871 Equestrian Court, Unit 1, Oakville ON L6L 6L7
Tel: 647-795-8153 | www.pecg.ca

1720 Sherwood Forrest Circle Environmental Impact Study (Addendum)

Palmer Project #
2100803

Prepared For
Argo Sherwood Forrest Limited

May 17, 2024

May 17, 2024

Tony Vella
Argo Sherwood Forrest Limited
4900 Palladium Way, Suite 105
Burlington, ON
L7M 0W7

Dear Tony Vella:

Re: **1720 Sherwood Forrest Circle Environmental Impact Study (Addendum) (Update)**
Project #: **2100803**

Palmer is pleased to submit this updated Environmental Impact Study (EIS) for the redevelopment of 1720 Sherwood Forrest Circle in the City of Mississauga.

Based on the findings and recommendations of the report, it is our opinion that with the implementation of the mitigation measures as provided in this report, the proposed development is environmentally feasible and no adverse impacts to the natural environment are expected. Please let us know if you have question or comments on this submission.

Yours truly,

Austin Adams, M.Sc., EP
Senior Ecologist

Table of Contents

List of Tables

List of Figures

List of Appendices

1. Introduction

1.1 Project Overview

Palmer has been retained to complete this updated Environmental Impact Study (EIS) for the proposed redevelopment of 1720 Sherwood Forrest Circle in the City of Mississauga, Region of Peel (herein referred to as the "Subject Property" – **Figure 1**). The Subject Property is proposed to be redeveloped for use as residential lots. The EIS is prepared in support of a Plan of Subdivision and Zoning By-law Amendment application.

The Subject Property is approximately 11 acres (4.5 ha) and currently supports a building complex, maintained lawn on the open grounds and a forested slope. There are no wetlands or aquatic features on the Subject Property.

The Subject Property consists of the City of Mississauga Land Use Designations of Residential Low Density II, Greenlands and Natural Hazards. The forested valley corridor that extends into the northern and eastern limits of the Subject Property occurs within the Credit River at Erindale Regionally Significant Life Science Area of Natural and Scientific Interest (ANSI) and the Credit River at Erindale Environmentally Sensitive Area (ESA). Official Plan (OP) schedules show this forested corridor as part of the 'Core Areas' of Peel (Regional Official Plan Schedule C2) and 'Significant Natural Areas' of the City of Mississauga Natural Heritage System (City Official Plan Schedule 3).

1.2 Scope of Work and Objectives

This EIS addresses environmental considerations identified in the guiding policy documents for this area, namely the City of Mississauga Official Plan (March 2023), and Credit Valley Conservation Authority (CVC) EIS guidelines (2008) and associated correspondence and policies.

The objectives of the EIS are to inventory and evaluate the existing natural heritage features and ecological functions associated with the site and assess the impacts of the proposed development. If natural heritage features requiring protection are present, mitigation measures are recommended, where appropriate, to address potential impacts resulting from the proposed development.

The following items are addressed as part of the EIS report:

- Documentation of existing conditions and associated natural heritage features and constraints on the site.
- Review and summary of applicable environmental policies and regulatory requirements.
- Confirmation of the development limits and appropriate setbacks.
- Identification of proposed mitigation measures for potential direct and indirect impacts to existing natural heritage features and functions.

KEY MAP

LEGEND

- Watercourse [1]
- Study Area

1 - Land Information Ontario (LIO)

0 50 100 150 200
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:3,000
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: May 17, 2024

NORTH

Source Notes:
Base imagery (2020) provided by Peell region open GIS services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Argo Sherwood Forrest Limited

PROJECT
Sherwood Forrest Circle

TITLE
Site Location

Palmer | PART OF SLR

REF. NO. 2100803-1-1

Figure 1

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21008 - Argo Development Group\2100803 - Sherwood Forrest Circle\GIS\1_Workspace\Task 1 - Arborist Figures\2100803-1-1-Site Location.mxd

2. Environmental Policy

2.1 Migratory Birds Convention Act and Regulations (1994)

The *Migratory Birds Convention Act, 1994* (MBCA) and *Migratory Birds Regulations, 2014* (MBR) protect most species of migratory birds and their nests and eggs anywhere they are found in Canada (Government of Canada, 1994). 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.

2.3 Provincial Policy Statement (2020)

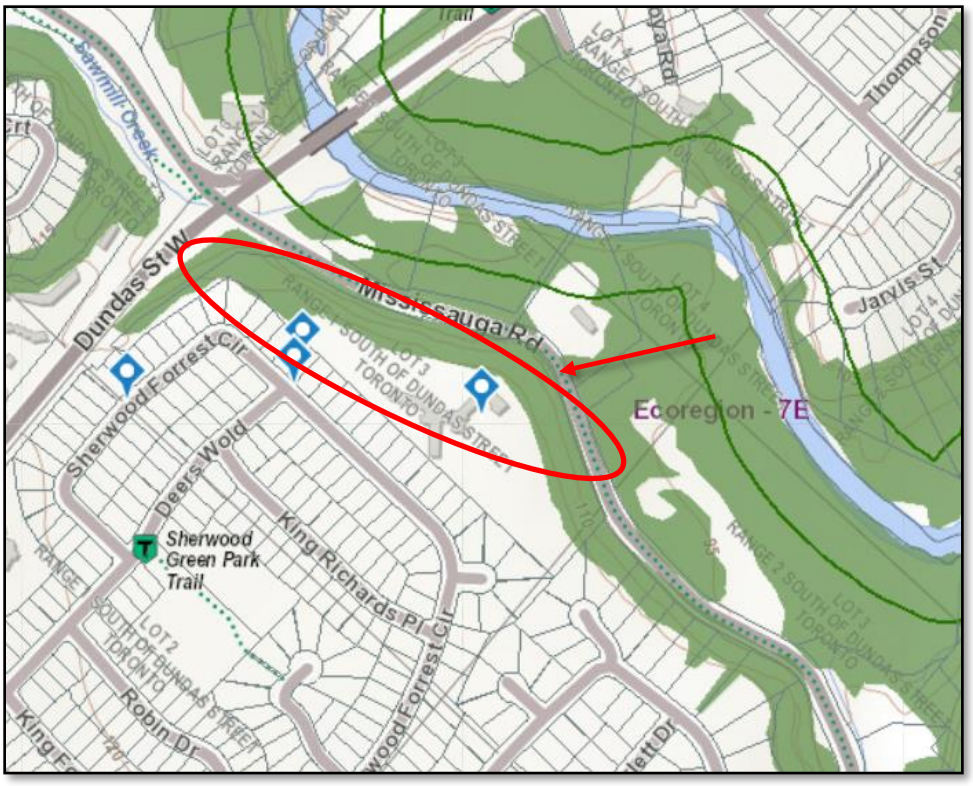
The *Provincial Policy Statement* (PPS) provides direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources (Ontario Ministry of Municipal Affairs and Housing, 2020). The PPS defines eight types of Natural Heritage Features (NHF) and adjacent areas 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 Environmental Impact Study (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 Subject Property is located in Ecoregion 7E (Crins, Gray, Uhlig, & Wester, 2009) and contains some areas designated as Woodland (**Map A**, MNRF, 2021).



Map A: NHIC Make-a-Map Application

2.4 Region of Peel Official Plan (2022)

The *Region of Peel Official Plan* (OP) was adopted by Regional Council on July 11, 1996. It was approved with modification by the Ontario Ministry of Municipal Affairs and Housing (OMMAH) in 1996. Portions of the plan are under appeal at the Ontario Municipal Board (OMB). The new Region of Peel Official Plan was approved by the Province with modifications on November 4, 2022 (Region of Peel, 2022).

Natural heritage features in Peel Region are protected by its Greenlands System, which consists of Core Areas, Natural Areas and Corridors (NAC), and Potential Natural Areas and Corridors. Core Areas are designated on Schedule C2 (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.

Core Areas include significant wetlands, Core woodlands (criteria provided), Environmentally Sensitive Areas, Areas of Natural and Scientific Interest, significant habitats of threatened and endangered species, and core valley and stream corridors (criteria provided). Development is generally prohibited within Core Areas.

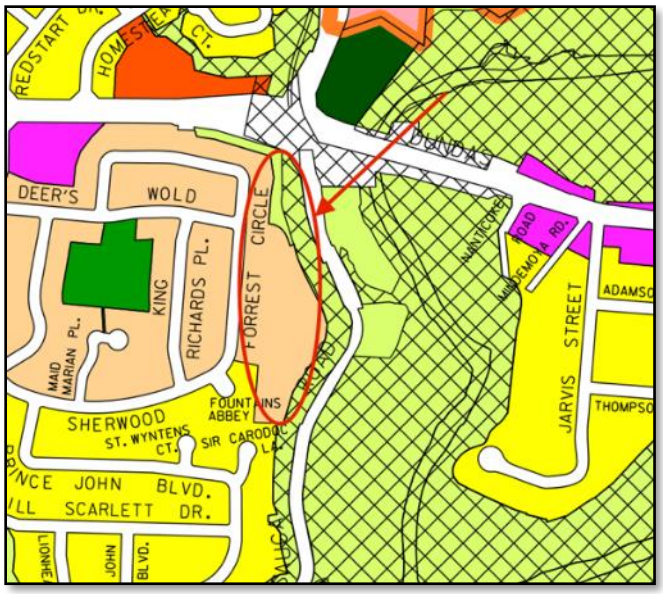
Natural Areas and Corridors include: evaluated non-provincially significant wetlands, NAC woodlands (criteria provided), significant wildlife habitat, fish habitat, other valley and stream corridors not meeting criteria as Core Areas, headwater source and discharge areas, and others. Regional policies encourage municipalities to incorporate policies for the identification and appropriate protection of these features as well as for Potential Natural Areas and Corridors. The Subject Property is within the Urban System.

2.5 City of Mississauga Official Plan (Office Consolidation 2023)

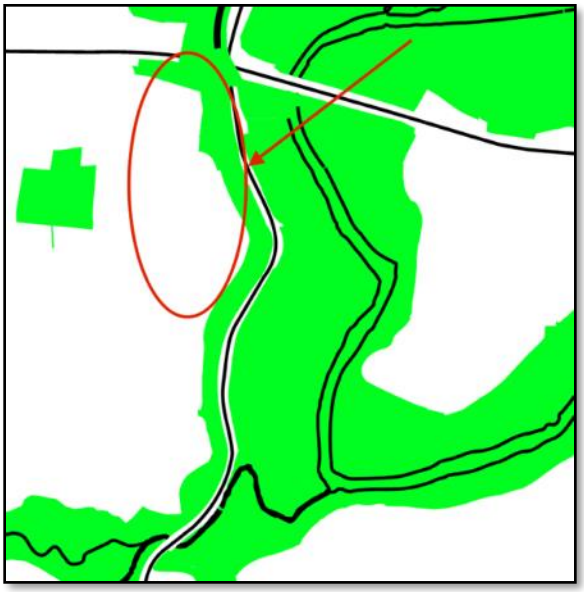
The *City of Mississauga Official Plan* (OP) 2015 with the most recent office consolidation on March 3, 2023 (City of Mississauga, 2023). The City's Green System makes up about 23% of the land area of Mississauga and is comprised of the Natural Heritage System (NHS), Urban Forest, Natural Hazard Lands, and Parks and Open Spaces. The Official Plan, Section 6.3 states that:

Schedule 10 identifies the Land Uses for the City, which includes a wide range of Designations. The specific designations for the Subject Property consist of Residential Low Density II, Greenlands, and Natural Hazards, which is an overlay on the Greenlands (**Map B**). The Natural Hazards Designation is associated with the steep forest slope on the east side of the property.

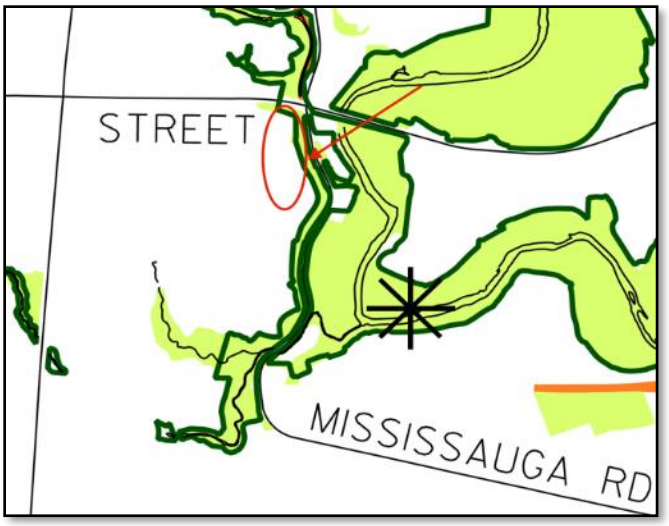
Section 6, Value the Environment, of the OP provides the environmental policies for the City. The woodland areas on the property are identified as part of the Urban System – Green System on Schedule 1a (**Map C**); and, part of the Significant Natural Areas and Natural Green Spaces component of the City's Natural Heritage System as shown on Schedule 3 (**Map D**).



Map B: Schedule 10 - Land Use Designations (City of Mississauga)



Map C: Schedule 1a - Urban System - Green System (City of Mississauga)



Map D: Schedule 3 - Natural Heritage System (City of Mississauga)

6.3 Green System

Buffers

6.3.8: Buffers shall 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.

Significant Woodlands

6.3.12 f: significant woodlands are those that meet one or more of the following criteria:

- *woodlands, excluding cultural savannahs, greater than or equal to four hectares;*
- *woodlands, excluding cultural woodlands and cultural savannahs, greater than or equal to two hectares and less than four hectares;*
- *any woodland greater than 0.5 hectares that:*
    - *supports old growth trees (greater than or equal to 100 years old);*
    - *supports a significant linkage function as determine through an Environmental Impact Study approved by the City in consultation with the appropriate conservation authority;*
    - *is located within 100 meters of another Significant Natural Area supporting a significant ecological relationship between the two features;*
    - *is located within 30 meters of a watercourse or significant wetland; or*
    - *supports significant species or communities.*

Natural Hazard Lands *and buffers will be designated Greenlands and zoned to protect life and property. Uses will be limited to conservation, flood and /or erosion control, essential infrastructure and passive recreation.*

Valleylands

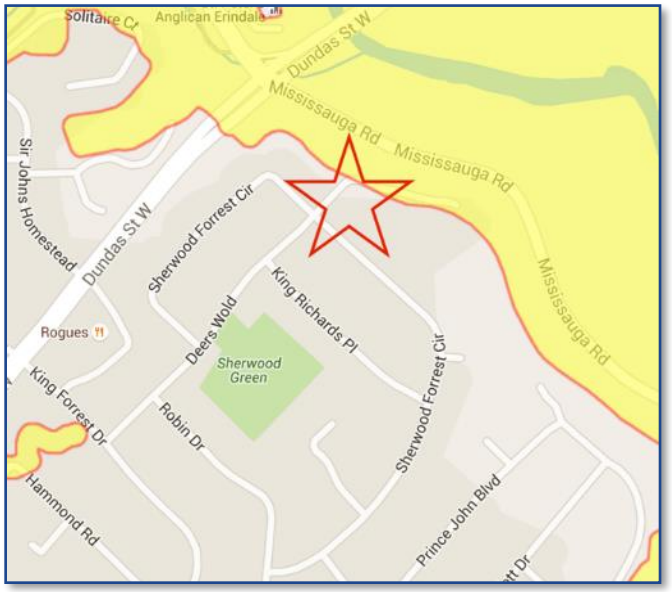
6.3.47 Development and site alteration will not be permitted within erosion hazards associated with valleyland and watercourse features. In addition, development and site alteration must provide appropriate buffer to erosion hazards, as established to the satisfaction to the City and appropriate conservation authority.

6.3.48 Development adjacent to valleyland and watercourse features may be required to be supported by detailed slope stability and stream erosion studies, where appropriate.

2.6 Credit Valley Conservation Policies and Regulations

The CVC regulates hazard lands including watercourses, valleylands, shorelines, and wetlands, including lands adjacent to these features under the *Conservation Authorities Act* through Ontario Regulation 41/24 – *Prohibited Activities, Exemptions and Permits*.

There are regulated lands on the property associated with the steep forested slope along the east side of the site (**Map E**). The associated CVC policies, regulations and permitting will therefore apply and approvals will be required from the agency.



Map E: CVC Regulation Limits in the vicinity of the Subject Property

3. Study Approach

3.1 Background Review and Agency Liaison

Palmer has initiated agency consultation (i.e., requests for background information) and reviewed relevant background material to provide a focus to field investigations and ensure compliance with regulations and policy (**Appendix A**). Background review and agency liaison included the following:

- Collection and review of relevant mapping and reports, including Official Plans and Natural Heritage Information Centre (NHIC) Make-a-map application for species occurrences and designated area mapping.
- The CVC and Ministry of Natural Resources and Forestry (MNRF), Aurora District office, were previously contacted for natural heritage information in the general study area.
- Correspondence with Ministry of the Environment, Conservation and Parks (MECP) occurred February and March of 2024 to verify building demolition, previously potential SAR bat habitat.

3.2 Ecological Inventory

Palmer ecologists visited the Subject Property for a reconnaissance review on November 10, 2015 and May 15, 2017, with more detailed field investigations completed on June 10, June 24, and August 22, 2017. An additional tree inventory site visit was conducted on January 19, 2021. Further surveys were conducted on June 16 and June 26, 2023. Survey methods are described below.

3.2.1 Vegetation and Flora

Vegetation communities were mapped and described following the Ecological Land Classification (ELC) System for Southern Ontario (Lee, et al., 1998). Vegetation community boundaries were delineated on field maps through the interpretation of recent aerial photographs and refined in the field. 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 on May 15 and August 23, 2017, and June 26, 2023. Local plant rarity status for Mississauga is based on CVC/Peel species ranks (Credit Valley Conservation Authority, 2002). Provincial plant status was based on the Provincially Rare Flora of Ontario (Oldham & Brinker, 2009) and the Natural Heritage Information Centre. Searches for Butternut (an Endangered tree species) were completed during the botanical surveys.

3.2.2 Breeding Bird Survey

Breeding bird surveys were conducted on the Subject Property on June 10, 2017 and June 24, 2017 to document the bird communities in the following habitats and locations: (i) residential yard/lawn, (ii) wooded ravine, and (iii) flyovers and adjacent areas. Surveys were carried out between 08:50 and 10:15 h to coincide with the dawn chorus. Weather conditions during the surveys were 0-95% overcast, with calm to

gentle breezes, no precipitation, and temperatures from 15-21°C. Additional surveys were conducted on June 16 and June 26, 2023 between 06:16 and 09:14 h to coincide with the dawn chorus. Weather conditions during the surveys were partly cloudy to overcast, with calm to gentle breezes, no precipitation, and temperatures from 14-19°C.

