally found in trees (25-44 cm in diameter at breast height [DBH]) (MNRF, 2019c).	Potential (suitable habitat observed)
Northern Myotis (Endangered)	Maternity Roosts: Often associated with cavities of large diameter trees (25-44 cm DBH). Occasionally found in structures (attics, barns etc.) (MNRF, 2019d).	Potential (suitable habitat observed)
Tri-coloured Bat (Endangered)	Maternity Roosts: Can be in trees or dead clusters of leaves or arboreal lichens on trees. May also use barns or similar structures (MNRF, 2019e).	Potential (suitable habitat observed)

Based on the SAR habitat screening, Endangered Bat species may be roosting in the deciduous forests; Snapping Turtle is known to be using the abandoned pool as habitat; Bank Swallow is known to be nesting on the steep bluff; and American Eel is potentially present in the Credit River.

Endangered Bats may be present within the deciduous forest (FOD) vegetation communities. Generally, trees greater than 25 centimeters in diameter at breast height, with attributes such as crevices, cavities, and and peeling bark, that are present within these forest communities may provide suitable bat maternity roosting habitat.

Snapping Turtle is a Species of *Special Concern,* which is not afforded species or habitat protection under the ESA. The abandoned pool is proposed to be removed.

Bank Swallow is designated as *Threatened,* and is afforded species and habitat protection under the ESA. The bluff habitat for this species will be retained and protected.

American Eel is an *Endangered* species and is afforded species and habitat protection. The aquatic habitat for this species will be retained and protected.

5.4 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) is addressed in Provincial, Regional, and Municipal policies. It is defined by the MNRF in the *Significant Wildlife Habitat Technical Guide* (OMNR, 2000), and includes the following broad categories:

- seasonal concentration areas;
- rare vegetation communities or specialised habitats for wildlife;
- habitats of species of conservation concern, excluding the habitats of endangered and threatened species; and
- animal movement corridors.

Criteria for the identification of these features are provided in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (OMNRF, 2015). The dated Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (North-South Environmental *et al*., 2009) was reviewed but no additional information was deemed relevant. As indicated in Dougan's 2017 SWH screening, no SWH was identified within the Project Site (**Appendix D**).

6. Proposed Development

The proposed development includes a high-rise building consisting of a six-storey podium and a 12-storey tower, a stacked townhouse complex, and three levels of underground parking.

The proposed site access is deemed to be a necessary and reasonable alternative to the existing site access because the existing site access at 2955 Mississauga Rd is deemed unsafe not functional because it is too close to the intersection with Dundas Street and because the proposed site access was formally an access to the 2935 Mississauga Rd remains as an opening in the forest canopy cover. The site access is proposed to be wider than the former site access to allow for two-way traffic (**Figure 3**).

7. Constraints and Opportunities

The development limit was determined based on several environmental constraints associated with the Project Site; woodland, Significant Woodland, Significant Valleyland, and Regional Floodplain (**Figure 3**). Given the complicated history associated with past land use and occupancy of the site, the proponent has directed that the development limit be established based on the current site conditions.

7.1 Natural Features

The Significant Valleyland is proposed to be protected with a 10 m setback (Beacon, 2020) and the woodland located on the western property limit is proposed to be protected with a 10 m buffer.

The Significant Woodland along the southern and eastern property limits are proposed to be protected with a variable buffer ranging from 1.8 to 13.7 m wide. This buffer is proposed to be a combination of landscaping and pedestrian amenities with naturalized plantings throughout, as proposed by the proponent (Beacon, 2020). The narrowness of portions of FOD7-3 along Mississauga Road means that the woodland functions as edge habitat, thus smaller buffers would be achievable due to the limited sensitivity of the woodland.

Figure 3. Constraints and Opportunities

CLIENT: Frank Merulla

PROJECT: 2935 & 2955 Mississauga Rd

PREPARED BY: Palmer™

0 10 20
metres

N

PROJECT NO.	1903701
REVISION:	1
DATE:	Jan 25, 2021
SCALE:	1:1000
DRAWN:	BE
DATUM:	NAD 1983
CHECKED:	ND
PROJECTION:	UTM zone 17

LEGEND:

- Subject Site
- Variable Woodland Buffer
- Woodland Limit (delineated on-site by Palmer, Feb 2020)
- Development Limit
- Staked Top of Bank - approved by CVC (Feb 2020)
- Long Term Stable Slope
- 10 m Stable Slope Setback
- Ephemeral Naturalized Drainage
- Regional Floodline[1]
- Floodline Setback (0.3m freeboard)[1]

TITLE:

Constraints and Opportunities

Figure 3

Document Path: G:\Shared drives\Projects 2019\19037 - Frank Merulla\1903701 - 2935 & 2955 Mississauga Road\Mapping\Figures\5_ArcGIS\1903701_3-1_Constraints and Opportunities.mxd

1. Source: Greck and Associates, 2020.

7.2 Regional Floodplain

Greck and Associate (Greck) has been engaged as part of the project team to review the hazard assessment associated with the regional floodplain. The following regional floodplain analysis was prepared by Greck:

> Historical site alterations have significantly reduced contributing flows to the channel which is now described as an ephemeral naturalized drainage swale, and as such the floodline through the property is conservatively based on flood elevations originating from the Credit River which back up into the historical channel outlet. Greck have delineated the 2005 Golder floodline on the December 10, 2019 topographic mapping from the local land surveyor Tarasick McMillan Kubisick Limited. Greck has paired the floodplain with a 0.3m freeboard line based on hydraulic modelling from the Credit River (**Figure 3**). The regulatory flood elevation is delineated through the subject property on 2019 topographic mapping prepared by TMK. The flood elevation is derived from CVC approved floodplain mapping for this section of the Credit River, which was prepared by Golder Associates, 2005.
>
> In accordance with provincial policy, all proposed development should be located outside of the 0.3m freeboard line. Given the flood elevations associated with the historical channel are based on backwater from the Credit River, any proposed fill should be compensated with an equivalent cut. However, it should be recognized that any fill impacts would have an insignificant impact on the main Credit River as this particular channel can be considered an ineffective flow area after its truncation years ago.