3.2.3 Other Wildlife

Any wildlife or evidence of wildlife, including nests, tracks, scat observed during the ecological inventories was recorded.

3.2.4 Tree Inventory

A tree inventory was completed for all trees greater than 10 cm DBH within and directly adjacent to the proposed work areas, in accordance with the City of Mississauga *Terms of Reference* (City of Mississauga, 2019). Information collected during the inventory includes species scientific and common names, tree tag number, DBH, location, crown spread, a general health assessment (structure, vigour and overall), and notes on tree trunk and canopy conditions. Trees located on the Subject Property were inventoried on August 22, 2017 and trees directly adjacent to the Subject Property were inventoried from the Subject Property on January 19, 2021. Trees adjacent to the Subject Property were assigned identification letters (i.e., AA – AZ and BA – BL) and were not physically tagged due to access limitations. On June 16, 2023 the general location and condition of the trees were verified to be similar to the 2017 inventory. Tree growth is variable between species; however, existing data was used as the new development plan generally provides for a discrete division between trees to retain versus those requiring removal, regardless of size.

3.2.5 Species at Risk Surveys

For the purposes of this report, Species at Risk (SAR) include species listed as Endangered, Threatened or Special Concern under Ontario's *ESA.* Prior to fieldwork, existing SAR records were queried through correspondence with Aurora MNRF, the NHIC database and other online resources. Habitat opportunities for SAR on the site were then assessed by comparing habitat preferences of species deemed to have potential to occur, against current site conditions. The SAR identified by the MNRF as being recorded in the vicinity of the site, those noted during the NHIC search and others known through professional experience to have potential to occur in urban environments were considered in the assessment and those noted through online atlas resources have been recorded within 10 km of the site.

3.2.5.1 Bat Exit Survey

The existing buildings were identified as potential habitat for Endangered bats. A bat habitat screening on April 3, 2018 of the existing building structures identified several holes leading into the buildings on the Subject Property. A subsequent survey during the active bat roosting period was completed to identify presence or absence of potential suitable habitat.

The bat exit survey was conducted on the evening of June 26, 2018 by two Palmer ecologists around each of the buildings (**Figure 2**). The weather conditions consisted of no rain, a consistent temperature of 18°C, Beaufort Sky Code of 1 (partly cloudy or variable) and a Beaufort Wind Scale ranging from 2 (slight breeze) to 3 (gentle breeze) throughout the evening.

The bat exit survey was conducted following the *Use of Buildings and Isolated Trees by Species at Risk Bats Survey Methodology* produced by the Ministry of Natural Resources and Forestry (MNRF) Guelph District (Ministry of Natural Resources and Forestry, 2014). A *Wildlife Acoustics Echo Meter Touch* hand-held bat detector (heterodyne) was used in conjunction with visual exit surveys to alert the observers to the presence of bat echolocation and to assist in the identification of species. The structures were monitored from 30 minutes before dusk until 60 minutes after dusk for evidence of bats exiting.

3.2.5.2 Bat Building Inspection

The client has obtained a demolition permit with plans to start demolition on both buildings March 22, 2024. In order to comply with the *Endangered Species Act*, a site visit was completed on March 12, 2024 to determine if there is any potential bat maternity roosting habitat within these structures proposed for removal. The purpose of this visit was to view the structural condition of the buildings, inspect the previously identified potential entry holes and search for any new potential entrance opportunities.

3.2.5.3 Chimney Swift Habitat Assessment

Old chimneys on the existing buildings were identified as potential habitat for the Threatened bird species, Chimney Swift (*Chaetura pelagica*). A chimney screening survey was conducted on April 3, 2018 to assess the presence/absence of suitable nesting habitat associated with the chimneys on the existing buildings. The survey entailed verifying if suitable chimneys were capped or open.

4. Existing Conditions

4.1 Site Description

The Subject Property is located to the south of Dundas Road West, west of Mississauga Road. Lands in the vicinity of the Subject Property are largely residential to the southwest of the property. There is a large, forested corridor associated with the Credit River Valley to the northeast, along a steep slope that parallels Mississauga Road. The manicured lawns, garden beds, building complexes and driveway on the Subject Property occupy much of the lands (**Photo 1**). There are no wetlands or aquatic features on the property.

Photo 1. ***Manicured lawn and building complex***

4.2 Physiography

The study area is located within the Iroquois Plain physiographic region (Chapman & Putnam, 1984). This area is characterized by a gentle slope extending back from the Lake Ontario Shoreline. This plain is the remnant shoreline of glacial Lake Iroquois, composed of a thin veneer of glacio-lacustrine sand and silty sand.

4.3 Vegetation and Flora

Field investigations identified two vegetation community types on site, consisting of deciduous forest and cultural woodland. Vegetation community boundaries are illustrated on **Figure 2** with detailed descriptions provided below. Groupings of trees outside of natural vegetation communities are identified on **Figure 2** and are described in detail in the Tree Preservation Report (**Appendix B**).

4.3.1 Vegetation Communities

FOD5-3: Dry-Fresh Sugar Maple - Oak Deciduous Forest Type

This forest community occurs along the northeastern portion of the Subject Property on a sleep slope towards Mississauga Road (**Figure 2, Photograph 2**). The community is characterized by a dense canopy of Sugar Maple (*Acer saccharum*) with some American Basswood (*Tilia americana*) and Wild Black Cherry (*Prunus serotina*). Canopy cover is greater than 60% with heights ranging from 15 to greater than 20 m. The sub-canopy exhibits low diversity, dominated by Sugar Maple. This layer is between 2 to 6 m in height and cover is between 25 to 60%. The sparse understory predominately includes Sugar Maple saplings, with Choke Cherry (*Prunus virginiana*) and some Green Ash (*Fraxinus pennsylvanica*), providing less than 10% cover at a height of 1 to 2 m. Sugar Maple seedlings are also dominant in the ground layer, with some invasive Garlic Mustard (*Alliaria petiolata*), providing typically 15 to 35% cover, and up to 90% in some

areas, at a height of 0.2 to 0.5 m. Evidence of erosion was identified on the slope from tableland drainage, as well as dumping of garden scraps, fallen branches, stones and some refuse.

Photo 2. Dry-Fresh Sugar Maple – Oak Deciduous Forest (FOD5-3)

CUW1: Mineral Cultural Woodland

This community is located along the northwestern corner of the Subject Property, along Dundas Street West (**Figure 2**) and is characterized by a young to mid-aged moderately closed canopy of White Ash (*Fraxinus americana*), Black Walnut (*Juglans nigra*) and Norway Maple (*Acer platanoides*) (**Photo 3)**, providing 35 to 60% cover at a height of 6 to 15 m. The dense sub-canopy is predominately Staghorn Sumac (*Rhus typhina*) with some Manitoba Maple (*Acer negundo*), providing great than 60% cover at a height of 2 to 6 m. Staghorn Sumac is the dominant species in the dense shrub layer, with lesser amounts of European Buckthorn (*Rhamnus cathartica*), and some Tartarian Honeysuckle (*Lonicera tatarica*). The shrub layer provides greater than 60% cover, at a height of 1 to 2 m. The herbaceous layer in this community is dominated over large areas by Garlic Mustard, with Riverbank Grape (*Vitis riparia*) and some Herb-robert (*Geranium robertianum*), providing 35 to 60% cover at a height of 0.2 to 0.5 m.

Photo 3. Mineral Cultural Woodland (CUW1)

4.3.2 Flora

A total of 60 species were recorded during field surveys. Of the identified species, only 30 (50%) are native, which is reflective of the low floristic quality of the site, and indicative of higher levels of disturbance. The site has a higher-than-average percentage of non-native species for a specific site when compared with Ontario, which has about 25% non-native flora (Morton & Venn, 1984). Non-native species were recorded from all vegetation community types. Several highly invasive species were observed on the Subject Property, including Tartarian Honeysuckle, Common Buckthorn, and Garlic Mustard. Non-native species were abundant along the edge of the forest area and the cultural woodland.

Pale Jewelweed (*Impatiens pallida*) is the only species on the site with a CVC/Peel rank of rare (a species that occurs at fewer than eleven locations within the watershed and in Peel) (Credit Valley Conservation Authority, 2002). This species was found along the slope in the FOD5-3 community outside of the area of proposed development. CVC provided a list of rare species records for the general vicinity of the study area, none of which occur within or directly adjacent to the Subject Property. None of the recorded species are provincially rare (Oldham & Brinker, 2009; Ministry of Natural Resources and Forestry, 2023). A plant list for the Subject Property is provided in **Appendix C**. No Butternut trees were observed during the surveys.

4.3.3 CVC Restoration Plantings

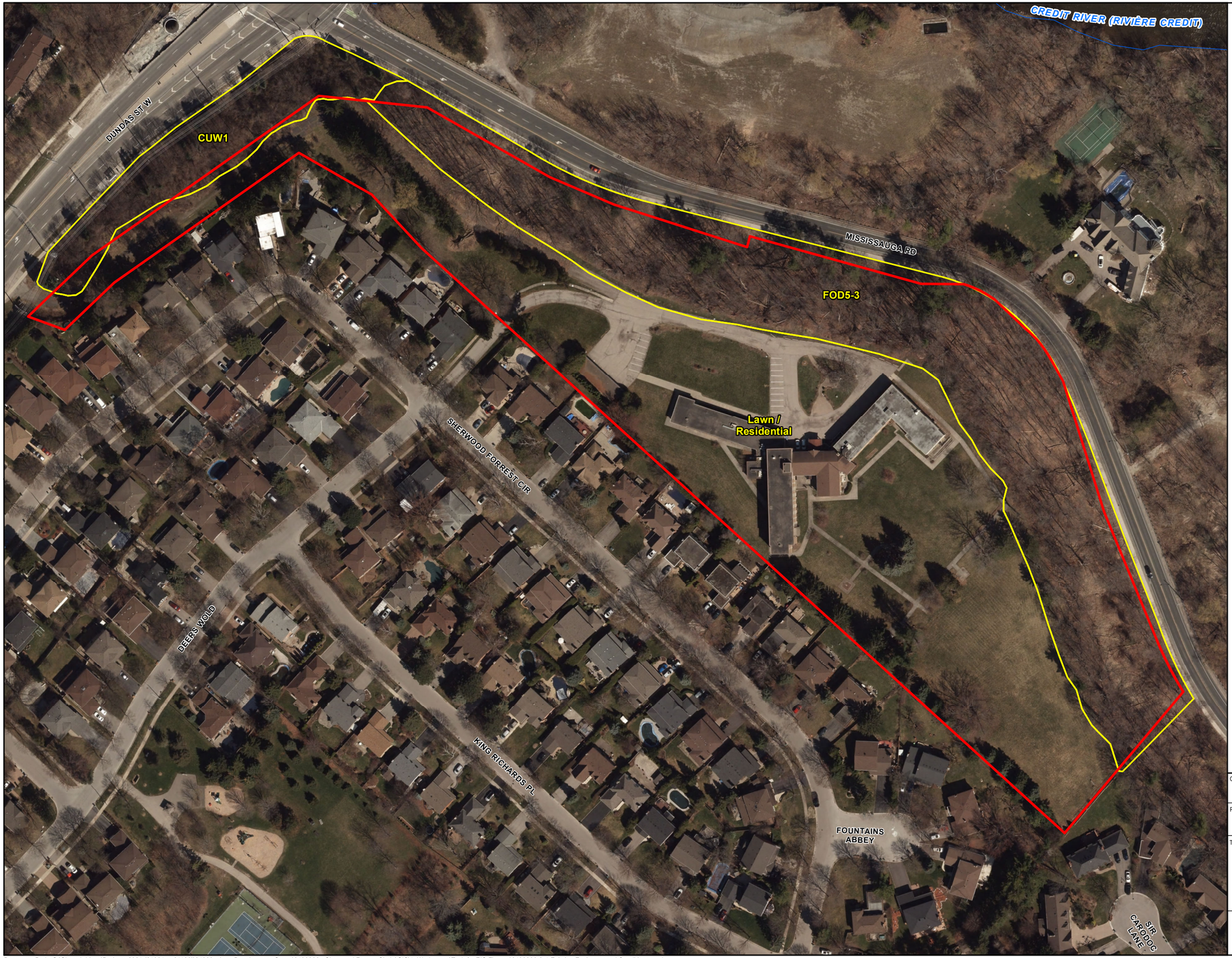
In 2019, Credit Valley Conservation (CVC) planted 179 individual tree saplings and shrubs along the top edge of the FOD5-3 to prevent erosion (**Appendix A**). Ten native tree species and one native shrub species

were planted (**Table 1**). Species were randomly mixed throughout the planting area with a 2-3 m spacing. The CVC suggested monitoring after year two of planting to assess survival and competition. During Palmer's summer 2023 field investigations, approximately one third the plantings were observed to be dead or poor condition due to severe trunk lean, dieback and competition (**Photo 4**). These plantings will be retained or replanted within the 10 m development buffer to the degree feasible.

Table 1. CVC Restoration Plantings

Species	Common Name	# of Plantings
Acer saccharum	Sugar Maple	15
Quercus alba	White Oak	15
Quercus macrocarpa	Bur Oak	15
Quercus rubra	Red Oak	20
Tilia americana	Basswood	15
Picea glauca	White Spruce	31
Pinus strobus	White Pine	33
Rubus odoratus	Purple Flowering Raspberry	15
Populus deltoides	Cottonwood	5
Betula alleghaniensis	Yellow Birch	10
Populus balsamifera	Balsam Poplar	5
Total		**179**

Photo 4. Restoration Plantings along FOD5-3



LEGEND

- Waterbody [1]
- Ecological Landscape Classification (ELC)
- Study Area

ELC Legend:

Terrestrial Systems

Forest (FO)

FOD5-3: Dry-Fresh Sugar Maple-Oak Deciduous Forest Type

Cultural (CU)

CUW1 - Mineral Cultural Woodland

1 - Land Information Ontario (LIO)

0 25 50 75 100

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:1,600
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: May 17, 2024

NORTH

Source Notes:
Base imagery (2020) provided by Peell region open GIS services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT: Argo Development Group

PROJECT: Sherwood Forrest Circle

TITLE: **Existing Environmental Conditions**

Palmer PART OF SLR

REF. NO. 2100803-2-1

Figure 2

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21008 - Argo Development Group\2100803 - Sherwood Forrest Circle\GIS\1_Workspace\Task 2 - EIS Figures\2100803-2-1-Existing Environmental Conditions.mxd

4.4 Breeding Birds

A total of 24 bird species were documented on the property, which are listed in **Appendix D**. Most of the birds recorded on the property are considered common in Peel Region. The most common species found on the property included birds characteristic of residential yards, such as Common Grackle (*Quiscalus quiscula*), American Robin (*Turdus migratorius*), House Sparrow (*Passer domesticus*), Blue Jay (*Cyanocitta cristata*), American Goldfinch (*Cardeulis tristis*) and European Starling (*Sturnus vulgaris*). Some birds present on the Subject Property are more specifically associated with woodlands; these include Great Crested Flycatcher (*Myiarchus crinitus*) and Northern Flicker (*Colaptes auratus*).

Area-sensitive species are those which either require large areas of continuous habitat for breeding and foraging, or which are more productive in larger areas. Specific habitat requirements vary by species. Two area-sensitive species were found on the property: Red-breasted Nuthatch (*Sitta canadensis*) and White-breasted Nuthatch (*Sitta carolinensis*). Red-breasted Nuthatch nest in coniferous and mixed wood forests typically in a tree cavity of decaying coniferous tree with dbh >12 cm and thus requires a coniferous component to its habitat. It is most abundant in mature woods and relatively dense forests and nests in forest interior, requiring at least 10 ha of forest (Ontario Ministry of Natural Resources, 2000). Two Red-breasted Nuthatch individuals were recorded during both breeding bird survey visits in 2017 within the wooded ravine area of the property. White-breasted Nuthatch nest in natural cavities in trees with dbh >30 cm in mature, broad-leafed woodland, orchards, or shade trees in suburban and rural areas. It needs at least 10 ha or more of continuous forest and tolerates mixed forest (Ontario Ministry of Natural Resources, 2000). One or two White-breasted Nuthatch individuals were recorded during all four breeding bird survey visits in the residential yard and wooded ravine areas of the property.

No Species at Risk birds were found on the property. An active raptor stick nest was observed in 2017 outside of the property east of Mississauga Road; however, the species could not be confirmed.

4.5 Incidental Wildlife

The following species were incidentally observed during the field investigations include:

- Eastern Chipmunk (*Tamias striatus*) – observed in the Deciduous Forest
- Eastern Cottontail (*Sylvilagus floridanus*) – observed in the Cultural Woodland;
- Eastern Grey Squirrel (*Sciurus carolinensis*) – observed in the Deciduous Forest; and
- Monarch (*Danaus plexippus*) – observed within the Lawn/Residential area.

4.6 Tree Inventory

Palmer has updated the previously completed a separate report, *Sherwood Forrest Circle Arborist Tree Preservation and Protection Report* (Palmer, 2024) which outlines all trees inventoried and trees to be retained or removed to accommodate the updated development plan. The results of the tree inventory are included in **Appendix B**.

4.7 Species at Risk Habitat Assessment

Prior to field investigations, a background review was completed for potential SAR habitat opportunities. The NHIC database, the Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada, 2023), the Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2023), and the Ontario Butterfly Atlas (OBA) (Toronto Entomologists Association, 2019) were screened for SAR records.

Based on available background information and profession knowledge, 26 species including: 15 bird species, four herptiles, four mammals, one insect, one plant and one fish species were screened for potential SAR habitat opportunities. The assessment was conducted by comparing habitat preferences of species deemed to have potential to occur against current site conditions. This SAR habitat assessment can be found in **Appendix E** and provides a detailed description of each species' habitat (including those deemed to not have potential habitat on or adjacent to the Subject Property), as well as a discussion of habitat suitability within the Subject Property, potential impacts, and mitigation, where applicable. One SAR, Monarch (Special Concern) was observed foraging during field investigations within the Subject Property.

4.7.1 Bat Exit Surveys

A bat habitat screening survey of the existing buildings was completed by searching for entry holes in the structures. Four potentially suitable entry/exit holes were noted (**Figure 2**). The survey data for each potentially suitable entry/exit holes is provided below.

Location 1 and 2

The existing garage is an old building with a flat roof. During the garage screening survey, two potential bat entries were found leading into the building. Both were holes behind eavestroughs on opposite corners of the south side of the building (**Photos 5 and 6**).

Photos 5 and 6. Holes behind the eavestroughs of garage

Location 3
One hole was observed is facing south and located about 3 meters off the ground on the main residential building (**Photo 7**).

Location 4
Three holes noted to be circular and clustered together on an old wooden section of the main residential building. Two of the holes (**Photo 8**) are in a vertical line, one just below the roof and the other about 6 meters above ground. The last hole (**Photo 9**) is about 5.5 meters from the ground.

There were no bats observed entering or exiting any of the holes during species-specific exit surveys; however, there were two bats seen flying overhead of the main building. The species could not be identified visually or by the *Wildlife Acoustics Echo Meter Touch*. Although these holes provide entrances to potential habitat, there were no bats observed entering or exiting during the survey and therefore the buildings do not appear to provide bat maternity roost habitat. As the buildings are in close proximity to the forested ravine to the north and east, it is possible that the observed bats were utilizing snag trees in the forest.

Photos 7 to 9. Possible bat roosting holes in the main residential building

4.7.2 Bat Building Inspection

It was observed that all entrances and windows on both the residential building and garage were boarded, sealed and/or closed with no access to bats. A visual survey of the perimeter of both structures was completed. No new potential entry holes were observed. The previous six potential entry holes were located and observed to be spray foamed and/or boarded close with no access to bats (**Photo 10**).

The interior of the residential building was surveyed at the four locations previously identified with potential entry holes to verify the exterior closure methods are effective. These holes were confirmed to be closed and inaccessible to bat. There was also no evidence in the areas surrounding the potential entry holes (guano, scratching) to suggest bats were previously present. The client, ARGO Development Corporation,

stated all potential entry holes were closed in November 2023 while internal demolition occurred to remove designated substances (Asbestos). Closure of potential entry holes was completed outside the bat active timing window to ensure no individual bats were trapped inside the structures.

MECP reviewed Palmer's SAR Bat Building Inspection Memo and commented on March 14, 2024, "*if you believe that there is no evidence of bats using the buildings as habitat, and there are no openings for them to use the buildings as maternity roost habitat, you may go ahead with the building demolition"* (Ministry of the Environment, Conservation and Parks, 2024).

Photo 10. Potential entry hole within the masonry has been closed with spray foam.

4.7.3 Chimney Swift Habitat Assessment

A single chimney was identified as potentially suitable nesting habitat for Chimney Swift. The single chimney on the main residential building was inspected to determine whether the chimney was capped or open. It was observed that the chimney is capped and does not provide any opportunity for nesting for Chimney Swifts (**Photo 11**). The chimney remained capped prior to demolition.

Photo 11. Capped chimney on the main building

5. Significant Natural Heritage Features

5.1 Natural Environment Designated Areas

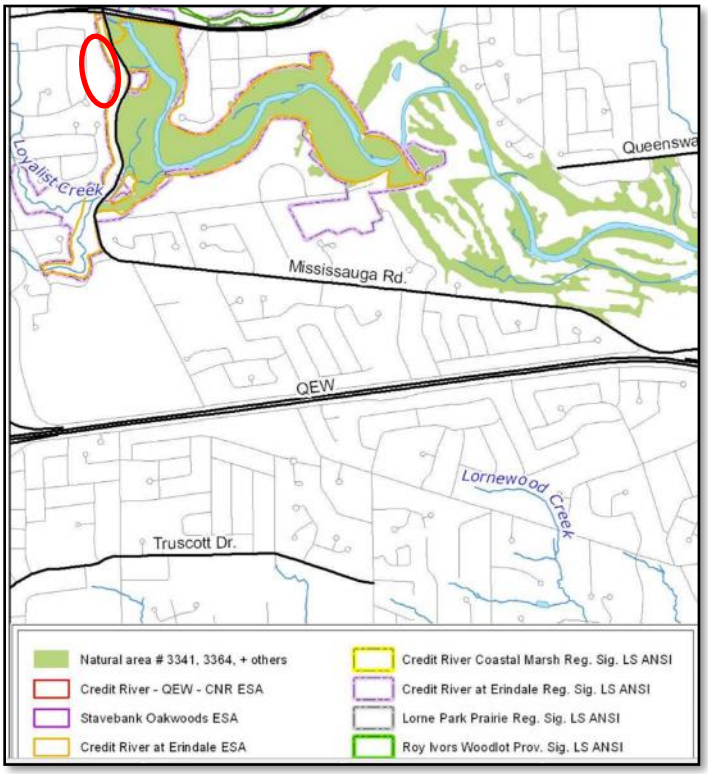
Designated areas are environmentally significant features that are identified by provincial or local authorities, such as provincial plan areas (e.g., Greenbelt Plan), Provincially Significant Wetlands, Areas of Natural and Scientific Interest, and components of regional or municipal natural heritage systems or other significant areas identified in Official Plans.

The forested valley corridor that extends into the northern and eastern limits of the Subject Property occurs within the Credit River at Erindale Regionally Significant Life Science ANSI and the Credit River at Erindale ESA (valley related) (**Map F**). City of Mississauga Official Plan schedules show this forested corridor as part of the 'Core Areas' of Peel (Regional Official Plan Schedule C2) and 'Significant Natural Areas' of the Natural Heritage System (City Official Plan Schedule 3). Palmer has assumed that the ANSI/ESA/Core Area feature boundary is the same as the Significant Woodland boundary as staked by CVC and as discussed below.

The forested valley corridor is part of Natural Area Site CRR7 under the City of Mississauga Natural Areas Survey (2021). The study classifies this area as a significant natural area on the basis of the large natural area, environmental designated areas and SAR and other rare species it supports. The Natural Areas Survey lists the importance of this area as a natural corridor in the city for the movement of birds and animals.

Guidance for identifying and evaluating natural features and determining constraints is provided by Official Plan policies, the Natural Heritage Reference Manual (Ontario Ministry of Natural Resources, 2010), and

CVC regulations and policy. A summary and evaluation of the potential significance, functions and sensitivity of existing features on site is provided below.



Map F: Credit River Coastal Marshes Context Map (Credit River Watershed and Region of Peel Natural Areas Inventory 2021)

5.2 Woodlands

Criteria for determining woodland significance are provided in the Region of Peel Official Plan, City of Mississauga Official Plan and in the Natural Heritage Reference Manual (NHRM) (OMNR, 2010).

The forest community on the east side of the Subject Property is considered significant woodland and a component of the Natural Heritage System, as the woodland meets at least one of the criteria for designation as significant, as defined by regional and city Official Plans and the NHRM. The vegetation community within the Subject Property (CUW1 on **Figure 2**) along the northwestern part of the property has been designated as part of the significant woodland, per the City of Mississauga's Greenland policies (section *6.3.12 f)*.

5.3 Significant Valleylands

Significant valleylands are associated with the main branches, major tributaries and other tributaries and watercourse corridors draining directly to Lake Ontario including the Credit River, Etobicoke Creek, Mimico Creek and Sixteen Mile Creek. The limits of the valleyland have been determined in consultation with the

CVC, and combine the Top of Slope, Long Term Stable Top of Slope (LTSTOS) and woodland dripline (**Figure 2**). This slope is separated from the Credit River by Mississauga Road and a secondary tableland.

5.4 Species at Risk

The habitat suitability screening for SAR within the Subject Property has been prepared based on background information and existing conditions recorded on Subject Property (**Appendix D**) and Section 4.7.

Potential habitat for four Endangered bats species was identified associated with the existing buildings, as well as woodland trees and isolated trees. However, both buildings were found to be absent of bat roosting habitat and the buildings are actively being demolished. The results of the SAR screening indicate that there is potential for bats to utilize the forest slope. There is no development proposed in this woodland as it is protected.

One Monarch was observed during field survey on August 23, 2017; however, this species relies on Common Milkweed (*Asclepias syriaca*) as a nectar species, which were not identified within the Subject Property. Although potentially suitable wooded habitat for Eastern Wood-Pewee and Wood Thrush are present on the property, these species were not recorded during breeding bird surveys, thus they are not present.

5.5 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) is considered a significant feature in Provincial, Regional, and Municipal (City of Mississauga) policies. Significant Wildlife Habitat (SWH) 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* (Ontario Ministry of Natural Resources and Forestry, 2015).

Potential for SWH on the site is limited to the forested slope (FOD5-3) given that the remainder of the Subject Property is anthropogenic (**Appendix F**). Potential SWH for Bat Maternity Colonies was determined to be potentially present in association with forested slope. The forested valley corridor is also part of Natural Area Site CRR7 under the City of Mississauga Natural Areas Survey (2021), which lists the importance of this area as a natural corridor in the city for the movement of birds and animals. Thus, the forested valley is a SWH based on the Ecoregion Schedule which states '*Animal Movement Corridors should only be identified as SWH where: a confirmed or candidate SWH has been identified by MNRF or the planning authority based on documented evidence or a habitat identified within these Criterion Schedules or the Significant Wildlife Habitat Technical Guide*'.

An updated SWH assessment was requested using the Criteria as per Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study - North-South Environmental (2009) (**Appendix G**). This assessment uses the same four categories listed above with additional subsections. One confirmed SWH, Forests Providing a High Diversity of Habitats, is associated with the forested slope (FOD5-3) due to its significant woodland status.

6. Proposed Development

The proposed development includes 56 homes and associated road system (**Figure 3**). The existing buildings are proposed to be demolished to allow for the construction of the new buildings. Most development will be within the previously developed tablelands. A 10 m setback has been established for the adjacent Natural Heritage System (**Figure 3**). No hard-surface development are within the 10 m setback; however, there will be minor fill placement in certain areas (~0 – 30 cm) to allow for matching of grades. This fill will be naturalized per the restoration plan (Section 7.2.2). In previous submissions, stormwater outfalls were located within the Natural Heritage System. These plans have been abandoned in favour of stormwater and forcemains to be located along the existing access to Dundas Street West, including a stormwater tank in the adjacent open space lands. This existing laneway will also be used as a temporary access during construction, but will be abandoned post-construction and the area included in the NHS setback restoration.

The site will be accessible from the existing laneway at Sherwood Forrest Circle. The Sherwood Forrest Circle access is proposed to be widened to allow for a local entrance and exit and servicing of the Subject Property.

7. Impact Assessment and Mitigation

Given the location of the proposed development within an area supporting an existing building complex and associated paved area with manicured lawns and garden beds, efforts have been made to maintain as much natural vegetation as possible. The quantity of vegetation removal is 62 individual trees.

There are no rare or highly sensitive species of flora recorded within the Subject Property that could be affected by the development. The removal of planted landscape trees and shrubs (outside of natural vegetation communities) are proposed to be mitigated with replacement plantings described in the Arborist Tree Preservation and Protection Report (**Appendix B**).

There will be no development or encroachment into features designated as part of the Region of Peel or the City of Mississauga's natural heritage system including any natural vegetation community identified on the Subject Property (i.e., significant woodland – FOD5-3). The design of the subdivision considers and avoids the 10 m setback to natural features (**Figure 3**). However, there will be minor fill placement in certain areas of the setback (~0 – 30 cm) to allow for matching of grades. This fill will be naturalized per the restoration plan. This amount of fill is not predicted to create appreciable differences to well-established trees. No fill is to be placed where most of the existing CVC plantings are located (see cross-section 9 on Grading Plan 204). However, some plantings may need to be replanted as part of the restoration. Note that the current condition of these trees is variable, with about 1/3 in poor to dead condition (Section 4.3.3).

The existing laneway from Dundas Street is adjacent to the NHS, as shown by the natural feature staking completed with the CVC (**Figure 3**). Now that stormwater outlets have been removed from the NHS, storm water mains and forcemains will be located within the existing laneway to Dundas Street. As shown in the Arborist Report (Palmer, 2024), this strategy avoids the Tree Protection Zone (TPZ) of adjacent trees. Post-Construction, the laneway will be abandoned and naturalized as part of the 10 m setback.

There are existing hard surfaces adjacent to the 10 m setback on the tablelands and also the existing laneway to Dundas Street, It is recommended that any removal of existing asphalt within or adjacent to TPZs be hand dug where feasible to minimize impacts to roots.

In compliance with the Migratory Bird Convention Act, vegetation removal should be avoided within the “regional nesting period” for this area (April 1 to August 31).

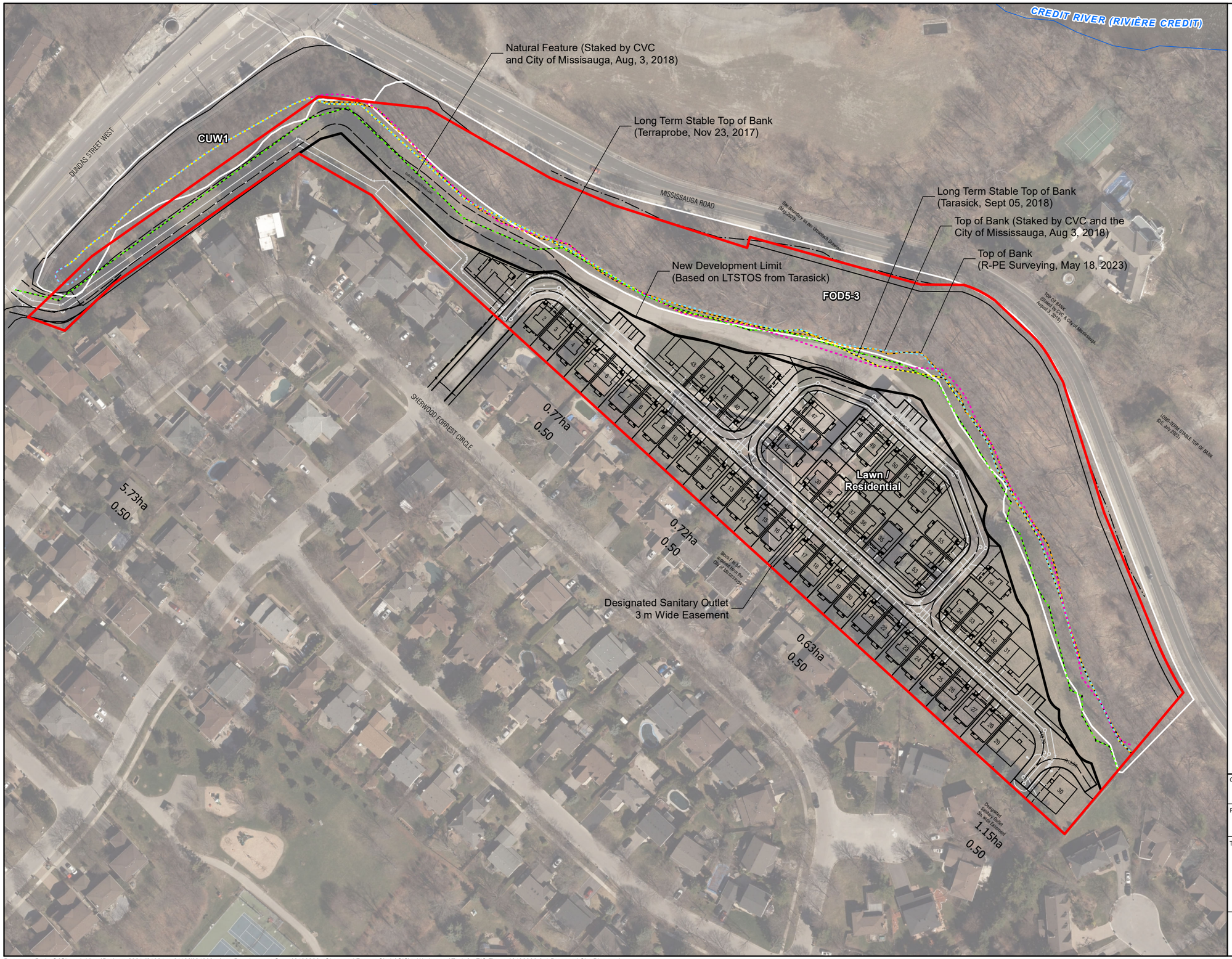
7.1 Top of Slope Setback

The siting of the development, especially in the areas abutting the valley slope, has been influenced by the long-term stability and erosion risks, and therefore a slope stability study and erosion risk assessment were carried out by Terraprobe (2017), Tarasick (2018) and R-PE Surveying (2023) to help establish the hazard zone associated with the valley land and the development limit.

The Long-Term Stable Top of Slope location is shown in **Figure 3**. In accordance with the CVC Watershed Planning and Regulation Policies (Credit Valley Conservation Authority, 2010) and based on the findings of the slope stability study, a 10 m setback is required from the greater of the staked top of bank and the Long-term Stable Top of Slope. The development footprint is proposed to generally accommodate the minimum of 10 m setback (**Figure 3**).

7.1.1 Setback Protection

The development adjacent to the NHS may encourage encroachment and use of the slope. In review, the City outlines that standard City fencing helps to reduce long-term impacts including yard waste dumping, formation of ad-hoc trails, free roaming pets from entering the Significant Woodland/Significant Valleyland. To ensure long-term protection of the Significant Woodland and its 10 m setback, chain link fencing should be installed according to City Standards along the entire planted buffer edge following construction. The recommendation is a 1.5 m black vinyl chain-link fence at a 0.15 m offset from the future property line, entirely on future municipal lands.



LEGEND

- Long Term Stable Top of Bank (Tarasick, Sept 05, 2018)
- Long Term Stable Top of Bank (Terraprobe, Nov 23, 2017)
- Top of Bank (Staked by CVC and the city of Mississauga, Aug 3, 2018)
- Top of Bank (R-PE Surveying, May 18, 2023)
- Natural Feature (Staked by CVC and City of Missisauga, Aug, 3, 2018)
- New Development Limit (Based on LTSTOS from Tarasick)
- Waterbody [1]
- Ecological Landscape Classification (ELC)
- Development Plan
- Study Area

ELC Legend:

Terrestrial Systems
Forest (FO)
FOD5-3: Dry-Fresh Sugar Maple-Oak Deciduous Forest Type
Cultural (CU)
CUW1 - Mineral Cultural Woodland

1 - Land Information Ontario (LIO)

0 25 50 75 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:1,600
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: May 17, 2024

NORTH

Source Notes:
Base imagery (2020) provided by Peell region open GIS services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Argo Development Group

PROJECT
Sherwood Forrest Circle

TITLE
Proposed Site Plan

Palmer | PART OF SLR

REF. NO. 2100803-3-3

Figure 3

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21008 - Argo Development Group\2100803 - Sherwood Forrest Circle\GIS\1_Workspace\Task 2 - EIS Figures\2100803-3-1-Proposed Site Plan.mxd

7.2 Woodland Buffer

Buffers are generally defined as vegetated areas of land between development areas and sensitive natural features within which no or limited site alteration may occur. Buffers function to protect the features and functions within the woodland community by way of creating a biophysical barrier between adjacent land use, such as a development, and the natural feature.

Per CVC's buffer requirements, a 10 m buffer is proposed for the protection of the majority of significant woodland (**Figure 3**). It is expected that a 10 m buffer for the significant woodland will protect the following ecological functions:

- Slope stability, sediment retention and moderate (due to slope) surface water infiltration
- Woodland habitat for forest birds and plants
- Wildlife movement corridor and linkage

The Mineral Cultural Woodland (CUW1) located parallel to Dundas Street will be retained and no impacts to this community are expected due to the proposed abandonment of the Dundas St. West entranceway. Pavement along the abandoned lane will be removed prior to servicing installation; this should be completed with hand tools to preserve the adjacent root systems. Post installation of servicing, enhancement plantings of this entranceway will connect cultural woodland in the northwest portion of the property to the FOD5-3 Significant Woodland, increasing the natural area.