Therefore, the Regional flood limit associated with the ephemeral naturalized drainage channel is proposed to be protected with 0.3 m freeboard setback as determined by Greck.

8. Impact Assessment and Mitigation Measures

The proposed development will not require any vegetation clearing within the Project Site, except for the reinstatement of the site access at the location of the former driveway to Mississauga Road (**Figure 3**). The existing site access at 2955 Mississauga Road is proposed to be decommissioned and proposed to be naturalized with woodland plantings (**Figure 3**).

The following impact assessment and mitigation measures have been prepared based on the proposed site plan. Further potential impacts are to be assessed in greater detailed once the grading plan and stormwater management plan are prepared.

8.1 Woodland Connectivity with the Reinstated Site Access

The narrow portion of the woodland feature adjacent to the north side of Mississauga Rd is considered a low functioning linear treed area. The woodland vegetation community is currently bisected by the anthropogenic opening where the former site access was located (Beacon, 2020). The proposed

reinstatement of the site access is not expected to result in changes to the woodland feature or its functions. Reinstating this access is expected to slightly encroach into existing woodland edge. Nevertheless, the woodland units of the FOD7-3 community are expected to remain connected from a functional perspective given the narrowness of the proposed site access. The reinstated site access is proposed to be approximately 15 m wide and woodland connectivity is considered to be maintained where canopy gaps are less than 20 m wide, per general guidance from Provincial technical documents such as the Oak Ridges Moraine Conservation Plan (ORMCP) *Technical Paper 7 - Identification and Protection of Significant* Woodlands (OMNR, 2007). The proposed reinstated site access is proposed to be constructed in a manner that will maintain and/or improve the Ephemeral Naturalized Drainage Swale. Thus, no negative impact is expected as a result of the reinstated site access.

Native buffer plantings are proposed to be implemented to protect the woodland feature from the proposed development with a variable buffer approach. Narrow buffer plantings are expected to adequately protect the feature from the proposed adjacent land uses (**Figure 3**).

8.2 Minor Vegetation Removal

The removal of some forest edge vegetation is proposed to re-instate the former site access. This proposed works will involve the removal of common trees and shrubs that were present at the edge of the old access lane or that have regenerated into the clearing over time.

The proposed vegetation removal for the re-creation of the site access should be completed outside of the migratory bird period from early April to later August.

Consultation with the MECP should be undertaken to ensure conformity with the ESA regarding Endangered Bats before the removal of potential bat maternity roost trees. In general, tree removal should be conducted outside of the bat maternity roosting period from April 1 to September 30.

8.3 Turtle Habitat Removal

The existing pool is considered to potentially result in the loss of wildlife. Although turtles have been observed in the pool, they may become trapped when water levels lower because the cement sides are too steep to climb out. Therefore, the existing pool is proposed to be removed to avoid detrimental wildlife use and safety precautions.

The removal of the pool should be completed during fall or winter months to avoid the active amphibian and reptile period that spans from early April to late September.

9. Policy Conformity

A summary of applicable natural heritage policies and the manner in which the proposed development plan meets their requirements is provided in **Table 4** below.

Table 4. Policy Conformity

Policy Document	Policy Intent/Objective	Implications and Policy Conformity
Migratory Birds Convention Act	Protect most species of migratory birds and their nests and eggs anywhere they are found in Canada.	Vegetation removal should be completed between early September and late March of any given year. Biologist to screen for nest for any proposed vegetation removal outside of this period.
Endangered Species Act	Species and the habitat of species designated as Endangered or Threatened are afforded legal protection.	SAR and SAR habitat this is known to be within or directly adjacent to the Project Site are proposed to be retained and protected. Consultation with MECP may be required regarding the removal of potential bat maternity roost trees.
Provincial Policy Statement	Direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features.	No development or site alteration is proposed within the existing, defined natural heritage features and the ecological functions will be maintained.
Growth Plan for the Greater Golden Horseshoe	Directs growth and the development to ensure economic prosperity, environmental protection and community support.	The Project Site is within the City's Settlement Area; the Growth Plan's natural feature protection buffer do not apply.
Region of Peel Official Plan	Core Areas: Development is generally prohibited within Core Areas.	No development is proposed in the existing limits of the woodland designated as Core area with the exception for a re-instated site access. The proposed site access is deemed to be a necessary and reasonable alternative to the existing site access.
City of Mississauga Official Plan	The City's Green System is comprised of the NHS, Urban Forest, Natural Hazard Lands, and Parks and Open Spaces. Buffers are determined on a site-specific basis as part of the EIS.	A 10 m buffer to the existing limits of the Significant Woodland and a 10 m setback to the Significant Valleyland are being proposed. The Project Site will be enhanced with native plantings following the completion of nearby grading works.
O. Reg. 160/06	CVC regulates activities in and adjacent to water, natural areas, and hazardous areas.	CVC's policies for buffers and setbacks are proposed to be implemented, including 10 m buffer to a Significant Woodland and 10 m setback to a Significant Valleyland.

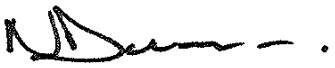
10. Conclusions

The findings of this updated EIS are the result of a background review, field investigations, compilation of data from the 2017 Dougan and Associates EIS, and an analysis of data using current scientific understanding of the ecology of the area, as well as current natural heritage policy.

We have identified natural environmental sensitivities, constraints and development opportunities for the Project Site based on the current site conditions. The environmental constraints consist of various natural heritage features and respective buffers or setbacks in accordance with planning and regulatory policies and guidelines.

11. Signatures

This report was prepared, reviewed and approved by the undersigned:



Prepared By:

Natalie Dunn, B.Sc., PG[ER]
Ecologist

Reviewed By:

Austin Adams, M.Sc., EP
Senior Ecologist

Approved By:

Dirk Janas, B.Sc.
Principal, Senior Ecologist

12. References

Beacon Planning Services (Beacon). 2020. Planning Justification and Rational Report Prepared in Support of Proposed Development at 2935 & 2955 Mississauga Road.

Bird Studies Canada. 2008. Marsh Monitoring Program Participant's Handbook.