7.2.1 Buffer Functions

The goal for establishing a functional buffer for the Subject Property is to protect the natural features and maintain the ecological functions of the woodland. Depending on existing conditions, buffer functions can be enhanced. Many of the areas adjacent to the woodland edge have existing paved roads or walkways. These conditions limit infiltration, increase surface water run-off into the woodland, and restrict vegetation and edge protection functions; the implementation of a buffer provides an opportunity to mitigate these effects. Tree compensation planting may be located next to the CUW1, which will lead to an overall increase the natural cover and native biodiversity.

7.2.2 Buffer Enhancement Plantings

To further support the proposed buffer enhancements and achieve the intended woodland protection functions, the planting plan should include the following items:

- Soil decompaction (where appropriate) and enriching soils with organics (e.g., compost/mulch). This activity would be integrated with the placement of ~0 – 30 cm of fill in certain areas of the 10 m setback, as necessary to match existing to built grades. Any fill should be weed-free certified.
- Site restoration preparation activities including early control of erosion issues (e.g., fencing or other means, as considered necessary), removal of woody and other debris that is currently within the forest edge and selected management of invasive species.

- Consideration for the existing CVC restoration plantings. These should be kept in place to the degree feasible, or alternatively replanted as part of the restoration. Note that about a third of the plantings have died or are in poor condition (Section 4.3.3).
- Establishment of a barrier and sediment/erosion control fencing and regular environmental inspection during construction.
- Completion of the vegetation planting as early as possible using a combination of native trees, shrubs and seed to achieve an area of *natural, self-sustaining vegetation*.
- Continued management (tending, below) of the woodland and monitoring of the plantings.

Seeding

- The seed mix should be applied at a rate of 22 - 25 kg/ha. Seed mixes should be used in conjunction with an appropriate cover crop (Credit Valley Conservation Authority, 2018).
- The area to be seeded is approximately 0.7 ha, requiring an estimated 17.5 kg of native seed, and nurse crop cover.
- Native seed mixes should be planted in fall (typically October 15 to November 15).
- To establish native perennials on the expected soil types, the recommended seed mix is the CVC 1 – Upland Mix (Credit Valley Conservation Authority, 2018).

Table 2. CVC 1 – Upland Seed Mix

Scientific Name	Common Name	Percentage of Mix
Anemone canadensis	*Canada Anemone*	1
Asclepias syriaca	*Common Milkweed*	2
Carex granularis	*Limestone Meadow Sedge*	15
Elymus virginicus var. virginicus	*Virginia Wildrye*	40
Euthamia graminifolia	*Grass-leaved Goldenrod*	1
Monarda fistulosa var. fistulosa	*Wild Bergamot*	1
Oenothera biennis	*Common Evening Primrose*	25
Rudbeckia hirta	*Black Eyed Susan*	10
Solidago canadensis var. canadensis	*Canada Goldenrod*	1
Solidago juncea	*Early Goldenrod*	1
Solidago nemoralis ssp. nemoralis	*Gray-stemmed Goldenrod*	1
Symphyotrichum novae-angliae	*New England Aster*	1
Verbena urticifolia	*White Vervain*	1

Tree and Shrub Planting

- Tree planting density of 1,200 trees per hectare and shrub planting density of 10,000 shrubs per hectare
- The 10 m Setback Restoration Area is approximately 0.7 ha, and 840 trees and 7,000 shrubs have been recommended for planting (**Table 3**).
- CVC recommends trees are to be a minimum of 1.5 meters tall and shrubs at minimum 75 cm tall
- Tree placement has been randomized to mimic a natural area, be trees are recommended to be placed generally in pairs or groups, to promote reproduction potential while providing a degree of

separation should disease or infestation occur. Shrubs have been suggested to be planted in groups of 5 to 6 for similar reasons.

- Shrubs are to be interspersed between the trees to provide a natural stratum.
- Substitutions are permissible, but must be native to Ontario and appropriate for site conditions.

Table 3. Recommended Plantings

Common Name	Scientific Name	Quantity	Size
Trees			
American Beech	*Fagus grandifolia*	120	1.5 meters tall
Black Walnut	*Juglans nigra*	120	1.5 meters tall
Black Cherry	*Prunus serotina*	120	1.5 meters tall
Eastern White Pine	*Pinus strobus*	120	1.5 meters tall
Eastern Hop-Hornbeam/Ironwood	*Ostrya virginiana*	120	1.5 meters tall
Northern Red Oak	*Quercus rubra*	120	1.5 meters tall
American Basswood	*Tilia americana*	120	1.5 meters tall
Shrubs			
Alternate-leaved Dogwood	*Cornus alternifolia*	1,000	75 cm tall
Beaked Hazelnut	*Corylus cornuta*	1,000	75 cm tall
Red Elderberry	*Sambucus racemosa*	1,000	75 cm tall
Pin Cherry	*Prunus pensylvanica*	1,000	75 cm tall
Downy Serviceberry	*Amelanchier arborea*	1,000	75 cm tall
Staghorn Sumac	*Rhus typhina*	1,000	75 cm tall
Canada Fly Honeysuckle	*Lonicera canadensis*	1,000	75 cm tall

Tending and Monitoring

- Irrigate as needed during the first growing season, especially in drought conditions.
- The project area should be mowed to 20 cm twice in the initial growing season (following spring) to control weeds as native seed establishes, and at least once in the second year.
- Mowing with hand-operated tools (non-motorized) may be required to avoid tree and shrub plantings.
- Hand removal of aggressive weeds may also be required.
- Monitoring of restoration establishment should be completed for a minimum of two growing seasons post-planting. Monitoring will be designed to assess the growth and establishment of the planted trees, ensuring that the conditions any nursery guarantees are met.
- Monitoring should assess plant health and vigour, and make replacement recommendations. A target of 80% survivorship should be achieved at the completion of monitoring.

Development Landscaping

In addition to this restoration plan, it is encouraged that native plant species be used in the formal landscaping throughout the proposed development and non-native invasive species be avoided.

7.3 Tree Removals

Tableland Vegetation

Any removal of trees is subject to the City's Private Tree Protection By-law (0021-2022) which "*protects and enhances Mississauga's existing tree cover while respecting a landowner's right to make changes to the landscape of their property in an environmentally responsible manner".* The requirements for replacement tree plantings are:

- One replacement tree is required for every 15 cm (6 inches) diameter of the private or public tree removed. For example, when a tree 45 cm (18 inches) diameter is removed, three replacement trees are required.
- Replacement trees must be **at least 1.8 m tall** if coniferous or **at least 6 cm in diameter** if deciduous.

Credit Valley Conservation has a separate replacement tree ratio for tree removals within regulated area lands. The tree inventory assessment and report (**Appendix B**) provides the total number of trees that have been identified for removal based on the proposed site plan. These plantings could be integrated as landscape plantings or replace a portion of the smaller stock recommended for the setback restoration (Section 7.2.2).

Oak Wilt

Oak wilt is a disease caused by fungus, resulting in tree death within a single season. Red Oaks are particularly susceptible and due to the presence of Bur Oak and Red Oak within the Subject Property, the Canadian Food Inspection Agency recommends avoiding pruning Oak trees between April and November (Government of Canada, 2023).

7.4 Species at Risk and Significant Wildlife Habitat

Based on results of the SAR habitat screening and bat exist surveys, there are no anticipated impacts to potentially present SAR or their habitats based on the proposed development plan.

Nevertheless, tree removal should be conducted outside of the bat maternity roosting period (early April to late October) to ensure compliance with the ESA. If tree removal during this period cannot be achieved, bat exit surveys using acoustic recording devices may be required prior to removal. If tree removals occur during the bat roosting period, further consultation with the MECP will likely be required and the outcome of those communications are to be shared with City of Mississauga Community Services and Forestry.

8. Policy Conformity

Provincial and Municipal Policy

According to the Provincial Policy Statement, Region of Peel and City of Mississauga OP policies, development is generally prohibited within significant natural heritage features as defined in those policies. The results of our assessment indicate that significant natural heritage features are present on the site but outside the area of proposed development. Thus, the development as proposed does not contravene the abovementioned policies.

The study area supports significant woodland (communities FOD5-3 shown on **Figure 2**) that has been identified by Peel Region and the City of Mississauga. This feature therefore qualifies as "significant" under the PPS. This feature occurs within the Credit River at Erindale Regionally Significant Life Science ANSI and the Credit River at Erindale ESA. The abandonment of the access trail in the north Subject Property presents an opportunity to extend and enhance this feature via enhancement plantings.

There are no other Provincially designated significant features found within the Subject Property based on background review and mapping. The Credit River is located approximately 100 m to the east of the study area. There are no aquatic features or fish habitat within or directly adjacent to the Subject Property. The steep slopes along the east side of the property could be considered part of a significant valleyland associated with the Credit River and will be protected by the identified buffer and setbacks.

Conservation Authorities Act

The Subject Property falls within the jurisdiction of the Credit Valley Conservation Authority (CVC). There are lands on the property associated within the steep forested slope along the east side of the site that are regulated under the CVC O.Reg. 160/06 – *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*. The associated CVC policies, regulations and permitting will therefore apply and approvals will be required from the agency.

Endangered Species Act

Based on the results of our field surveys, there are no SAR birds or their habitat is present within the areas of proposed development. The mitigation measures proposed in Section 7 (including further consultation with the MNRF) regarding to the possibility of bats should avoid contravention of the Act.

***Migratory Birds Convention Act* (MBCA)**

Works with potential MBCA implications will occur during the construction phase of the project when the Subject Property is cleared and grubbed of vegetation. Compliance with the MBCA may be achieved using the following due diligence approach:

- Proponent awareness of the MBCA and the potential for bird nesting in the area and for inadvertent impacts to migratory birds, nests and eggs
- Avoiding vegetation removal within the "regional nesting period" for this area (April 1 to August 31). Should vegetation removal be required during this period, a wildlife biologist will need to screen the area for nesting birds and advise of specific mitigation protection measures.

9. Conclusions and Recommendations

The findings of our study are the result of a background review, ecological field surveys, and an analysis of data using current scientific understanding of the ecology of the area, and natural heritage policy requirements. We have evaluated the environmental sensitivities, constraints and development opportunities of the Subject Property.

Based on the results of the EIS it is our professional opinion that the proposed development of the Draft Plan is environmentally feasible and would not result in a negative effect to the natural heritage features provided that the recommended mitigation and enhancement measures described in this report are implemented.

10. Certification

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

Prepared By:

Carly Houghton, B.E.S.
Ecologist, Certified Arborist

Approved By:

Austin Adams, M.Sc., EP
Senior Ecologist

11. References

Bird Studies Canada. (2023). *Atlas of the Breeding Birds of Ontario*. Retrieved from Atlas of the Breeding Birds of Ontario: http://www.birdsontario.org/atlas/index.jsp?lang=en

Chapman, L. J., & Putnam, D. F. (1984). *The Physiography of Southern Ontario - Third Edition. Ontario.*

City of Mississauga. (2019, April). *City of Mississauga - Terms of Reference.* Retrieved from Terms of Reference: Arborist Reports, Tree Inventory/Survey & Tree Preservation Plans : https://www7.mississauga.ca/documents/Business/Arborist_Report_Tree_Inventory__Tree_Preservation_Plans_-_Terms_of_Reference.pdf

City of Mississauga. (2023, March 3). *City of Mississauga Official Plan (March 3, 2023 Consolidation).* Retrieved from mississauga.ca: https://www.mississauga.ca/projects-and-strategies/strategies-and-plans/mississauga-official-plan/

City of Missussauga. (2021). *Natural Areas Survey - Site Crr7.* Retrieved from www6.mississauga.ca: http://www6.mississauga.ca/onlinemaps/planbldg/nas/Site_maps/CRR7.pdf

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

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

Credit Valley Conservation Authority. (2018). *Plant Selection Guideline.* Retrieved from cvc.ca: https://cvc.ca/wp-content/uploads/2018/04/Plant-Selection-Guideline-FINAL-APRIL-24th-2018.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 file:///C:/Users/Austin%20Adams/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/stdprod-101587%20(1).pdf

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

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.

Ministry of Natural Resources and Forestry. (2014). *Use of Buildings and Isolated Trees by Species at Risk Bats. Survey Methodology.* Guelph District.

Ministry of Natural Resources and Forestry. (2023). *Natural Heritage Information Centre Species Lists*. Retrieved from Ministry of Natural Resources and Forestry: https://www.ontario.ca/page/get-natural-heritage-information

Ministry of the Environment, Conservation and Parks. (2024). *Personal Correspondence (email) with Jonah Lehman, MECP.*

Morton, J. K., & Venn, J. M. (1984). *The Flora of Manitoulin Island. 2nd Ed. Biology Series No. 28.* Waterloo, Ontario: University of Waterloo.

Oldham, M. J., & Brinker, S. R. (2009). *Rare Vascular Plants of Ontario, Fourth Edition.* Peterborough, Ontario: Natural Heritage Information Centre, Ministry of Natural Resources.

Ontario Ministry of Municipal Affairs and Housing. (2020). *Provincial Policy Statement, 2020.* Toronto, ON. doi:ISBN 978-1-4606-3522-3

Ontario Ministry of Natural Resources. (2000). *Significant Wildlife Habitat Technical Guide.* Peterborough: Queen's printer for Ontario. Retrieved from https://www.ontario.ca/document/guide-significant-wildlife-habitat

Ontario Ministry of Natural Resources. (2010). *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.* Toronto: Queen's Printer for Ontario. Retrieved from http://cloca.ca/resources/Outside%20documents/Natural%20Heritage%20Policies%20of%20the%20Provincial%20Policy%20Statement%20MNR%202010.pdf

Ontario Ministry of Natural Resources and Forestry. (2015). *Significant Wildlife Habitat Criteria Schedules For Ecoregion 7E.* Peterborough: Regional Operations Division, Southern Region Resources Section.

Ontario Nature. (2023). *Ontario Reptile and Amphibian Atlas*. Retrieved from Ontario Nature: https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/

Palmer. (2024). *Sherwood Forrest Circle Arborist Tree Preservation and Protection Report.* Palmer Environmental Consulting Group ltd.

Region of Peel. (2022). *Region of Peel Official Plan. April 2022 Consolidation.* Retrieved from Region of Peel: https://www.peelregion.ca/officialplan/download/_media/region-of-peel-official-plan-april2022.pdf

Struve, D. K. (2009). Tree establishment: A review of some of the factors affecting transplant survival and establishment. *Arboriculture & Urban Forestry, 35*, 10-13.

Toronto Entomologists Association. (2019). *Ontario Butterfly Atlas.* Retrieved from https://www.ontarioinsects.org/atlas/part2.html

Watson, G. (1985). Tree size affects root generaton and top growth after transplanting. *Journal of Arboriculture, 11*, 37-40.

Appendix A

Agency Correspondence

PALMER ENVIRONMENTAL CONSULTING GROUP INC.

*374 Wellington St West, Suite 3, Toronto, ON, M5V 1E3 **t** 647 795 8153*

August 16, 2017

Iftekhar Ahmad
Technician, Planning
Credit Valley Conservation
1255 Old Derry Road,
Mississauga L5N 6R4
iahmad@creditvalleyca.ca

Re: Request for Natural Heritage Information for 1720 Sherwood Forrest Circle, City of Mississauga ON

Dear Iftekhar:

Palmer Environmental Consulting Group (PECG) has been retained to carry out natural environment work for 1720 Sherwood Forrest Circle, City of Mississauga in the Peel Region (see attached map).

In fulfillment of our work, current environmental background information is required for the study area. We have reviewed the MNRF's "Make a Map" application for SAR and natural area information in proximity to the study area. Our intention is to compile background information on the study area, as well as to make you aware of our involvement on the project within your watershed. We have also submitted a background request to the MNRF.

Information we are seeking includes:

<u>Aquatics</u>

- fish sampling locations (i.e., fish dot mapping) and catch records for any known watercourses in the study area
- confirmed or potential spawning/rearing/foraging habitat
- FMP/Watershed reports, if applicable
- Confirm mapping/thermal regimes of known watercourses within the study area, and fisheries classification and species-specific timing windows

<u>Terrestrial</u>

- sensitive wildlife habitat locations (nesting/breeding/hibernation)
- updated digital boundary information for designated natural features that may not yet be available in LIO (e.g., Environmentally Sensitive Areas (ESAs))

<u>Species at Risk (SAR) Information</u>

- locations, observation dates and any other relevant information about terrestrial and aquatic flora and fauna SAR – if possible, please provide the UTM's/accuracy codes

- locally rare species known from the study area

We understand the sensitivity of the locations of rare species and will ensure that this information is used in a confidential manner and that the exact details will not be presented in any reports or mapping.

If you have any questions regarding this request, please feel free to contact me directly at 647-795-8153 ext.126.
Thank you in advance.

Yours truly,
Palmer Environmental Consulting Group Inc.

Regan Augustine, B.Sc.
Ecologist

170261- Carmel Heights Email Correspondence with Credit Valley Conservation

from: Regan Augustine <regan@pecg.ca>
to: "Ahmad, Iftekhar (CVC)" <iahmad@creditvalleyca.ca>
date: Wed, Aug 16, 2017 at 11:43 AM
subject: Data Request for 1720 Sherwood Forrest Circle, Mississauga

Dear Iftekhar,

Please see the attached letter for a data request for a property located at 1720 Sherwood Forrest Circle, City of Mississauga. A site location map is also attached to this email.

Sincerely,
Regan Augustine

from: Ahmad, Iftekhar (CVC) <iahmad@creditvalleyca.ca> via peelregionca.onmicrosoft.com
to: Regan Augustine <regan@pecg.ca>
date: Wed, Sep 6, 2017 at 5:01 PM
subject: DR 17/043 MISS - Carmel Heights Redevelopment EIS (1720 Sherwood Forrest Circle)

Hi Regan,

Please complete the attached Data Sharing Agreement and return it to me at your earliest. Please complete schedule 2 if you are sharing the data with your client/proponent.

Should you have any questions, please contact me.

Thanks,
Iftekhar Ahmad
Technician, Planning | Credit Valley Conservation
905.670.1615 ext 296 | iahmad@creditvalleyca.ca

from: Regan Augustine <regan@pecg.ca>
to: "Ahmad, Iftekhar (CVC)" <iahmad@creditvalleyca.ca>
date: Thu, Sep 7, 2017 at 9:34 AM
subject: Re: DR 17/043 MISS - Carmel Heights Redevelopment EIS (1720 Sherwood Forrest Circle)

Hi Iftekhar,

Is there a cost associated with obtaining this data?

Thanks

from: Ahmad, Iftekhar (CVC) <iahmad@creditvalleyca.ca> via peelregionca.onmicrosoft.com
to: Regan Augustine <regan@pecg.ca>
date: Thu, Sep 7, 2017 at 10:01 AM

subject: Re: DR 17/043 MISS - Carmel Heights Redevelopment EIS (1720 Sherwood Forrest Circle)

Hi Regan,

There is no cost associated with it. Only the signed Data Sharing Agreement is required for releasing the data.
Should you have any other questions, please feel free to contact me.

Thanks
Iftekhar

from: Regan Augustine <regan@pecg.ca>
to: "Ahmad, Iftekhar (CVC)" <iahmad@creditvalleyca.ca>
date: Thu, Sep 7, 2017 at 10:04 AM
subject: Re: DR 17/043 MISS - Carmel Heights Redevelopment EIS (1720 Sherwood Forrest Circle)

Thank you Iftekhar. My colleague will sign the data request and I will send it back to you.

Thanks,
Regan

from: Regan Augustine <regan@pecg.ca>
to: "Ahmad, Iftekhar (CVC)" <iahmad@creditvalleyca.ca>
date: Wed, Oct 11, 2017 at 10:07 AM
subject: Re: DR 17/043 MISS - Carmel Heights Redevelopment EIS (1720 Sherwood Forrest Circle)

Good Morning Iftekhar,

I have attached the signed data sharing agreement to this email.

Thanks,
Regan

from: Ahmad, Iftekhar (CVC) <iahmad@creditvalleyca.ca>
to: Regan Augustine <regan@pecg.ca>
date: Thu, Oct 12, 2017 at 11:47 AM
subject: RE: DR 17/043 MISS - Carmel Heights Redevelopment EIS (1720 Sherwood Forrest Circle)

Hi Regan,

Thank you for sending the signed Data Sharing Agreement. Please find attached the data along with below comments from our ecology staff.

- There are no spawning habitat areas within the study area (plus a 500 m buffer beyond the study area).
- We do not have data on rearing and foraging habitat locations.

- Significant Wildlife Habitat (SWH) criteria is not fully assessed. Consultant is responsible for assessing SWH.
- Location information of SAR records have been removed. Consultant will need to go to MNRF for SAR species details and additional SAR records.
- In station 23096801, the American Brook Lamprey and Iowa Darter are unlikely and probably misidentifications. These are more likely Sea Lamprey and Rainbow Darter, respectively.

Should you have any questions, please contact me.

Thanks,

Iftekhar Ahmad
Technician, Planning | Credit Valley Conservation
905.670.1615 ext 296 | iahmad@creditvalleyca.ca

PALMER ENVIRONMENTAL CONSULTING GROUP INC.

*374 Wellington St West, Suite 3, Toronto, ON, M5V 1E3 **t** 647 795 8153*

August 16, 2017

ESA Aurora District
Ministry of Natural Resources and Forestry
50 Bloomington Rd
Aurora ON L4G 0L8
esa.aurora@ontario.ca

Re: Request for Natural Heritage Information for 1720 Sherwood Forrest Circle in Mississauga, Peel Region.

To Whom It Concerns:

Palmer Environmental Consulting Group (PECG) has been retained to carry out natural environment work for an Environmental Impact Study (EIS) of the subject property located at 1720 Sherwood Forrest Circle, City of Mississauga (see attached map).

In fulfillment of our work, current natural heritage background information is required for the study area The lands currently support a building complex, maintained lawn on the open grounds and a forested slope. There are no wetlands or aquatic features on the subject property. We have also submitted a background request to CVC. A review of the MNRF's "Make a Map" application has revealed the following historical records in proximity to the study area:

- Cleland's Evening Primrose, Kansas Hawthorn, Woodland Muhly, Redside Dace, Schreber's Aster, Henslow's Sprarrow, Midland Clubtail, Rusty Snaketail, Lilypad Clubtail, Unicorn Clubtail, Virginia Bluebells, Eastern Musk Turtle, Eastern Red Damsel, and Lake Sturgeon (Great Lakes-Upper St. Lawrence River Population).

We would like to confirm these findings and request the following additional information:

- Additional recent SAR records for the area,
- Any other information and reports pertaining to natural heritage features such as wetlands, fish and fish habitat, life science inventory information, ESA's, ANSI's, Significant Wildlife Habitat, etc. that the MNRF may have for this area.

We understand the sensitivity of the locations of rare species and will ensure that this information is used in a confidential manner and that the exact details will not be presented in any reports or mapping. If you have any questions regarding this request, please feel free to contact me directly at 647-795-8153 ext.126.
Thank you very much.

PALMER
ENVIRONMENTAL
CONSULTING
GROUP INC.

374 Wellington St West, Suite 3, Toronto, ON, M5V 1E3 ***t*** *647 795 8153*

Yours truly,
Palmer Environmental Consulting Group Inc.

Regan Augustine

Regan Augustine, B.Sc.
Ecologist

Ministry of
Natural Resources
and Forestry
Aurora District Office
50 Bloomington Road
Aurora, Ontario L4G 0L8

Ministère des
Richesses naturelles
et des Forets

Telephone: (905) 713-7400
Facsimile: (905) 713-7361

Ontario

December 13, 2017

Regan Augustine
Palmer Environmental Consulting Company Inc.
regan@pecg.ca

Re: 1720 Sherwood Forrest Circle, City of Mississauga

Dear Regan Augustine;

The Ministry of Natural Resources and Forestry (MNRF) has received our inquiry of August 16, 2017. We offer the following;

Species at risk noted in the vicinity of the property include; Butternut (endangered) and Henslow's Sparrow (endangered). Further there is potential for endangered bats (i.e., Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis and Tri-colored Bat) in cavities.

There is no contemporary Fishdot data available at the Aurora District Office. Please contact the local Conservation Authority for recent data.

Additional natural heritage information including information on wetlands and Areas of Natural and Scientific Interest (ANSIs) can be obtained through Land Information Ontario (LIO).

Absence of information provided by MNRF for a given geographic area, or lack of current information for a given area or element, does not categorically mean the absence of sensitive species or features. Many areas in Ontario have never been surveyed and new plant and animal species records are still being discovered for many localities. Appropriate inventory work is needed depending on the undertakings proposed. Approval from MNRF may be required if work you are proposing could cause harm to any species that receive protection under the *Endangered Species Act 2007*.

Species at risk information is highly sensitive and is not intended for any person or project unrelated to this undertaking. Please do not include any specific sensitive information in reports that will be available for public record. As you complete your fieldwork in these areas, please report all information related to any species at risk to our office. This will assist with updating our database and facilitate early consultation regarding your project.

If you have any questions or comments, please do not hesitate to contact ESA.aurora@ontario.ca or jeff.andersen@ontario.ca.

Sincerely,

Jeff J. Andersen
Management Biologist
Ontario Ministry of Natural Resources and Forestry, Aurora District

Schedule B.1

Tree Planting Prescription

Property and Owner Information			
Property Owner	Carmelite Sisters of Canada	**Mailing Address**	1720 Sherwood Forest Circle, Mississauga, ON
Phone	905-276-9111	**Email**	amascarenhas@kmblaw.com
Planting Location			
Address	1720 Sherwood Forest Circle, Mississauga, ON	**Municipality**	Mississauga
Region	Peel	**Property Roll #**	**2105060141246000000**
Lot	3	**Concession**	Range 1 SDS
Prop. Size (ha)		**MFTIP (Y/N)**	No

General Site Conditions			
Previous Land Use	Residential	**Topography**	Steep
Competition (L, M, H)	Light	**Site Prep. Notes**	N/A
Competition (Type)	Tree / Shrub		
Competition Control	N/A		
Monitoring and Follow Up	Monitoring will be conducted in year 2 of planting, to assess survival and competition. Follow up actions (tending, infill) will depend on monitoring results.		

1255 Old Derry Road, Mississauga, Ontario L5N 6R4 | cvc.ca | T 905-670-1615 | TF 800-668-5557 | F 905-670-2210

Trees to be Planted by Species:				
Species	**Pot Size (Gallons)**	**Spacing (m)**	**Area A**	**# of Trees**
Sugar Maple	3	3	15	15
White Oak	3	3	15	15
Bur Oak	2	3	15	15
Red Oak	2	3	20	20
Basswood	2	3	15	15
White Spruce	2	3	31	31
White Pine	2	3	33	33
Purple Flowering Raspberry	2	2	15	15
Cottonwood	2	3	5	5
Yellow Birch	2	3	10	10
Balsam Poplar	2	3	5	5
Total # of Seedlings			179	179

1255 Old Derry Road, Mississauga, Ontario L5N 6R4 | cvc.ca | T 905-670-1615 | TF 800-668-5557 | F 905-670-2210

Area 1 – 7522m^2					
Planting Objective	The landowner wishes to plant trees along the top edge of a steep slope to prevent erosion. The secondary objective is to provide a visual and audial barrier				
Soil Type (eff. texture)	Clay Loam	**Soil Moisture Regime (SMR)**	Fresh	**Drainage**	Well
Depth of Organics (cm)	<10	**Depth to Mottles (cm)**	N/A	**Depth to Gley (cm)**	N/A
Calcareous Soils Present (Y/N)	No	**Access**	Access directly from parking lot. RTV can be driven along property boundary.		

Area 1 – Planting Prescription
Begin planting in the West corner of the polygon. Randomly mix species throughout the planting area. Trees should be spaced 3m apart, shrubs should be spaced 2m apart. Ensure adequate spacing is kept from pre-existing trees and shrubs.

Plan Author Information			
Plan Author	Alastair Biscaia	**Date**	2/2/2021
Phone	647-449-2743	**Email**	alastair.biscaia@cvc.ca

Plan Approver Information			
Plan Approver	Aaron Day, R.P.F.	Date	2/16/2021
Phone	416-896-7428	Email	aaron.day@cvc.ca

1255 Old Derry Road, Mississauga, Ontario L5N 6R4 | cvc.ca | T 905-670-1615 | TF 800-668-5557 | F 905-670-2210

Palmer | PART OF SLR

Carly Houghton <carly.houghton@pecg.ca>

SAR Bat Habitat Assessment, Mississauga

Species at Risk (MECP) <SAROntario@ontario.ca> Thu, Mar 14, 2024 at 12:07 PM
To: Carly Houghton <carly.houghton@pecg.ca>, "Species at Risk (MECP)" <SAROntario@ontario.ca>
Cc: Tony Vella <tony@argoland.com>, Dirk Janas <dirk.janas@pecg.ca>

Hi Carly,

Thank you for your response. We have reviewed your comments as well as the memo from your latest site visit. If you believe that there is no evidence of bats using the buildings as habitat, and there are no openings for them to use the buildings as maternity roost habitat, you may go ahead with the building demolition.

Please note that the person carrying out the activity is responsible for determining whether SAR and their habitat are present on or around the site of the activity, and ultimately ensuring their actions do not contravene the ESA. Feel free to reach out to us if you have any further questions or concerns, and we hope you have a great rest of your week.

Thank you,

Jonah

Jonah Lehman

Intern, Permissions Section | Species At Risk Branch

Ministry of Environment, Conservation and Parks | Ontario Public Service

226-962-0241 | jonah.lehman@ontario.ca

Ontario

Taking pride in strengthening Ontario, its places and its people

[Quoted text hidden]

Appendix B

Tree Inventory

1-871 Equestrian Court, Oakville, ON L6L 6L7
Tel: 647-795-8153 / www.pecg.ca

Memorandum

Date: May 17, 2024
Project #: 2100803

To: Tony Vella, Argo Sherwood Forrest Limited
From: Carly Houghton and Austin Adams (Palmer)
cc: Dirk Janas (Palmer)
Re: **Sherwood Forrest Circle Arborist Tree Preservation and Protection Report**
1720 Sherwood Forrest Circle, City of Mississauga – Updated May 2024

1. Introduction and Background

This document represents the Arborist Report and Tree Preservation Plan prepared by Palmer for the proposed redevelopment at 1720 Sherwood Forrest Circle, City of Mississauga, Region of Peel (**Figure 1**). The Subject Property is approximately 11 acres (4.5 ha) and currently supports a building complex, maintained lawn with planted trees, and a forested valley slope.

This report has been developed to satisfy the City of Mississauga's *Private Tree Protection By-law 0021-2022* (City of Mississauga, 2022). The tree preservation and protection plan is intended to identify trees that can be retained, trees that may be require pruning to prevent injury, and trees that require removal. Tree protection measures for trees to be retained are provided as well as tree replacement requirements.

2. Guidance Documents

City of Mississauga's Private Tree Protection By-law (0021-2022)

The removal of trees of private property must comply with the City's Private Tree Protection By-law (City of Mississauga, 2022). A permit is needed to injure, destroy or remove any individual tree greater than 15 cm in diameter at breast height (DBH). However, this Arborist Report has been prepared in support of a Development Application and Site Plan process. Tree removal as part of an approved Development Plan is an exempt activity under Part 7, Section 17(9) of the By-law.

As the proposed development requires an approval under the *Planning Act*, this Arborist Report provides the information and mitigation recommendations necessary to provide an exemption under Part 7 of the By-law. Regardless, replacement recommendations within this report are in keeping with the criteria of By-law 0021-2022.

City of Mississauga Official Plan

The City of Mississauga's Official Plan (Chapter 19, Section 19.4, sub-section 19.4.5) states that an Arborist Report including Tree Survey/Tree Preservation Plan may be required as part of a complete application submission for an official plan amendment, rezoning, draft plan of subdivision, condominium, consent application or site plan application to supplement the development proposal (City of Mississauga, 2019).

Terms of Reference – Arborist Reports, Tree Inventory/Survey and Tree Preservation Plans

The City of Mississauga created a Terms of Reference for Arborist Reports to ensure "*that the potential effects of proposed development on existing trees and vegetation and to ensure the proposal conforms to the relevant Official Plan policies, Urban Design Guidelines, standards and details of the City of Mississauga*" (City of Mississauga, 2019). This document details the trees that should be inventoried for a report and the data to be collected, the content and format for an Arborist Report (including compensation ratios), and the content and format for the companion Tree Preservation Plan.

Migratory Birds Convention Act

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 (Government of Canada, 1994). General prohibitions under the *MBCA* and MBR protect migratory birds, their nests and eggs and prohibit the deposition 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.

KEY MAP

LEGEND

- Watercourse [1]
- Study Area

1 - Land Information Ontario (LIO)

0 50 100 150 200
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:3,000
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: May 17, 2024

NORTH

Source Notes:
Base imagery (2020) provided by Peell region open GIS services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Argo Sherwood Forrest Limited

PROJECT
Sherwood Forrest Circle

TITLE
Site Location

Palmer | PART OF SLR

REF. NO. 2100803-1-1

Figure 1

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21008 - Argo Development Group\2100803 - Sherwood Forrest Circle\GIS\1_Workspace\Task 1 - Arborist Figures\2100803-1-1-Site Location.mxd

3. Methods

A tree inventory was completed for all trees ≥10 cm DBH within and adjacent to the Subject Property, in accordance with the City of Mississauga *Terms of Reference* (City of Mississauga, 2019). All trees on Subject Property and within 6 metres (m) to the proposed work areas were inventoried to establish Tree Protection Zones (TPZ). Information collected during the inventory includes species scientific and common names, tree tag number, DBH, location, crown spread, a general health assessment (structure, vigour and overall), and notes on tree trunk and canopy conditions. Where adjacent property access was not obtained, visual estimates were made. Notes on ownership and proposed actions including preservation techniques were made.

Trees located on the Subject Property were inventoried by an International Society of Arboriculture (ISA) certified arborist on August 22, 2017 and trees directly adjacent to the Subject Property were inventoried from the Subject Property on January 19, 2021. Trees adjacent to the Subject Property were assigned identification letters (i.e., AA – AZ and BA – BL) and we're not physically tagged due to access limitation. On June 16, 2023 the general location and condition of the trees were verified to be similar to the 2017 inventory. Tree growth is variable between species; however, existing data was used as the new development plan generally provides for a discrete division between trees to retain versus requiring removal, regardless of size.

The TPZ for each tree was calculated using the City of Mississauga's *Tree Preservation and Protection Standards* (City of Mississauga, 2017) where the measured DBH of each tree corresponds to a predetermined minimum TPZ distance from the trunk of each tree (**Table 1**).

Table 1. City of Mississauga's Tree Protection Zone

Trunk Diameter (cm)	Minimum Tree Protection Zone (TPZ) Distance from Trunk (m)	Minimum Tree Protection Zone (TPZ) Distance from Trunk (m) for trees in Open Spaces and Woodlands
<10 cm	1.2	2.4
10-20	1.5	2.4
21-30	1.8	3.6
31-40	2.4	4.8
41-50	3.0	6.0
51-60	3.6	7.2
61-70	4.2	8.4
71-80	4.8	9.6
81-90	5.4	10.8
91-100	6.0	12.0
>100	6 cm per 1 cm DBH	12 cm per 1 cm DBH

TREE PRESERVATION SPECIFICATIONS

TREE PROTECTION AND FENCING

• ALL EXISTING TREES, THAT ARE DESIGNATED TO REMAIN, MUST BE FULLY PROTECTED WITH TREE PROTECTION FENCING IN ACCORDANCE WITH CITY OF MISSISSAUGA DETAIL 02830-6, WHICH IS TO BE ERECTED BEYOND THE TREE PROTECTION ZONE.
• TREE PROTECTION ZONES ARE TO INCLUDE SIGNAGE (AS PER BELOW) AT REGULAR INTERVALS ON THE FENCING. THE SIGNS ARE TO BE 40.64 CM X 60.96 CM AND ON A WATERPROOF MATERIAL.

MISSISSAUGA

Tree Protection Zone (TPZ)

BY-LAW #

No construction activities, including grade changes, storage of materials or equipment, dumping, excavation is permitted within this TPZ

This tree protection barrier must remain in good condition and must not be removed or altered without the authorization of City of Mississauga, Urban Forestry.