Bird Studies Canada. 2001. Ontario Breeding Bird Atlas Guide for Participants.

City of Mississauga. 2020. City 's online imagery. Retrieved from http://www6.mississauga.ca/missmaps/maps.aspx#map=12/-8864609.44/5404848.32/0.9075712110370514)

City of Mississauga. 2019. City of Mississauga Official Plan Office Consolidation.

Credit Valley Conservation (CVC). 2018. Plant Selection Guideline. Species List for Planting Plans within the Credit River Watershed. Version 2.0. Retrieved from: https://cvc.ca/wp-content/uploads/2018/04/Plant-Selection-Guideline-FINAL-APRIL-24th-2018.pdf

Credit Valley Conservation (CVC). 2010. Watershed Planning and Regulation Policies, Retrieved from https://cvc.ca/wp-content/uploads/2011/01/004-CVC-WPR-Policies_APR-2010.pdf

Credit Valley Conservation (CVC). 2002. Plants of the Credit River Watershed. https://cvc.ca/wp-content/uploads/2011/01/PlantsComplete.pdf

Crins, W. J., Gray, P. A., Uhlig, P. W., & Wester, M. C. (2009). The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions. Peterborough, Ontario: Ontario Ministry of Natural Resources. Retrieved from https://files.ontario.ca/mnrf-ecosystemspart1-accessible-july2018-en-2020-01-16.pdf

Dougan and Associates. 2017. Environmental Impact Study. Merulla Properties. 2935 & 2955 Mississauga Road, City of Mississauga.

Government of Canada. (1994). Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22). Retrieved from http://laws-lois.justice.gc.ca/eng/acts/m-7.01/

Government of Ontario. (2007). Endangered Species Act, 2007, S.O. 2007, c. 6. Retrieved from https://www.ontario.ca/laws/statute/07e06

Government of Ontario. (2013). O. Reg. 160/06: Credit Valley Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. Retrieved from https://www.ontario.ca/laws/regulation/060160

Lee, H. T., Bakowsky, W. D., Riley, J., Bowles, J., Puddister, M., Uhlig, P., & McMurray, S. (1998). *Ecological Land Classification for Southern Ontario: First Approximation and its Application.* Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch.

North-South Environmental, Dougan and Associates, Sorensen Gravely Lowes. 2009. Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study. Retrieved from: https://www.peelregion.ca/planning/officialplan/pdfs/Peel-CaledonSW-SWH-Study-Report-Part4.pdf

Ministry of Municipal Affairs and Housing. (2019). *A Place to Grow: Growth Plan for the Greater Golden Horseshoe.* Retrieved from: https://files.ontario.ca/mmah-greater-golden-horseshoe-place-to-grow-english-15may2019.pdf

Ministry of Natural Resources and Forestry. (2020). *Make a Map: Natural Heritage Areas*. Retrieved from Ministry of Natural Resources and Forestry - Make a Map: Natural Heritage Areas: http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US

Ministry of Natural Resources and Forestry (MNRF). (2010). *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005*. Second Edition. Retrieved from: https://www.ontario.ca/document/natural-heritage-reference-manual

Ministry of Municipal Affairs and Housing. (2020). *Provincial Policy Statement.*

Ministry of Municipal Affairs and Housing. (2019. A Place to Grow: Growth Plan for the Greater Golder Horseshoe. Retrieved from: https://www.ontario.ca/document/place-grow-growth-plan-greater-golden-horseshoe

Ministry of Municipal Affairs and Housing. (2017). *Greenbelt Plan*. Retrieved from: http://www.mah.gov.on.ca/Page13783.aspx

Ontario Ministry of Natural Resources and Forestry (MNRF). 2020a. Natural Heritage Information Centre Species Lists. https://www.ontario.ca/page/get-natural-heritage-information

Ontario Ministry of Natural Resources and Forestry (MNRF). 2020b. Species Risk in Ontario. Last updated 2020. https://www.ontario.ca/page/species-risk-ontario

Ontario Ministry of Natural Resources and Forestry (MNRF). (2015). *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E*. Retrieved from: https://dr6j45jk9xcmk.cloudfront.net/documents/4776/schedule-7e-jan-2015-access-vers-final-s.pdf

Ontario Ministry of Natural Resources and Forestry (MNRF). 2013. Milksnake Survey Protocol. Guelph District.

Ontario Ministry of Natural Resources (MNR). 2000. *Significant Wildlife Habitat Technical Guide*. Queen's printer for Ontario. Retrieved from https://docs.ontario.ca/documents/3620/significant-wildlife-habitat-technical-guide.pdf

Oak Ridges Moraine Conservation Plan (ORMCP). 2007. *Technical Paper 7 - Identification and Protection of Significant* Woodlands. Retrieved from: http://www.mah.gov.on.ca/AssetFactory.aspx?did=4892

Palmer. 2020. Fluvial Geomorphology Review. 2935 & 2955 Mississauga Road.

Parish Aquatic Services. 2016. Geomorphic Review Assessment of Pre-diversion Sawmill Creek Corridor: 2955 & 2935 Mississauga Road.

Region of Peel. 2018. Region of Peel Official Plan.

Terraprobe. 2008. Geotechnical Investigation Slope Stability and Streambank Erosion Analysis. 2935 and 2955 Mississauga Road. Mississauga, Ontario

Terraprobe. 2010. Addendum, Geotechnical Investigation. 2935 and 2955 Mississauga Road. Mississauga, Ontario

Appendix A

Agency Comments to the Terms of Reference

Gmail by Google

Natalie Dunn <natalie.dunn@pecg.ca>

RE: Proposed TOR for 2935&2955 Mississauga Road

1 message

Ashlee Rivet <Ashlee.Rivet@mississauga.ca> Tue, Nov 26, 2019 at 2:14 PM
To: Natalie Dunn <natalie@pecg.ca>
Cc: "Maricris.Marinas@cvc.ca" <Maricris.Marinas@cvc.ca>, Michael Hynes <Michael.Hynes@mississauga.ca>

Hi Natalie,

The original email with the draft TOR was sent by Angela. If I remember correctly, this is now your file.