Concerns or inquires regarding this TPZ can be directed to:

311 Dial 3-11 | 905-615-4311 outside city limits

• NO CONSTRUCTION EQUIPMENT OR MOTORIZED VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION ZONE AND ALL TREE PROTECTION ZONES MUST REMAIN UNDISTURBED AT ALL TIMES. THE FOLLOWING ACTIVITIES ARE ALSO PROHIBITED WITHIN THE TREE PROTECTION ZONES:
- CONSTRUCTION ACTIVITIES;
- STORAGE OF MATERIALS
- STORAGE OF EQUIPMENT
- EXCAVATION (UNLESS APPROVED FOR ROOT PRUNING)
- GRADE CHANGES
- CUTTING, TEARING, BREAKING TREE'S ROOTS, BRANCHES AN TRUNK
- DUMPING
- PARKING
- STRINGING CABLES/WIRES

• TREE PROTECTION FENCING IS TO BE INSPECTED REGULARLY TO ENSURE IT IS PERFORMING ITS INTENDED FUNCTION. IF ANY SECTION IS FOUND TO BE DAMAGED OR NON-FUNCTIONAL, IT SHOULD BE REPLACED IMMEDIATELY.
• TREE PROTECTION FENCING MUST REMAIN IN EFFECTIVE CONDITION UNTIL ALL SITE ACTIVITIES INCLUDING LANDSCAPING ARE COMPLETE. IT MUST NOT BE REMOVED WITHOUT THE WRITTEN AUTHORIZATION OF THE CONSULTING LANDSCAPE ARCHITECT OR ARBORIST.

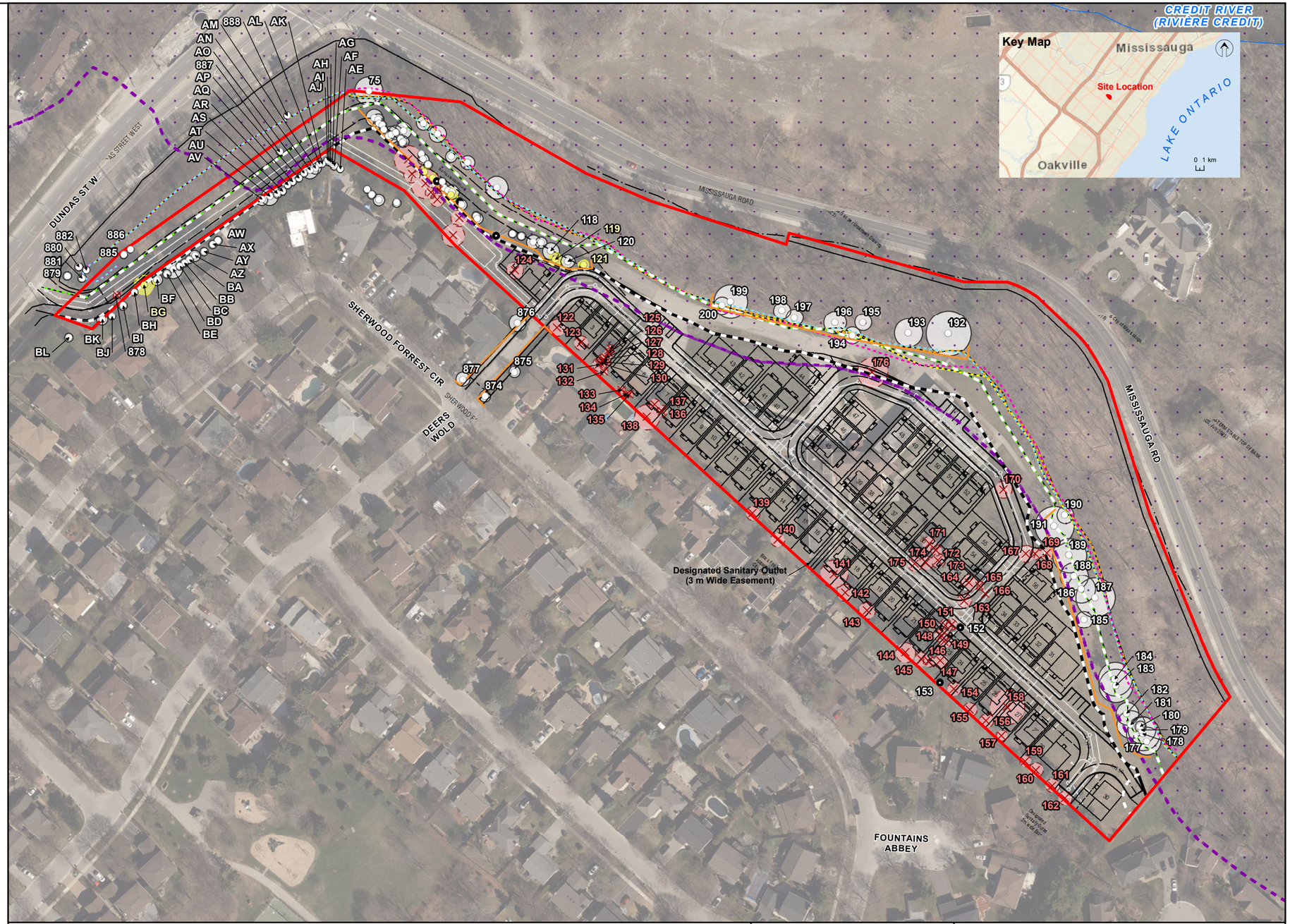
TREE AND ROOT PRUNING

• PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, PRUNE LIMBS THAT MAY BE NEGATIVELY IMPACTED DURING CONSTRUCTION UTILIZING PRUNING SHEARS, PRUNING SAW, OR CHAIN SAW. PRUNE CLEANLY THE ROOTS OF EXISITING TREES THAT ARE ANTICIPATED TO BE DISTRUBED BY EXCAVATION. PRUNING SHOULD BE CARRIED OUT AS SPECIFIED BY AN ISA CERTIFIED ARBORIST.
• WHERE DIRECTED BY THE CITY'S ARBORIST, THE CONTRACTOR SHALL MAKE ALL DAMAGE CAUSE TO THE AREAS SURROUNDING PLANT MATERIAL, INCLUDING REPLACING DAMAGED OR DESTROYED PLANT MATERIALS, TO THE SATISFACTION OF THE CITY'S ARBORIST.
• DO NOT STOCKPILE MATERIAL WITHIN THE DRIP LINE OF TREES OR SHRUBS TO BE RETAINED.
• DO NOT ALLOW TRAFFIC, VEHICLES OR EQUIPMENT TO COMPACT SOIL WITHIN THE DRIP LINE OF TREES OR SHRUBS TO BE RETAINED.
• AVOID ANY DAMAGE TO OAK TREES BETWEEN APRIL 1 - OCTOBER 31 TO AVOID THE POTENTIAL SPREAD OF OAK WILT, WHICH HAS RECENTLY BEEN DETECTED IN SOUTHERN ONTARIO. THIS TIMING WINDOW IS FROM THE CANADIAN FOOD INSPECTION AGENCY (CFIA). THE HIRED CONTRACTOR PERFORMING THE REMOVALS SHOULD BE FAMILIAR WITH TREE DISEASES, INCLUDING OAK WILT, AND REPORT ANY SUSPICIOUS TREES TO THE CFIA AND COMMUNITY SERVICES/FORESTRY.

TREE REMOVAL:

TO AVOID INTERFERENCE WITH THE EGGS, NESTS OR YOUNG OF BIRDS PROTECTED UNDER THE FEDERAL MIGRATORY BIRDS CONVENTION ACT (GOVERNMENT OF CANADA, 1994), REMOVALS SHOULD NOT OCCUR FROM APRIL 1 TO AUGUST 31 OF ANY GIVEN YEAR. SHOULD REMOVAL BE REQUIRED WITHIN THE APRIL 1 TO AUGUST 31 NESTING PERIOD, A QUALIFIED AVIAN BIOLOGIST SHOULD CONDUCT A THOROUGH SURVEY IMMEDIATELY PRIOR TO THE DESIRED TREE REMOVAL TO CONFIRM PRESENCE OR ABSENCE OF PROTECTED SPECIES. REMOVAL CANNOT OCCUR WITHOUT A PERMIT FROM THE CANADIAN WILDLIFE SERVICE.

TO AVOID POTENTIAL NEGATIVE IMPACTS TO SAR BATS, AVOID TREE REMOVALS BETWEEN APRIL 1 TO SEPTEMBER 30 OF ANY GIVEN YEAR.



LEGEND

- Inventory Tree with TPZ to Retain
- Inventory Tree with TPZ at Risk to Potential Injury
- Inventory Tree with TPZ to Remove
- Dead
- Tree Protection Fencing
- Waterbody [1]
- Regulated Area [2]
- Woodland and Slope Setback (10 m) - *displayed as white dash*
- Study Area
- Long Term Stable Top of Bank (Tarasick, Sept 05, 2018)
- Long Term Stable Top of Bank (Terraprobe, Nov 23, 2017)
- Top of Bank (Staked by CVC and the city of Mississauga, Aug 3, 2018)
- Top of Bank (R-PE Surveying, May 18, 2023)
- Natural Feature (Staked by CVC and City of Missisauga, Aug, 3, 2018)
- New Development Limit (Based on LTSTOS from Tarasick)

1 - Land Information Ontario (LIO)
2 - Credit Valley Conservation (CVC)

0 10 20 30 40 50
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:1,800
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: May 17, 2024

NORTH

Source Notes:
Base imagery (2020) provided by Peell region open GIS services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT: Argo Development Group

PROJECT: Sherwood Forrest Circle

TITLE: **Tree Preservation Plan**

Palmer PART OF SLR

REF. NO. 2100803-2-8

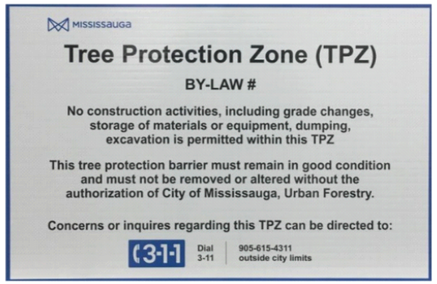
Figure 2

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21008 - Argo Development Group\2100803 - Sherwood Forrest Circle\GIS\1_Workspace\Task 1 - Arborist Figures\2100803-2-1-Tree Preservation Plan.mxd

TREE PRESERVATION SPECIFICATIONS

TREE PROTECTION AND FENCING

• ALL EXISTING TREES, THAT ARE DESIGNATED TO REMAIN, MUST BE FULLY PROTECTED WITH TREE PROTECTION FENCING IN ACCORDANCE WITH CITY OF MISSISSAUGA DETAIL 02830-6, WHICH IS TO BE ERECTED BEYOND THE TREE PROTECTION ZONE.
• TREE PROTECTION ZONES ARE TO INCLUDE SIGNAGE (AS PER BELOW) AT REGULAR INTERVALS ON THE FENCING. THE SIGNS ARE TO BE 40.64 CM X 60.96 CM AND ON A WATERPROOF MATERIAL.



• NO CONSTRUCTION EQUIPMENT OR MOTORIZED VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION ZONE AND ALL TREE PROTECTION ZONES MUST REMAIN UNDISTURBED AT ALL TIMES. THE FOLLOWING ACTIVITIES ARE ALSO PROHIBITED WITHIN THE TREE PROTECTION ZONES:
- CONSTRUCTION ACTIVITIES;
- STORAGE OF MATERIALS
- STORAGE OF EQUIPMENT
- EXCAVATION (UNLESS APPROVED FOR ROOT PRUNING)
- GRADE CHANGES
- CUTTING, TEARING, BREAKING TREE'S ROOTS, BRANCHES AN TRUNK
- DUMPING
- PARKING
- STRINGING CABLES/WIRES

• TREE PROTECTION FENCING IS TO BE INSPECTED REGULARLY TO ENSURE IT IS PERFORMING ITS INTENDED FUNCTION. IF ANY SECTION IS FOUND TO BE DAMAGED OR NON-FUNCTIONAL, IT SHOULD BE REPLACED IMMEDIATELY.
• TREE PROTECTION FENCING MUST REMAIN IN EFFECTIVE CONDITION UNTIL ALL SITE ACTIVITIES INCLUDING LANDSCAPING ARE COMPLETE. IT MUST NOT BE REMOVED WITHOUT THE WRITTEN AUTHORIZATION OF THE CONSULTING LANDSCAPE ARCHITECT OR ARBORIST.

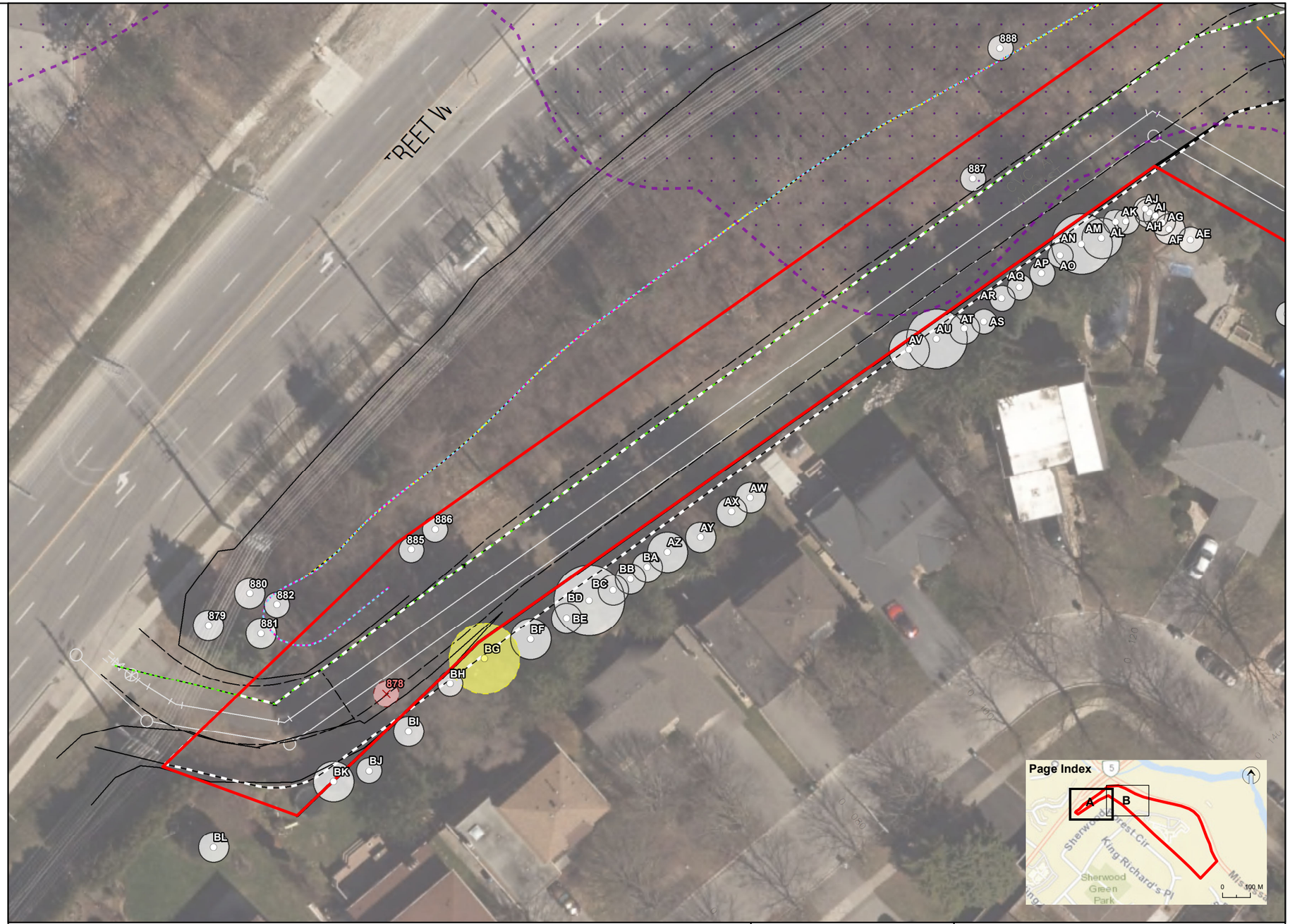
TREE AND ROOT PRUNING

• PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, PRUNE LIMBS THAT MAY BE NEGATIVELY IMPACTED DURING CONSTRUCTION UTILIZING PRUNING SHEARS, PRUNING SAW, OR CHAIN SAW. PRUNE CLEANLY THE ROOTS OF EXISITING TREES THAT ARE ANTICIPATED TO BE DISTRUBED BY EXCAVATION. PRUNING SHOULD BE CARRIED OUT AS SPECIFIED BY AN ISA CERTIFIED ARBORIST.
• WHERE DIRECTED BY THE CITY'S ARBORIST, THE CONTRACTOR SHALL MAKE ALL DAMAGE CAUSE TO THE AREAS SURROUNDING PLANT MATERIAL, INCLUDING REPLACING DAMAGED OR DESTROYED PLANT MATERIALS, TO THE SATISFACTION OF THE CITY'S ARBORIST.
• DO NOT STOCKPILE MATERIAL WITHIN THE DRIP LINE OF TREES OR SHRUBS TO BE RETAINED.
• DO NOT ALLOW TRAFFIC, VEHICLES OR EQUIPMENT TO COMPACT SOIL WITHIN THE DRIP LINE OF TREES OR SHRUBS TO BE RETAINED.
• AVOID ANY DAMAGE TO OAK TREES BETWEEN APRIL 1 - OCTOBER 31 TO AVOID THE POTENTIAL SPREAD OF OAK WILT, WHICH HAS RECENTLY BEEN DETECTED IN SOUTHERN ONTARIO. THIS TIMING WINDOW IS FROM THE CANADIAN FOOD INSPECTION AGENCY (CFIA). THE HIRED CONTRACTOR PERFORMING THE REMOVALS SHOULD BE FAMILIAR WITH TREE DISEASES, INCLUDING OAK WILT, AND REPORT ANY SUSPICIOUS TREES TO THE CFIA AND COMMUNITY SERVICES/FORESTRY.

TREE REMOVAL:

TO AVOID INTERFERENCE WITH THE EGGS, NESTS OR YOUNG OF BIRDS PROTECTED UNDER THE FEDERAL MIGRATORY BIRDS CONVENTION ACT (GOVERNMENT OF CANADA, 1994), REMOVALS SHOULD NOT OCCUR FROM APRIL 1 TO AUGUST 31 OF ANY GIVEN YEAR. SHOULD REMOVAL BE REQUIRED WITHIN THE APRIL 1 TO AUGUST 31 NESTING PERIOD, A QUALIFIED AVIAN BIOLOGIST SHOULD CONDUCT A THOROUGH SURVEY IMMEDIATELY PRIOR TO THE DESIRED TREE REMOVAL TO CONFIRM PRESENCE OR ABSENCE OF PROTECTED SPECIES. REMOVAL CANNOT OCCUR WITHOUT A PERMIT FROM THE CANADIAN WILDLIFE SERVICE.

TO AVOID POTENTIAL NEGATIVE IMPACTS TO SAR BATS, AVOID TREE REMOVALS BETWEEN APRIL 1 TO SEPTEMBER 30 OF ANY GIVEN YEAR.