Attached are CVC's comments on the TOR. Community Services comments include:

- *Please ensure that the City of Mississauga's Natural Areas Survey factsheet for the site is referenced in the background review section and that the site is discussed in the context of Mississauga's Natural Heritage System.*
- *Can you also ensure that the applicant has received Mississauga's EIS terms of reference checklist (attached)?*

Any specific questions regarding these comments should be directed to the reviewer directly and copy me.

Thanks,

MISSISSAUGA

Ashlee Rivet-Boyle BES, MCIP, RPP

Planner, Development South

T 905-615-3200 ext.5751

ashlee.rivet@mississauga.ca

City of Mississauga | Planning and Building Department

Development and Design Division

Please consider the environment before printing.

From: Angela Wallace [mailto:angela@pecg.ca]
Sent: Friday, June 14, 2019 1:51 PM
To: Maricris.Marinas@cvc.ca
Cc: Dirk Janas; Ashlee Rivet; Frank Merulla; planning@cvc.ca; Robin McKillop; Eric Greck
Subject: Proposed TOR for 2935&2955 Mississauga Road

Hi Maricris,

Attached, please find a proposed Environmental Impact Study Terms of Reference (TOR) for 2935 & 2955 Mississauga Road.

Please review this TOR and provide us with any comments or clarifications.

Please contact me at 647-795-8153 ext. 159 or angela@pecg.ca if you have any questions.

Thank you for your time.

Angela

Angela Wallace
Senior Aquatic Ecologist

Palmer Environmental Consulting Group Inc.
74 Berkeley Street, Toronto, ON M5A 2W7
t 647 795 8153 ext 159 **c** 647 242 7207 **e** angela@pecg.ca
www.pecg.ca

---------- Forwarded message ----------
From: "Marinas, Maricris" <Maricris.Marinas@cvc.ca>
To: Ashlee Rivet <Ashlee.Rivet@mississauga.ca>
Cc:
Bcc:
Date: Thu, 14 Nov 2019 15:55:27 +0000
Subject: 2935-2955 Miss Rd., EIS TOR Comments

Hi Ashlee,

As you are aware, there is a long history on these subject lands and throughout CVC has consistently provided guidance that the appropriateness and extent of any proposed development requires achieving regulatory and policy requirements including the restoration and rehabilitation of (unauthorized) disturbed portions of the site.

It is with this understanding that CVC staff provide the following comments with regards to the EIS TOR (attached):

COMMENTS

1. The subject property is entirely within the City of Mississauga's designated Green System (Natural Heritage System – significant natural area and natural green space, and Natural Hazards) and Core Area (environmentally significant area, significant woodlands, significant valleyland and fish habitat) of the Region of Peel's Greenlands System.

Please include a Policy Review section in the background review to identify all relevant planning policies and regulations; all municipal, regional and provincial designations; significant natural features; and, appropriate setbacks to these features. Both the City of Mississauga and Region of Peel's official Plans contain policies restricting development within, and adjacent to, these areas. Replacement and rehabilitation of ecological features and functions is required by the Region of Peel's Official Plan (2.3.2.7) where those have been damaged or destroyed.

2. Please refer to Region of Peel's Core Greenlands System mapping and related Official Plan policies to ensure the site and any proposed development is assessed and discussed in context with these.
3. Please include the review of historic aerial photography to identify the extent and ecological composition of pre-disturbance conditions on the subject property to inform the development of a site restoration plan.
4. Please provide a site restoration plan that will outline the extent of site restoration and the measures that will be taken to restore soil conditions, natural site gradients, and natural heritage features within the restoration area.
5. Please note two breeding bird survey visits is preferred to occur within a study year to attain the highest level of breeding status as possible for resident species, as per Ontario Breeding Bird Atlas protocols.
6. Please complete the screening for SAR bats in the SAR and SWH Screening exercises.

Further to the above, and for context, it maybe helpful to have a look at the attached memo which was provided as evidence for past proceedings.

Should you have any questions, please do not hesitate to contact me.

Regards,

Maricris

Maricris Marinas, M.Sc.

Senior Planner, Planning and Development Services | Credit Valley Conservation

905-670-1615 ext 220 | 1-800-668-5557

NEW: maricris.marinas@cvc.ca | cvc.ca

---

4 attachments

PECG Proposed EIS TOR 2935-2955 Mississauga Rd 14June2019.pdf
159K

scan_14042_2019-11-14-10-41-54.pdf
14501K

2935-2955 Miss Rd., EIS TOR Comments.eml
20090K

Mississauga EIS Checklist_Draft 2017.pdf
598K

Appendix B

Flora List

Appendix B

Flora List

Scientific Name	Common Name	S Rank	SARO Status	CVC/PEEL STATUS (CVC, 2002)	Dungan 2017	Palmer 2019
Acer negundo	Manitoba Maple	S5			x	x
Acer nigrum	Black Maple	S4?			x	
Acer platanoides	Norway Maple	SNA			x	
Acer saccharinum	Silver Maple	S5			x	
Acer saccharum	Sugar Maple	S5			x	x
Achillea millefolium	Common Yarrow	SNA			x	x
Aegopodium podagraria	Goutweed	SNA			x	
Alliaria petiolata	Garlic Mustard	SNA			x	x
Amelanchier arborea	Downy Serviceberry	S5			x	
Amelanchier laevis	Smooth Serviceberry	S5			x	
Amelanchier spicata	Running Serviceberry	S4		rare	x	
Anemone quinquefolia	Wood Anemone	S5			x	
Antennaria howellii	Howell's Pussytoes	S5			x	
Antennaria sp.	Pussytoes Species				x	
Apocynum androsaemifolium	Spreading Dogbane	S5			x	
Arctium lappa	Great Burdock	SNA			x	
Arctium minus	Common Burdock	SNA			x	x
Arenaria serpyllifolia	Thyme-leaved Sandwort	SNA			x	
Arisaema triphyllum	Jack-in-the-pulpit	S5			x	
Aruncus dioicus	Common Goatsbeard	SNA				x
Asclepias syriaca	Common Milkweed	S5			x	x
Asparagus officinalis	Garden Asparagus	SNA			x	
Aster sp.	Aster Species				x	
Berberis thunbergii	Japanese Barberry	SNA			x	
Berberis x ottawensis	(Berberis thunbergii X Berberis vulgaris)	SNA			x	
Betula papyrifera	Paper Birch	S5			x	x
Betula pendula	Weeping Birch	SNA			x	
Bromus inermis	Smooth Brome	SNA			x	x
Cardamine concatenata	Cut-leaved Toothwort	S5			x	
Carex aurea	Golden Sedge	S5			x	
Carex blanda	Woodland Sedge	S5			x	
Carex pensylvanica	Pennsylvania Sedge	S5			x	
Carex sp.	Sedge Species				x	
Carex spicata	Spiked Sedge	SNA			x	
Cichorium intybus	Wild Chicory	SNA			x	x

Scientific Name	Common Name	S Rank	SARO Status	CVC/PEEL STATUS (CVC, 2002)	Dungan 2017	Palmer 2019
Circaea canadensis	Broad-leaved Enchanter's Nightshade	S5			x	
Cirsium arvense	Canada Thistle	SNA			x	
Cirsium sp.	Thistle Species				x	x
Claytonia virginica	Eastern Spring Beauty	S5			x	
Convallaria majalis	European Lily-of-the-valley	SNA			x	
Cornus racemosa	Grey Dogwood	S5			x	
Cornus rugosa	Round-leaved Dogwood	S5			x	
Cornus sericea	Red-osier Dogwood	S5			x	
Cornus sp.	Dogwood Species					x
Crataegus crus-galli	Cockspur Hawthorn	S4			x	
Crataegus sp.	Hawthorn Species				x	
Cryptotaenia canadensis	Canada Honewort	S5			x	
Dactylis glomerata	Orchard Grass	SNA			x	x
Daucus carota	Wild Carrot	SNA			x	x
Dipsacus fullonum	Common Teasel	SNA			x	
Elymus canadensis	Canada Wildrye	S5		rare	x	
Elymus repens	Quackgrass	SNA			x	
Elymus riparius	Eastern Riverbank Wildrye	S4		rare	x	
Equisetum arvense	Field Horsetail	S5			x	
Erigeron philadelphicus	Philadelphia Fleabane	S5			x	
Erythronium americanum	Yellow Trout-lily	S5			x	
Euonymus alatus	Winged Euonymus	SNA			x	
Euphorbia esula	Leafy Spurge				x	
Fagus grandifolia	American Beech	S4			x	
Fragaria virginiana	Wild Strawberry	S5			x	
Fraxinus americana	White Ash	S4			x	x
Fraxinus excelsior	European Ash	SNA			x	
Fraxinus pennsylvanica	Red Ash	S4			x	
Geranium maculatum	Spotted Geranium	S5			x	
Geranium robertianum	Herb-Robert	S5				x
Geum aleppicum	Yellow Avens	S5			x	x
Geum laciniatum	Rough Avens	S4			x	
Geum macrophyllum	Large-leaved Avens	S5			x	
Geum sp.	Avens Species				x	
Glechoma hederacea	Ground-ivy	SNA			x	
Hesperis matronalis	Dame's Rocket	SNA			x	
Hordeum jubatum	Foxtail Barley	S5?				x
Hydrophyllum virginianum	Virginia Waterleaf	S5			x	
Hypericum perforatum	Common St. John's-wort	SNA			x	

Scientific Name	Common Name	S Rank	SARO Status	CVC/PEEL STATUS (CVC, 2002)	Dungan 2017	Palmer 2019
Impatiens capensis	Spotted Jewelweed	S5			x	
Juglans nigra	Black Walnut	S4?			x	x
Leonurus cardiaca	Common Motherwort	SNA				x
Leucanthemum vulgare	Oxeye Daisy	SNA			x	x
Ligustrum vulgare	European Privet	SNA			x	x
Lonicera tatarica	Tatarian Honeysuckle	SNA			x	x
Lotus corniculatus	Garden Bird's-foot Trefoil	SNA			x	x
Maianthemum racemosum	Large False Solomon's Seal	S5			x	x
Maianthemum sp.	Solomon's Seal Species				x	
Maianthemum stellatum	Star-flowered False Solomon's Seal	S5			x	
Malus sp.	Apple Species				x	
Medicago lupulina	Black Medick	SNA			x	x
Melilotus albus	White Sweet-clover	SNA			x	x
Melilotus officinalis	Yellow Sweet-clover	SNA			x	
Nepeta cataria	Catnip	SNA			x	
Ostrya virginiana	Eastern Hop-hornbeam	S5			x	
Parthenocissus quinquefolia	Virginia Creeper	S4?			x	
Parthenocissus vitacea	Thicket Creeper	S5			x	x
Penthorum sedoides	Ditch Stonecrop	S5			x	
Phleum pratense	Common Timothy	SNA			x	
Picea abies	Norway Spruce	SNA			x	
Picea glauca	White Spruce	S5			x	x
Pilosella caespitosa	Meadow Hawkweed	SNA				x
Pilosella piloselloides ssp. praealta	King Devil Hawkweed	SNA			x	
Pinus nigra	Austrian Pine	SNA			x	
Pinus strobus	Eastern White Pine	S5			x	x
Pinus sylvestris	Scots Pine	SNA			x	
Plantago lanceolata	English Plantain	SNA				x
Plantago major	Common Plantain	SNA			x	
Poa compressa	Canada Bluegrass	SNA			x	
Poa pratensis	Kentucky Bluegrass	S5			x	x
Podophyllum peltatum	May-apple	S5			x	
Populus balsamifera	Balsam Poplar	S5			x	
Populus deltoides	Eastern Cottonwood	S5			x	
Populus grandidentata	Large-toothed Aspen	S5			x	
Populus tremuloides	Trembling Aspen	S5			x	
Potentilla recta	Sulphur Cinquefoil	SNA			x	x
Prunella vulgaris	Common Self-heal	S5			x	
Prunus avium	Sweet Cherry	SNA			x	