LEGEND

- Inventory Tree with TPZ to Retain
- Inventory Tree with TPZ at Risk to Potential Injury
- Inventory Tree with TPZ to Remove
- Dead
- Tree Protection Fencing
- Waterbody [1]
- Regulated Area [2]
- Woodland and Slope Setback (10 m) - *displayed as white dash*
- Study
- Long Term Stable Top of Bank (Tarasick, Sept 05, 2018)
- Long Term Stable Top of Bank (Terraprobe, Nov 23, 2017)
- Top of Bank (Staked by CVC and the city of Mississauga, Aug 3, 2018)
- Top of Bank (R-PE Surveying, May 18, 2023)
- Natural Feature (Staked by CVC and City of Missisauga, Aug, 3, 2018)
- New Development Limit (Based on LTSTOS from Tarasick)

1 - Land Information Ontario (LIO)
2 - Credit Valley Conservation (CVC)

0 5 10 15 20
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:500
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: May 17, 2024

NORTH

Source Notes:
Base imagery (2020) provided by Peell region open GIS services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT: Argo Development Group

PROJECT: Sherwood Forrest Circle

TITLE: **Tree Preservation Plan (Area of Interest)**

Palmer PART OF SLR

REF. NO. 2100803-2A-1

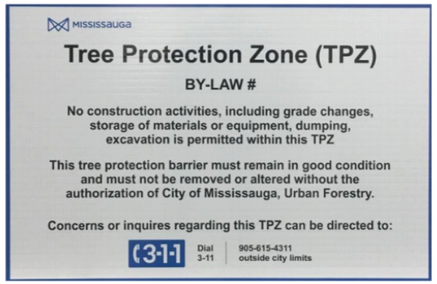
Figure 2A

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21008 - Argo Development Group\2100803 - Sherwood Forrest Circle\GIS\1_Workspace\Task 1 - Arborist Figures\2100803-2a-1-Tree Preservation AOI.mxd

TREE PRESERVATION SPECIFICATIONS

TREE PROTECTION AND FENCING

• ALL EXISTING TREES, THAT ARE DESIGNATED TO REMAIN, MUST BE FULLY PROTECTED WITH TREE PROTECTION FENCING IN ACCORDANCE WITH CITY OF MISSISSAUGA DETAIL 02830-6, WHICH IS TO BE ERECTED BEYOND THE TREE PROTECTION ZONE.
• TREE PROTECTION ZONES ARE TO INCLUDE SIGNAGE (AS PER BELOW) AT REGULAR INTERVALS ON THE FENCING. THE SIGNS ARE TO BE 40.64 CM X 60.96 CM AND ON A WATERPROOF MATERIAL.



• NO CONSTRUCTION EQUIPMENT OR MOTORIZED VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION ZONE AND ALL TREE PROTECTION ZONES MUST REMAIN UNDISTURBED AT ALL TIMES. THE FOLLOWING ACTIVITIES ARE ALSO PROHIBITED WITHIN THE TREE PROTECTION ZONES:
- CONSTRUCTION ACTIVITIES;
- STORAGE OF MATERIALS
- STORAGE OF EQUIPMENT
- EXCAVATION (UNLESS APPROVED FOR ROOT PRUNING)
- GRADE CHANGES
- CUTTING, TEARING, BREAKING TREE'S ROOTS, BRANCHES AN TRUNK
- DUMPING
- PARKING
- STRINGING CABLES/WIRES

• TREE PROTECTION FENCING IS TO BE INSPECTED REGULARLY TO ENSURE IT IS PERFORMING ITS INTENDED FUNCTION. IF ANY SECTION IS FOUND TO BE DAMAGED OR NON-FUNCTIONAL, IT SHOULD BE REPLACED IMMEDIATELY.
• TREE PROTECTION FENCING MUST REMAIN IN EFFECTIVE CONDITION UNTIL ALL SITE ACTIVITIES INCLUDING LANDSCAPING ARE COMPLETE. IT MUST NOT BE REMOVED WITHOUT THE WRITTEN AUTHORIZATION OF THE CONSULTING LANDSCAPE ARCHITECT OR ARBORIST.

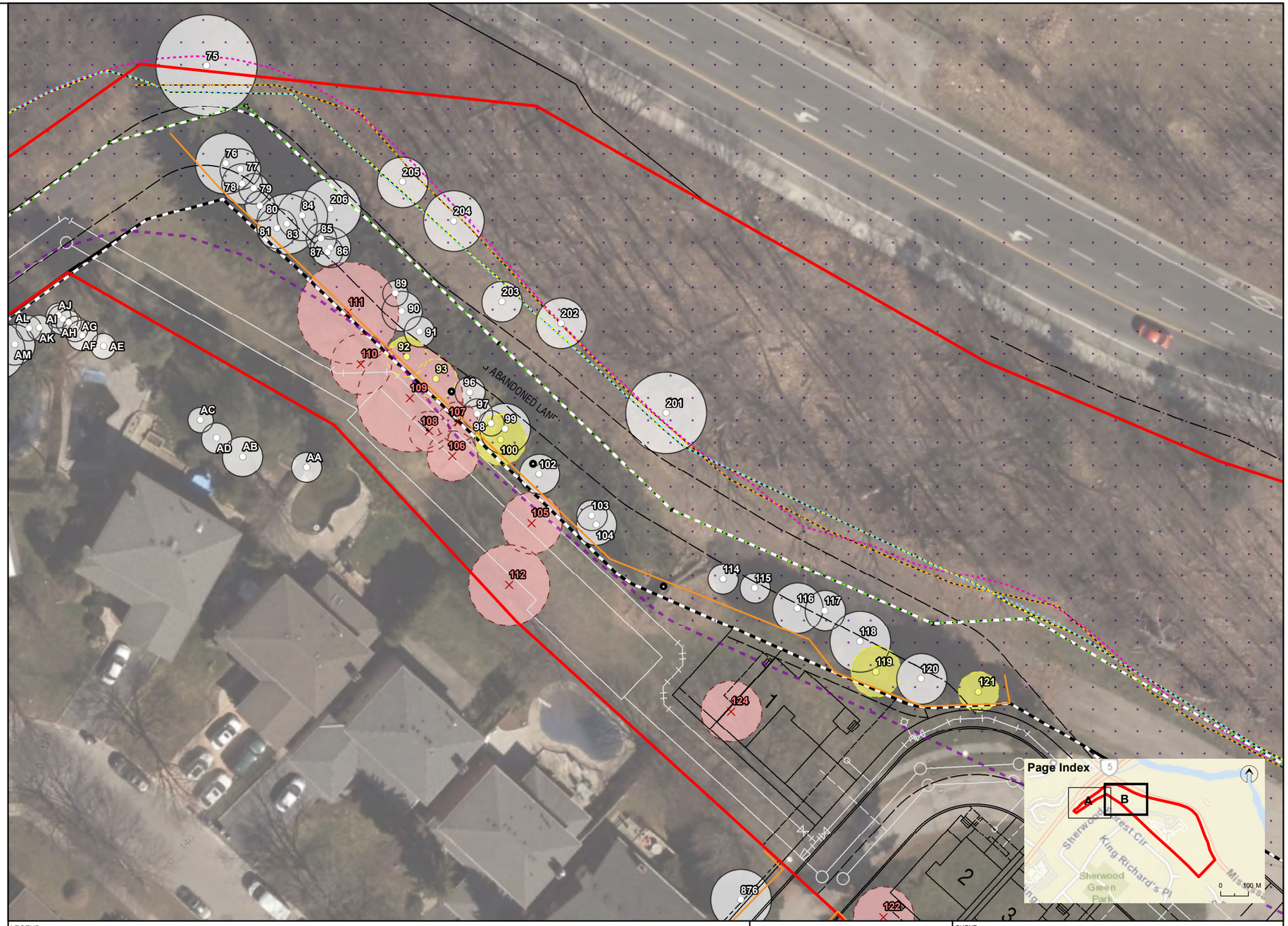
TREE AND ROOT PRUNING

• PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, PRUNE LIMBS THAT MAY BE NEGATIVELY IMPACTED DURING CONSTRUCTION UTILIZING PRUNING SHEARS, PRUNING SAW, OR CHAIN SAW. PRUNE CLEANLY THE ROOTS OF EXISITING TREES THAT ARE ANTICIPATED TO BE DISTRUBED BY EXCAVATION. PRUNING SHOULD BE CARRIED OUT AS SPECIFIED BY AN ISA CERTIFIED ARBORIST.
• WHERE DIRECTED BY THE CITY'S ARBORIST, THE CONTRACTOR SHALL MAKE ALL DAMAGE CAUSE TO THE AREAS SURROUNDING PLANT MATERIAL, INCLUDING REPLACING DAMAGED OR DESTROYED PLANT MATERIALS, TO THE SATISFACTION OF THE CITY'S ARBORIST.
• DO NOT STOCKPILE MATERIAL WITHIN THE DRIP LINE OF TREES OR SHRUBS TO BE RETAINED.
• DO NOT ALLOW TRAFFIC, VEHICLES OR EQUIPMENT TO COMPACT SOIL WITHIN THE DRIP LINE OF TREES OR SHRUBS TO BE RETAINED.
• AVOID ANY DAMAGE TO OAK TREES BETWEEN APRIL 1 - OCTOBER 31 TO AVOID THE POTENTIAL SPREAD OF OAK WILT, WHICH HAS RECENTLY BEEN DETECTED IN SOUTHERN ONTARIO. THIS TIMING WINDOW IS FROM THE CANADIAN FOOD INSPECTION AGENCY (CFIA). THE HIRED CONTRACTOR PERFORMING THE REMOVALS SHOULD BE FAMILIAR WITH TREE DISEASES, INCLUDING OAK WILT, AND REPORT ANY SUSPICIOUS TREES TO THE CFIA AND COMMUNITY SERVICES/FORESTRY.

TREE REMOVAL:

TO AVOID INTERFERENCE WITH THE EGGS, NESTS OR YOUNG OF BIRDS PROTECTED UNDER THE FEDERAL MIGRATORY BIRDS CONVENTION ACT (GOVERNMENT OF CANADA, 1994), REMOVALS SHOULD NOT OCCUR FROM APRIL 1 TO AUGUST 31 OF ANY GIVEN YEAR. SHOULD REMOVAL BE REQUIRED WITHIN THE APRIL 1 TO AUGUST 31 NESTING PERIOD, A QUALIFIED AVIAN BIOLOGIST SHOULD CONDUCT A THOROUGH SURVEY IMMEDIATELY PRIOR TO THE DESIRED TREE REMOVAL TO CONFIRM PRESENCE OR ABSENCE OF PROTECTED SPECIES. REMOVAL CANNOT OCCUR WITHOUT A PERMIT FROM THE CANADIAN WILDLIFE SERVICE.

TO AVOID POTENTIAL NEGATIVE IMPACTS TO SAR BATS, AVOID TREE REMOVALS BETWEEN APRIL 1 TO SEPTEMBER 30 OF ANY GIVEN YEAR.



LEGEND

- Inventory Tree with TPZ to Retain
- Inventory Tree with TPZ at Risk to Potential Injury
- Inventory Tree with TPZ to Remove
- Dead
- Tree Protection Fencing
- Waterbody [1]
- Regulated Area [2]
- Woodland and Slope Setback (10 m) - *displayed as white dash*
- Study
- Long Term Stable Top of Bank (Tarasick, Sept 05, 2018)
- Long Term Stable Top of Bank (Terraprobe, Nov 23, 2017)
- Top of Bank (Staked by CVC and the city of Mississauga, Aug 3, 2018)
- Top of Bank (R-PE Surveying, May 18, 2023)
- Natural Feature (Staked by CVC and City of Missisauga, Aug, 3, 2018)
- New Development Limit (Based on LTSTOS from Tarasick)

1 - Land Information Ontario (LIO)
2 - Credit Valley Conservation (CVC)

0 5 10 15 20
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:500
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: May 17, 2024

NORTH

Source Notes:
Base imagery (2020) provided by Peell region open GIS services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT: Argo Development Group

PROJECT: Sherwood Forrest Circle

TITLE: **Tree Preservation Plan (Area of Interest)**

Palmer PART OF SLR

REF. NO. 2100803-2B-1

Figure 2B

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21008 - Argo Development Group\2100803 - Sherwood Forrest Circle\GIS\1_Workspace\Task 1 - Arborist Figures\2100803-2a-1-Tree Preservation AOI.mxd

4. Results

Tree Inventory

A total of 183 tree were inventoried; however, five (5) trees have fallen due to strong winds following completion of the inventory. These trees are #95, 101, 113, 152, and 153, which are now considered deadfall and have been removed from the inventory. Thus, this report includes the findings of 178 trees in total (**Figures 2, 2A, 2B**). This includes 72 (40%) native trees, 103 (58%) non-native trees, and 3 (2%) which were identified to genus only (**Table 2**). A total of 73 inventoried trees are located within Credit Valley Conservation (CVC) regulated area.

Most of the inventoried trees within the Subject Property included non-native Norway Spruce (*Picea abies*) and native Eastern White Cedar (*Thuja occidentalis*). The majority of the inventoried trees located on the property tablelands have been planted and are largely comprised of non-native species. The trees inventoried along the edge of the woodland feature are mostly comprised of naturally occurring native species.

No Species at Risk (SAR) such as Butternut (*Juglans cinerea*) were observed or inventoried on the Subject Property. Two Green Ash (*Fraxinus pennsylvanica*), known to be at high risk of disease or infestation were recorded within the Subject Property. Based on the general health and condition of the trees, 171 (97%) trees are in fair to good health and condition, six (6) of trees are in poor condition, and one tree was dead. A full list of all the inventoried trees is provided in **Appendix A.**

Table 2. Summary of Tree Inventory

Common Name	Scientific Name	Fair to Good Health and Condition	Poor Health and Condition	Total
American Basswood*	*Tilia americana*	3	0	3
Apple	*Malus* sp.	1	0	1
Black Cherry*	*Prunus serotina*	4	0	4
Black Walnut*	*Juglans nigra*	2	0	2
Bur Oak*	*Quercus macrocarpa*	1	0	1
Colorado Spruce	*Picea pungens*	17	1	18
Common Apple	*Malus pumila*	1	0	1
Eastern White Cedar*	*Thuja occidentalis*	23	1	24
Eastern White Pine*	*Pinus strobus*	11	0	11
English Walnut	*Juglans regia*	1	1	2
Freeman's Maple*	*Acer freemanii*	1	0	1
Green Ash*	*Fraxinus pennsylvanica*	0	1 poor, 1 dead	2
Honey Locust	*Gleditsia triacanthos*	1	0	1
Northern Catalpa	*Catalpa speciosa*	1	0	1
Norway Maple	*Acer platanoides*	8	0	8
Norway Spruce	*Picea abies*	54	1	55
Pine	*Pinus* sp.	1	0	1
Red Maple*	*Acer rubrum*	2	0	2

Common Name	Scientific Name	Fair to Good Health and Condition	Poor Health and Condition	Total
Red Oak*	*Quercus rubra*	5	0	5
Red Pine*	*Pinus resinosa*	1	0	1
Scots Pine	*Pinus sylvestris*	14	1	15
Siberian Elm	*Ulmus pumila*	1	0	1
Sugar Maple*	*Acer saccharum*	10	0	10
Weeping Willow	*Salix babylonica*	1	0	1
White Spruce*	*Picea glauca*	6	0	6
Willow	*Salix* sp.	1	0	1
Total		**171**	**7**	**178**

*Native species

Trees to be Retained

An assessment of trees to be retained has been completed based on the proposed grading and development plans. A total of 111 of the inventoried trees are identified to be retained (**Table 3**). This includes 107 trees in fair to good health and condition and four (4) trees in poor health and condition. The majority of trees to be retained (72 trees, 65%) are non-native species, most of which are Norway Spruce. Additionally, CVC planted 179 individual tree saplings and shrubs along the top edge of the FOD5-3 to prevent erosion. These plantings are proposed to be retained or replanted within the 10 m development buffer to the degree feasible.

Table 3. Trees to be Retained

Common Name	Scientific Name	Fair to Good Health and Condition	Poor Health and Condition	Total
American Basswood*	*Tilia americana*	3	0	3
Apple	*Malus sp.*	1	0	1
Black Cherry*	*Prunus serotina*	4	0	4
Black Walnut*	*Juglans nigra*	1	0	1
Bur Oak*	*Quercus macrocarpa*	1	0	1
Colorado Spruce	*Picea pungens*	6	1	7
Eastern White Cedar*	*Thuja occidentalis*	6	0	6
Eastern White Pine*	*Pinus strobus*	3	0	3
Green Ash*	*Fraxinus pennsylvanica*	0	1 poor, 1 dead	2
Northern Catalpa	*Catalpa speciosa*	1	0	1
Norway Maple	*Acer platanoides*	5	0	5
Norway Spruce	*Picea abies*	46	1	47
Pine	*Pinus* sp.	1	0	1
Red Oak*	*Quercus rubra*	5	0	5
Red Pine*	*Pinus resinosa*	1	0	1
Scots Pine	*Pinus sylvestris*	11	0	11

Sugar Maple*	*Acer saccharum*	9	0	9
White Spruce*	*Picea glauca*	2	0	2
Willow	*Salix* sp.	1	0	1
Total		**107**	**4**	**111**

*Native species

Potential Tree Injury

For trees near construction areas, 'injury' is defined as encroachment into the identified TPZ. This arborist report provides recommendations for appropriate treatment of trees that will be retained and protected but may suffer injury due to encroachment into their respective TPZs (**Figure 2**). Tree injury may occur where a TPZ will be reduced and construction activity will impact roots and/or branches. In general, pruning of branches and roots up to 25-30% of a TPZ will result in tree injury, but may be retainable considering tree health and appropriate mitigation treatments.

Given their location, five trees may have damage to the roots or branches through grading, compaction and works of machinery (**Table 4**). With appropriate mitigation measures outlined in **Section 5** including tree protection fencing, these trees are not anticipated to experience significant tree decline, mortality, or loss of rooting stability, and are considered retainable.

Table 4. Trees with Potential for Injury due to TPZ Reduction

Common Name	Scientific Name	Tag Number	Good to Fair Health	Poor Health	Total Count
Eastern White Cedar*	*Thuja occidentalis*	119, 121	2	0	2
Norway Spruce	*Picea abies*	92, 100	2	0	2
Siberian Elm	*Ulmus pumila*	BG	1	0	1
Total Trees with potential injury			**5**	**0**	**5**

*Native species

Trees to be Removed

A total of 62 trees will need to be removed to accommodate the proposed development (**Table 5**). This includes 59 trees in fair to good health and condition and three (3) trees in poor health and condition. All of the trees proposed to be removed are located within the proposed grading area for the development works (**Figure 2**). Additionally, certain trees within the proposed Open Space Land Use/Natural Heritage System (**Figure 2B**) are proposed for removal due to watermain and forcemain servicing route, which will also be used as temporary access during construction, using the existing access at that location. This access route and area will be part of a restoration plan post-construction; see the Environmental Impact Study for the project for further details.