Scientific Name	Common Name	S Rank	SARO Status	CVC/PEEL STATUS (CVC, 2002)	Dungan 2017	Palmer 2019
Prunus serotina	Black Cherry	S5			x	x
Prunus virginiana	Chokecherry	S5			x	
Quercus alba	White Oak	S5			x	
Quercus macrocarpa	Bur Oak	S5			x	
Quercus rubra	Northern Red Oak	S5			x	x
Quercus velutina	Black Oak	S4		rare	x	
Ranunculus abortivus	Kidney-leaved Buttercup	S5			x	
Ranunculus acris	Common Buttercup	SNA			x	
Ranunculus ficaria	Fig-root Buttercup	SNA			x	
Reynoutria japonica	Japanese Knotweed	SNA			x	x
Rhamnus cathartica	European Buckthorn	SNA			x	x
Rhus typhina	Staghorn Sumac	S5			x	x
Ribes sp.	Currant Species				x	
Ribes triste	Swamp Red Currant	S5			x	
Robinia pseudoacacia	Black Locust	SNA			x	
Rosa multiflora	Multiflora Rose	SNA			x	
Rosa sp.	Rose Species				x	x
Rubus idaeus	Red Raspberry	S5				x
Rubus idaeus ssp. strigosus	North American Red Raspberry	S5			x	
Rubus occidentalis	Black Raspberry	S5			x	
Rubus odoratus	Purple-flowering Raspberry	S5			x	
Rumex crispus	Curled Dock	SNA			x	
Rumex sp.	Dock Species				x	
Salix alba	White Willow	SNA			x	
Salix fragilis (use S. euxina)	Crack Willow				x	
Salix sp.	Willow Species				x	x
Sanguinaria canadensis	Bloodroot	S5			x	x
Scilla siberica	Siberian Squill	SNA			x	
Securigera varia	Purple Crown-vetch	SNA			x	x
Silene vulgaris	Bladder Campion	SNA			x	
Solanum dulcamara	Bittersweet Nightshade	SNA			x	
Solidago altissima	Tall Goldenrod	S5			x	
Solidago caesia	Blue-stemmed Goldenrod	S5			x	
Solidago canadensis	Canada Goldenrod	S5			x	
Solidago flexicaulis	Zigzag Goldenrod	S5			x	x
Solidago gigantea	Giant Goldenrod	S5			x	
Solidago nemoralis	Grey-stemmed Goldenrod	S5			x	
Solidago sp.	Goldenrod Species				x	x
Symphyotrichum cordifolium	Heart-leaved Aster	S5			x	

Scientific Name	Common Name	S Rank	SARO Status	CVC/PEEL STATUS (CVC, 2002)	Dungan 2017	Palmer 2019
Symphyotrichum lanceolatum	Panicled Aster	S5			x	
Taraxacum officinale	Common Dandelion	SNA			x	x
Thalictrum pubescens	Tall Meadow-rue	S5			x	
Thuja occidentalis	Eastern White Cedar	S5			x	
Tilia americana	Basswood	S5			x	x
Tilia cordata	Little-leaved Linden	SNA			x	
Toxicodendron radicans	Poison Ivy	S5			x	x
Tragopogon dubius	Yellow Goatsbeard	SNA			x	
Trifolium repens	White Clover	SNA			x	
Tsuga canadensis	Eastern Hemlock	S5			x	
Tussilago farfara	Coltsfoot	SNA			x	
Ulmus americana	White Elm	S5			x	x
Ulmus pumila	Siberian Elm	SNA			x	
Urtica dioica	Stinging Nettle	S5			x	x
Verbascum thapsus	Common Mullein	SNA			x	
Veronica officinalis	Common Speedwell	SNA			x	
Veronica persica	Bird's-eye Speedwell	SNA			x	
Viburnum acerifolium	Maple-leaved Viburnum	S5			x	
Viburnum opulus	Cranberry Viburnum	S5			x	
Viburnum sp.	Viburnum Species				x	
Vicia cracca	Tufted Vetch	SNA			x	x
Viola cucullata	Marsh Blue Violet	S5		rare	x	
Viola sp.	Violet Species				x	
Vitis riparia	Riverbank Grape	S5			x	x

Appendix C

Breeding Birds

May 6, 2021

Appendix C

Breeding Birds

Common Name	Scientific Name	SARO	S Rank	Area Sensitivity	Breeding Evidence	Surveys		
						26-05-14	09-06-14	14-06-19
Mallard	*Anas platyrhynchos*		S5	---	CONFIRMED	1X	5H, 5FY	
Common Loon	*Gavia immer*		S5	---	---	2X	1X	
Great Blue Heron	*Ardea herodias*		S4	---	---		1X	1X
Red-tailed Hawk	*Buteo jamaicensis*		S5	---	POSSIBLE		1H	
Killdeer	*Charadrius vociferus*		S5	---	CONFIRMED	2T, 2FY	2T, 2FY	
Ring-billed Gull	*Larus delawarensis*		S5	---	---		R	
Belted Kingfisher	*Megaceryle alcyon*		S4	---	PROBABLE		1P	
Northern Flicker	*Colaptes auratus*		S4	---	PROBABLE	2H, 1P	1H	
Eastern Kingbird	*Tyrannus tyrannus*		S4	---	POSSIBLE	1H		
Red-eyed Vireo	*Vireo olivaceus*		S5	---	PROBABLE	1S	1T	1S
Blue Jay	*Cyanocitta cristata*		S5	---	POSSIBLE	1H	1S, 2H	1S
American Crow	*Corvus brachyrhynchos*		S5	---	POSSIBLE		1S, 1H	
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*		S4	---	POSSIBLE	4H	4H	
Bank Swallow	*Riparia riparia*	THR	S4	---	POSSIBLE	6H	2H	6X
White-breasted Nuthatch	*Sitta carolinensis*		S5	AS	POSSIBLE	1S		
House Wren	*Troglodytes aedon*		S5	---	POSSIBLE	1S		
American Robin	*Turdus migratorius*		S5	---	PROBABLE	1P, 1S, 1H		3S
Gray Catbird	*Dumetella carolinensis*		S4	---	PROBABLE	1H	1T	1S
European Starling	*Sturnus vulgaris*		SNA	---	POSSIBLE	1H		2S
Song Sparrow	*Melospiza melodia*		S5	---	PROBABLE	2S	2T, 1S	2S
Northern Cardinal	*Cardinalis cardinalis*		S5	---	POSSIBLE	2S	2S	
Red-winged Blackbird	*Agelaius phoeniceus*		S4	---	POSSIBLE	3H	R	1X

Common Name	Scientific Name	SARO	S Rank	Area Sensitivity	Breeding Evidence	Surveys		
						26-05-14	09-06-14	14-06-19
Common Grackle	*Quiscalus quiscula*		S5	---	POSSIBLE		7X	
Baltimore Oriole	*Icterus galbula*		S4	---	PROBABLE	1S	1T	
American Goldfinch	*Spinus tristis*		S5	---	PROBABLE	1S		5P
House Sparrow	*Passer domesticus*		SE	---	PROBABLE			1X
Great Crested Flycatcher	*Myiarchus crinitus*		S4	---	PROBABLE			1S
Turkey Vulture	*Cathartes aura*		S5	---	POSSIBLE			2X
Black-capped Chickadee	*Poecile atricapillus*		S5	---	PROBABLE			2S

H – species observed in its breeding season in suitable nesting habitat.

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

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

P – pair observed in their breeding season in suitable nesting habitat.

FY - fledged young observed

A – agitated behaviour displayed by adult

CF – adult carrying food

X – species observed but not in appropriate breeding habitat or flying over

R – species recorded

Appendix D

Significant Wildlife Habitat Screening

Appendix D

Significant Wildlife Habitat

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial)	Duck-like species, Tundra Swan	CUM + CUT ecosites	Fields with sheet-water flooding mid-March to May. Specific areas for Tundra Swan	N	Anthropogenic area without sheet flooding.
Waterfowl Stopover and Staging Area (Aquatic)	Ducks, Geese	Ponds, Lakes, Inlets, Marshes, bays, coastal inlets, watercourse used in migration, Swamps, Shallow Water Ecosites	Sewage & SWM ponds **not** SWH. Reservoir managed as a large wetland or pond/lake qualifies. Abundant food supply (inverts, shallow water veg)	N	The Credit River may be a migratory route, but the portion of the watercourse adjacent to the Project Site does not provide stopover or staging area.
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes	Shorelines. Great Lakes Shores, including rocky ones. Sewage treatment ponds and storm water ponds **not** SWH.	N	Suitable vegetation community is absent.
Raptor Wintering Area	Eagles, Hawks, Owls	**Hawks/Owls:** Combination of both Forest and Cultural Ecosites **Bald Eagle:** Forest or swamp near open water (hunting ground)	**Raptors:** >20ha, with a combo of forest and upland. Meadow (>15ha) with adjacent woodlands. **Eagles:** open water, large trees & snags for roosting.	N	Extensive urban woodland present but meadow communities are believed to be insufficient. One hawk nest was noted on site but habitat is not believed to be significant.
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices, mines, karsts	Buildings and active mine sites **not** SWH.	N	Suitable habitat is absent

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Decidious or mixed forests and swamps.	Mature deciduous and mixed forests with >10/ha cavity trees >25 cm DBH.	N	Bat maternity roost surveys have not been conducted on site, but given the limit area of tree cover and the linear nature of the remnant woodland, the Project Site is not believed to support significant habitat.
Turtle Wintering Area	**Turtles** (Midland, N. Map, Snapping)	SW, MA, OA, SA, FEO, BOO (requires open waters)	**Free water beneath ice.** Soft mud substrate. Permanent water bodies, large wetlands, bogs, fens with adequate DO. Man-made is not SWH.	N	Suitable natural habitat is absent. The abandoned pool is a non-natural structure and is not believed to be a suitable wintering area.
Reptile Hibernaculum	Snakes	**Snakes:** Any ecosite (esp. w/ rocky areas), other than very wet ones. Talus, Rock Barren, Crevice, Cave, Alvar esp.	**Access below frost line:** burrows; **rock** crevices, piles or slopes, **stone** fences or foundations. Conifer/shrubby swamps/swales, poor fens, depressions in bedrock w/ accumulations of sphagnum moss or sedge hummock ground cover.	N	Suitable habitat is absent.
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, N. Rough-winged Swallow	Banks, sandy hills/piles, pits, slopes, cliff faces, bridge abutments, silos, barns.	Exposed soil banks, **not** a licensed/permitted aggregate area or new man-made features (2 yrs).	N	Species absent during breeding bird surveys.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned Night Heron, Great Egret, Green Heron	SWM2, SWM3, SWM5, SWM6, SWD1 to SWD7, FET1	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and emergents may be used. Nests in trees are 11 - 15 m from ground, near tree tops.	N	Species absent during breeding bird surveys.
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	**Gulls/Terns:** Rocky island or peninsula in lake or river. **Brewer's Blackbird:** close to watercourses in open fields or pastures with scattered trees or shrubs.	**Gulls/Terns:** islands or peninsulas with open water or marshy areas. **Brewers Blackbird colonies:** on the ground in low bushes close to streams and irrigation ditches.	N	Species absent during breeding bird surveys.
Migratory Butterfly Stopover Area	Painted Lady, Red Admiral, **Special Concern:** Monarch	Combination of open (CU) and forested (FO) ecosites (need one from each).	≥10 ha, located within 5 km of Lake Ontario. Undisturbed sites, with preferred nectar species.	N	Within 5 km of Lake Ontario but site has been disturbed over time.
Landbird Migratory Stopover Areas	All migratory songbirds. All migrant raptor species.	Forest (FO) and Swamp (SW) ecosites	Woodlots >5 ha within 5 km of L. Ontario & L. Erie (2-5 ha if rare in area). If multiple woodlands are along the shoreline, those <2 km from L. Ontario are more significant.	N	Within 5 km of Lake Ontario but no significant numbers of song birds and/or raptors were recorded during breeding bird surveys and the site is occupied by only a small amount of forest habitat
Deer Winter Congregation Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	Not identified to be present by MNRF mapping.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Cliffs and Talus Slopes		TAO, TAS, CLO, CLS, TAT, CLT e.g., Niagara Escarpment (contact NEC)	**Cliff:** near vertical bedrock >3m **Talus Slope:** coarse rock rubble at the base of a cliff	N	Vegetation community absent.
Sand Barren		SBO1, SBS1, SBT1	Sand Barrens >0.5 ha. Vegetation can vary from patchy and barren to tree covered, but <60%. <50% vegetation cover are exotic species.	N	Vegetation community absent.
Alvar	*Carex crawei, Panicum philadelphicum, Eleocharis compressa, Scutellaria parvula, Trichostema brachiatum*	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Alvar >0.5 ha. **Need 4 of the 5 Alvar Inidcator Spp**. <50% vegetation cover are exotic species.	N	Vegetation community absent.
Old Growth Forest	Trees >140 yrs; heavy mortaily = gaps. Multi-layer canopy, lots of snags and downed logs	FOD, FOC, FOM, SWD, SWC, SWM	Woodland areas 0.5 ha. No evidence of logging.	N	Vegetation community absent.
Savannah	Prairie Grasses w/ trees	TPS1, TPS2, TPW1, TPW2, CUS2	No min. size.A Savannah is a tallgrass prairie habitat that has tree cover of 25 – 60%. <50% cover of exotic species.	N	Vegetation community absent.
Tallgrass Prairie	Prairies Grasses dominate	TPO1, TPO2	No min. size. An open Tallgrass Prairie habitat has < 25% tree cover. Less than 50% cover of exotic species.	N	Vegetation community absent.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Other Rare Vegetation Communities		Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of SWHTG.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	N	Rare vegetation communities are absent.
Waterfowl Nesting Area	Ducks	Upland habitats adjacent to: MAS1 to MAS3, SAS1, SAM1, SAF1, MAM1 to MAM6, SWT1, SWT2, SWD1 to SWD4 (>0.5 ha open water wetlands, alone or collectively).	Extends 120 m from a wetland or wetland complex. Upland areas should be at least 120 m wide. Wood Ducks and Hooded Mergansers use cavity trees (>40 cm dbh).	N	Vegetation community absent.
Bald Eagle & Osprey Nesting, Foraging and Perching Habitat	Osprey, Bald Eagle	FOD, FOM, FOC, SWD, SWM, SWC directly adjacent to riparian areas	Nesting areas are associated with waterbodies along forested shorelines, islands, or on structures over water. Not man-made structures.	N	Suitable vegetation community present but species not observed during breeding bird surveys.
Woodland Raptor Nesting Habitat	Barred Owl. **Hawks:** N. Goshawk, Cooper's, Sharp-shinned, Red-shouldered, Broad-winged.	Forests (FO), swamps (SW), and conifer plantations (CUP3)	>30 ha with > 4 ha interior habitat (200 m buffer)	N	Suitable interior habitat is absent.
Turtle Nesting Areas	Midland Painted Turtle **Special Concern:** Snapping Turtle, Northern Map Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within: MAS1 to MAS3, SAS1, SAM1, SAF1, BOO1, FEO1	Nest sites within open sunny areas with soil suitable for digging. Sand and gravel beaches.	N	Suitable habitat is absent.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where ground water comes to the surface.	Any forested area within the headwaters of a stream/river system. **(2 or more confirms SWH type).**	N	Not observe during field investigations.
Amphibian Breeding Habitat (Woodland)	Woodland Frogs and Salamanders, E. Newt	FOC, FOM, FOD, SWC, SWM, SWD	Open water wetlands, pond or woodland pool of >500 m^2 within or adjacent to wooded areas. Permanent ponds or holding water until mid-July preferred.	N	Suitable habitat is absent.
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders, E. Newt	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.	Open water wetland ecosites >500m^2 isolated from woodland ecosites with high species diversity. Permanent water with abundant vegetation for bullfrogs.	N	Suitable habitat is absent.
Woodland Area-Sensitive Bird Breeding Habitat	Birds (area-sensitive species)	FOC, FOM, FOD, SWC, SWM, SWD	Large mature (>60 years) forest stands/woodlots >30 ha. Interior forest habitat >200m from forest edge.	N	Suitable interior habitat is absent.
Habitat of Species of Conservation Concern					
Marsh Bird Breeding Habitat	Wetland Birds	MAM1 to MAM6, SAS1, SAM1, SAF1, FEO1, BOO1 **Green Heron**: SW, MA and CUM1	Wetlands with shallow water and emergent vegetation. Gr. Heron @ edges of these types w/ woody cover.	N	Suitable habitat is absent.
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, N. Harrier, Savannah Sparrow, **Short-eared Owl (SC)**	CUM1, CUM2	Grassland/meadow >30 ha. Not being actively used for farming. Habitat established for 5 years or more.	N	Suitable habitat is absent.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Shrub/Early Successional Bird Breeding Habitat	**Brown Thrasher + Clay-coloured Sparrow (indicators);** Field Sparrow, Black-billed Cuckoo, E. Towhee, Willow Flycatcher, Yellow-breasted Chat, Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large field areas succeeding to shrub and thicket habitats > 10 ha. Areas not actively used for farming in the last 5 years.	N	Suitable habitat is absent.
Terrestrial Crayfish	Chimney or Digger Crayfish; Devil Crayfish or Meadow Crayfish	MAM1 to MAM6, MAS1 to MAS3, SWD, SWT, SWM. CUM1 sites with inclusions of the aforementioned.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish (typc. protected by wetland setbacks).	N	Suitable habitat is absent.
Special Concern and Rare Wildlife Species	Any species of concern or rare wildlife species	Any ELC code.	Presence of species of concern or rare wildlife species.	N	Snapping Turtle was observed at the abandonned pool which is not considered a natural feature.
Animal Movement Corridors					
Amphibians	Amphibians	all ecosites assoc. w/ water	When Breeding Habitat - wetland confirmed	N	Species absent during breeding brid surveys.
Exceptions for Ecoregion 7E					
Bat Migratory Stopover: 7E-2	Hoary Bat, Eastern Red Bat, Silver-haired Bat	No Specific ELC	Long Point (42º35' N, 80º30'E to 42º33' N, 80º,03'E) - Silver-haired.	N	Limited presence of woodland cover associated with the Project Site.