Just over half the trees proposed to be removed are native species (33 trees, 53%), most of which are Eastern White Cedar. Some trees along the southern property boundary may partially be located on an

adjacent private residential property. If any part of the tree trunk is located on more than one lot, written consent of the impacted property will be required.

Table 5. Trees to be Removed

Common Name	Scientific Name	Fair to Good Health and Condition	Poor Health and Condition	Total
Black Walnut*	*Juglans nigra*	1	0	1
Colorado Spruce	*Picea pungens*	11	0	11
Common Apple	*Malus pumila*	1	0	1
Eastern White Cedar*	*Thuja occidentalis*	15	1	16
Eastern White Pine*	*Pinus strobus*	8	0	8
English Walnut	*Juglans regia*	1	1	2
Freeman's Maple*	*Acer freemanii*	1	0	1
Honey Locust	*Gleditsia triacanthos*	1	0	1
Norway Maple	*Acer platanoides*	3	0	3
Norway Spruce	*Picea abies*	6	0	6
Red Maple*	*Acer rubrum*	2	0	2
Scots Pine	*Pinus sylvestris*	3	1	4
Sugar Maple	*Acer saccharum*	1	0	1
Weeping Willow	*Salix babylonica*	1	0	1
White Spruce*	*Picea glauca*	4	0	4
Total		**59**	**3**	**62**

*Native species

5. Tree Protection Plan

General and tree-specific tree protection measures are outlined below. The specifications for protection of retained trees are detailed on the Tree Protection Plan (**Figure 2**), including the locations of required tree protection fencing. The Tree Protection Plan is intended to act in concert with this Arborist Report; it is expected that the recommendations of both instruments be implemented for the project. Trees proposed to be retained will be primarily protected by tree protection fencing, as per the City's *Tree Preservation Hoarding* Specification (**Appendix B**).

Demolition

It is recommended that any removal of existing asphalt within TPZs (example, Tree #199, 200) are to be hand dug where feasible to minimize impacts to roots. This includes the existing road system on the tablelands and the existing access route from Dundas Street. Additionally, there will be minor fill placement in certain areas of the woodland setback (~0 – 30 cm) to allow for matching of existing to built grades. This fill will be naturalized per the restoration plan outlined in the EIS. This amount of fill is not predicted to create appreciable differences to the health of well-established trees in that area.

Tree Protection Fencing

Certain trees to be retained are located in close proximity to the limits of development or on adjacent private property. The implementation of tree protection measures is recommended to protect tree limbs from mechanical damage and the root systems from compaction during construction activities.

Framed hoarding is to be installed and inspected to the satisfaction of the Urban Forestry section encompasses the entire dripline area (**Figure 2**). The tree protection fencing should be installed per The City's Detail 02830-6 for plastic snow fence framed hoarding, and signage should be displayed (**Appendix B**). The plastic snow fence framed hoarding is to consist of 1.2 m high plastic orange snow fence secured to steel T-bars with wire ties and 2" x 4" timber rails along the top and bottom.

Signage measuring 40 cm x 60 cm to be mounted to the construction side of each TPZ barrier (**Photo 1**). Signage to indicate that work including grading, construction access and material storage is prohibited within the boundaries of the TPZ. No other signage is permitted to be fixed onto any tree protection hoarding.

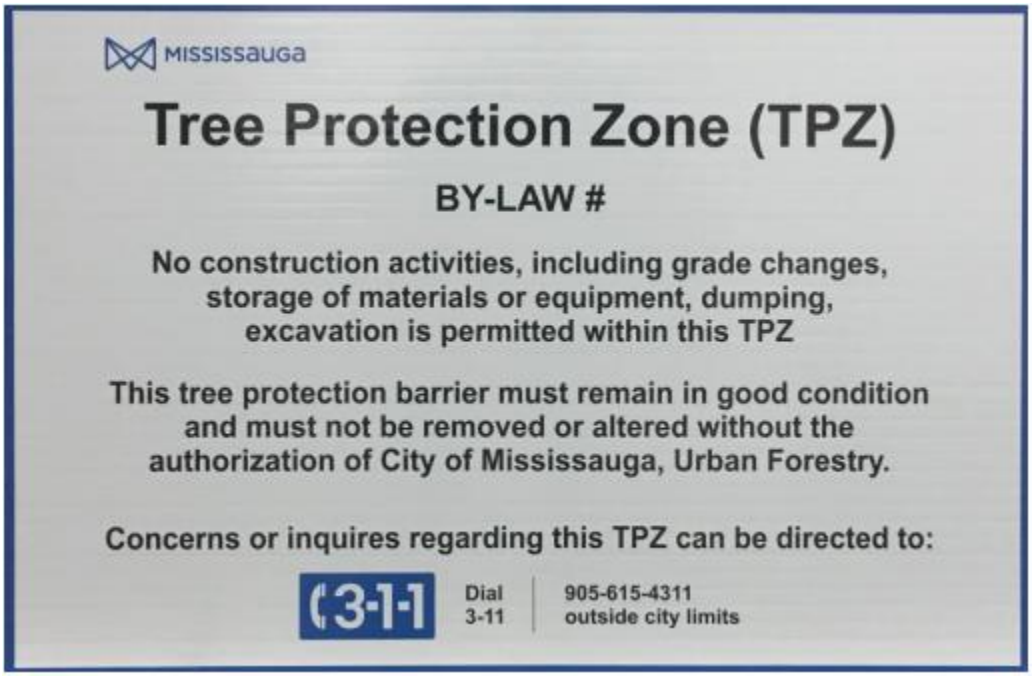


Photo 1: Example of TPZ signage

For a City Tree hoarding inspection, please contact Ryan Cormier at 905-615-3200 x 4580. No construction activity is permitted within the tree preservation zones (TPZ). Should you need to remove or alter the hoarding at any time during construction, please advise City of Mississauga Forestry prior to doing so. All tree protection measures must be implemented and installed prior to the commencement of construction and maintained until all construction related activities are complete.

Felling and Grinding

Trees to be removed will be felled into the Subject Property by a qualified arborist using good arboricultural practices. Tree protection fencing shall be installed for trees to be retained prior to tree removal unless the fencing will directly interfere with undertaking of approved tree removal.

For removals adjacent to trees to be retained, it is recommended that they be stumped and grinded as required rather than root removal (e.g., stump pulling), as root pulling has the potential to adversely affect trees to be retained.

Pruning

Pruning is not anticipated to be required for this project, as removals are to occur on discrete tablelands. However, any roots or limbs of trees to be retained that extend beyond the tree protection fencing may require pruning. Pruning should be carried out as specified by an ISA certified arborist.

Trees can typically withstand up to 30% encroachment into their TPZ. The City of Mississauga prohibits many activates within the TPZ but may approve excavation for root pruning. Any pruning of tree roots and branches of trees necessary to accommodate the fencing or nearby construction work should be completed by a qualified arborist using best arboricultural practices. Various methods are deemed acceptable (i.e., Air Spade) by the City and must be either conducted or supervised by a Certified Arborist.

Prune limbs utilizing pruning shears, pruning saw, or chain saw. Root systems of protected trees that are exposed or damaged by construction work, shall be trimmed neatly by a Qualified Arborist in accordance to good arboricultural practices and the area is to be back filled with appropriate material to maintain moisture/prevent desiccation. Roots should be excavated using a low pressure airspade. Roots should be pruned in a similar fashion as branches, taking care to maintain the integrity of the root bark ridge, where present.

Oak Wilt

Oak wilt is a disease caused by fungus, resulting in tree death within a single season. Red Oaks are particularly susceptible and due to the presence of Bur Oak and Red Oak within the Subject Property, the Canadian Food Inspection Agency recommends avoiding pruning Oak trees between April and November (Government of Canada, 2023).

6. Management and Monitoring Phase

Pre-Construction Phase

To avoid an offence under the *Migratory Bird Convention Act, 1994* (*MBCA*) for the destruction of active nests and/or eggs during bird nesting periods, it is recommended that all vegetation (including tree) removal works are conducted between September 1 and March 31 of any given year. Should tree removal during bird nesting season be unavoidable, a qualified biologist should conduct a nesting survey immediately before any vegetation removal is conducted, as defined by the *Act*.

To avoid potential negative impacts to SAR bats, tree removals should occur between April 1 to September 30. Avoid any damage to Oak trees between April 1 - October 31 to avoid the potential spread of Oak Wilt, which has recently been detected in Southern Ontario. This timing window is from the Canadian Food Inspection Agency (CFIA). The hired contractor performing the removals should be familiar with tree diseases, including Oak Wilt, and report any suspicious trees to the CFIA and Community Services/Forestry.

The erection of tree protection fencing (**Figure 2**) as per the Site Plan is to be conducted under the supervision of an ISA Certified Arborist, prior to the commencement of site clearance, demolition, or any other type of construction. Any pruning or trimming of trees to accommodate the fencing will be completed by a Certified Arborist using best industry practices. All trees to be removed will be felled into the proposed development area as to avoid damage to the adjacent trees. Fencing must remain intact through the completion of construction.

Construction Phase

Tree protection fencing will be regularly inspected for damage and proper function by construction personnel. Any damage will be reported to the construction supervisor and repaired immediately. Protective fencing shall remain in place throughout the duration of construction and shall not allow traffic, vehicles, foot traffic or equipment to compact soil within the TPZ. Any build up of sediments at tree bases will be removed as part of fencing repairs. To avoid sediment build ups, Erosion and Sediment Control (ESC) fencing (Drawing C401, provided separately) should be integrated with the tree protection fencing, and would largely avoid the movement of sediment into the natural heritage system.

Periodic monitoring of the Site during demolition, excavation and construction may be required to ensure tree protection measures are performed or remain in place throughout the duration of the construction. If required, monitoring will be performed by the developer's Consulting Arborist.

Post-Construction Phase

The removal of tree protection barriers will only be initiated once all construction activities have been completed and landscaping has been implemented. The TPZ barriers and any additional tree care measures must remain in place until approval is given by the City of Mississauga.

Planting of trees as per Section 7 will be initiated as part of landscaping and be completed by nursery professionals or a Certified Arborist. Planting will occur solely during the spring or fall planting seasons; being April 15 - July 1, and September 15 – November 15 respectively.

Monitoring of tree establishment should be completed for a minimum of two growing seasons post-planting. Monitoring will be designed to assess the growth and establishment of the planted trees, ensuring that the conditions any nursery guarantees are met.

7. Replacement Trees

The City's by-law states that replacement plantings are required when individual healthy trees (good to fair condition) which are greater than 15 cm DBH, including both native and non-native species. A tree

replacement is required for every 15 cm (6 inches) of diameter of the tree removed (City of Mississauga, 2023).

Of the inventoried trees to be removed, three (3) trees are in poor condition and one (1) tree is below 15 cm DBH and will not require replacement. The trees proposed to be removed range between 15 and 124 cm DBH, thus requiring a wide range of replacement trees (**Table 6**). Three (3) trees are to be removed within Credit Valley Conservation regulated lands (CVC, 2020), which have specific replacement requirements (**Table 7**). A total of 261 trees must be planted in compensation for the removal of the 62 trees on the Subject Property.

Table 6. Tree Replacement Requirement for City of Mississauga

	Trees 15-29 cm DBH (1:1)	**Trees 30-44 cm DBH (2:1)**	**Trees 45-59 cm DBH (3:1)**	**Trees 60 – 74 cm DBH (4:1)**	**Trees 75-89 cm DBH (5:1)**	**Trees 90-104 cm DBH (6:1)**	**Trees 105-119 cm DBH (7:1)**	**Trees 120-134 cm DBH (8:1)**	**Total**
Total number of removals	9	20	18	3	2	1	1	1	**55**
Total number of replacement trees	9	40	54	12	10	6	7	8	**146**

Table 7. Tree Replacement Requirement for Credit Valley Conservation

	Trees >5 – 10 cm DBH (1:1)	**Trees 10.1 – 20 cm DBH (3:1)**	**Trees 20.1 – 30 cm DBH (10:1)**	**Trees 30.1 – 40 cm DBH (15:1)**	**Trees 40.1 – 50 cm DBH (20:1)**	**Trees 50.1 – 60 cm DBH (30:1)**	**Trees 60.1 – 70 cm DBH (40:1)**	**Trees 70.1 + cm DBH (50:1)**	**Total**
Total number of removals	0	0	0	1	0	0	0	2	**3**
Total number of replacement trees	0	0	0	15	0	0	0	100	**115**

Compensation trees to replace the ones removed (261 total), their sizes, locations, and quantities are to be reviewed by City of Mississauga Community Services and Forestry. All replacement trees must be native and common the Credit River Watershed. The replacement trees must be at least 1.8 m tall for a coniferous tree or at least 6 cm in diameter for a deciduous tree in accordance with the City's By-law (City of Mississauga, 2023).

The Credit Valley Conservation Authority (CVC) has previously completed restoration plantings on the Subject Property. To continue this relationship, Argo Sherwood Forrest Limited proposes to continue to

work with CVC to provide for the appropriate compensation plantings. Once servicing is installed, the replacement plantings are proposed to first target the abandoned lane on the north side of the Subject Property. The species and locations will be determined by a Landscape Architect.

8. Conclusion

In summary, a total of 183 trees were inventoried, although 178 trees are currently present and assessed in this report due to the natural falling of five trees (deadfall). Of these, 72 (40%) are native species, and 103 (57%) are non-native species, and three identified to genus only. It is estimated that 62 trees are proposed to be removed within the redevelopment area, five are proposed to be retained but may be injured and 111 trees are proposed to be retained.

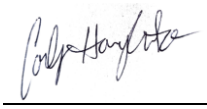
The trees to be retained should be protected by pruning overhanging limbs (where applicable such as tree in close proximity to the construction works), by pruning exposed roots, and installing tree protection fencing around the limit of development and/or beyond the tree protection zone of the tree.

A total of 62 trees are to be replaced with 261 replacement trees. Replacement plantings should solely be comprised of species that are native to the Credit River watershed.

9. Certification

This memorandum was prepared and reviewed by the undersigned:

Prepared By:



Carly Houghton, B.E.S.
Ecologist, ISA Certified Arborist ON-2346A

Reviewed By:

Austin Adams, M.Sc., EP
Senior Ecologist, Certified Arborist ON-2000A

References

City of Mississauga. (2017). *Tree Protection and Preservation Standards.* Retrieved from mississauga.ca: https://www.mississauga.ca/wp-content/uploads/2020/07/16113507/Mississauga-Tree-Preservation-Protection-Standards.pdf

City of Mississauga. (2019, April). *City of Mississauga - Terms of Reference.* Retrieved from Terms of Reference: Arborist Reports, Tree Inventory/Survey & Tree Preservation Plans : https://www7.mississauga.ca/documents/Business/Arborist_Report_Tree_Inventory__Tree_Preservation_Plans_-_Terms_of_Reference.pdf

City of Mississauga. (2019, November 22). *City of Mississauga Official Plan (November 22, 2019 Consolidation).* Retrieved from City of Mississauga: http://www.mississauga.ca/portal/residents/mississaugaofficialplan

City of Mississauga. (2022). *Private Tree Protection By-law 0021-2022.* Retrieved from City of Mississauga: https://www.mississauga.ca/wp-content/uploads/2018/09/30121717/Private-Tree-Protection-By-law-0021-2022.pdf

City of Mississauga. (2023). *Request to injure or remove trees.* Retrieved from missisauga.ca: https://www.mississauga.ca/services-and-programs/forestry-and-environment/trees/request-to-injure-or-remove-trees/

Conservation Authorities Act, R.S.O. 1990, c. C.27. O. Reg. 166/06: Credit Valley Conservation: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

Credit Valley Conservation. 2020. Ecosystem Offsetting Guidelines.

Credit Valley Conservation. 2018. Plant Selection Guideline.

Credit Valley Conservation. 2024. Regulation Mapping. https://cvc.ca/regulation-mapping/

Government of Canada. (2023). Oak Wilt. Retrieved from https://inspection.canada.ca/plant-health/invasive-species/plant-diseases/oak-wilt/eng/1325624048625/1325624535106

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/

Appendix A: Tree Inventory

Tree ID	Common Name	Scientific Name	DBH (cm)	Effective DBH (cm)	Dripline (m)	Condition Rating (Good/Fair/Poor)	TPZ (m)	Retain / Remove
75	Norway Spruce	*Picea abies*	42	42		F	3	Retain
76	Norway Spruce	*Picea abies*	51	51		F	3.6	Retain
77	Norway Spruce	*Picea abies*	34.4	34.4		F	2.4	Retain
78	Norway Spruce	*Picea abies*	38	38		F	2.4	Retain
79	Norway Spruce	*Picea abies*	20.8	20.8		F	1.8	Retain
80	Norway Spruce	*Picea abies*	28	28		F	1.8	Retain
81	Norway Spruce	*Picea abies*	34.5	34.5		F	2.4	Retain
82	Norway Spruce	*Picea abies*	38.2	38.2		F	2.4	Retain
83	Norway Spruce	*Picea abies*	52	52		F	3.6	Retain
84	Norway Spruce	*Picea abies*	42.5	42.5		F	3	Retain
85	Norway Spruce	*Picea abies*	23.4	23.4		F	1.8	Retain
86	Norway Spruce	*Picea abies*	33.6	33.6		F	2.4	Retain
87	Norway Spruce	*Picea abies*	21	21		F	1.8	Retain
88	Norway Spruce	*Picea abies*	36.7	36.7		F	2.4	Retain
89	Norway Spruce	*Picea abies*	18.2	18.2		F	1.5	Retain
90	Norway Spruce	*Picea abies*	30.4	30.4		F	2.4	Retain
91	Norway Spruce	*Picea abies*	22.8	22.8		F	1.8	Retain
92	Norway Spruce	*Picea abies*	14.2, 11.2, 26.5	32		F	2.4	Injure
93	Norway Spruce	*Picea abies*	30.8	30.8		F	2.4	Retain
94	Norway Spruce	*Picea abies*	21.5	21.5		F	2.4	Retain
95	Deadfall tree							
96	Norway Spruce	*Picea abies*	23.4	22		F	1.8	Retain
97	Norway Spruce	*Picea abies*	16	23.4		F	1.8	Retain
98	Norway Spruce	*Picea abies*	40.7	16		F	1.5	Retain

Tree ID	Common Name	Scientific Name	DBH (cm)	Effective DBH (cm)	Dripline (m)	Condition Rating (Good/Fair/Poor)	TPZ (m)	Retain / Remove
99	Norway Spruce	*Picea abies*	22	40.7		F	3	Retain
100	Norway Spruce	*Picea abies*	40.2	40.2		F	3	Injure
101	Deadfall tree							
102	Norway Spruce	*Picea abies*	37.9	37.9		F	2.4	Retain
103	Norway Spruce	*Picea abies*	26.8	26.8		F	1.8	Retain
104	Norway Spruce	*Picea abies*	37	37		P	2.4	Retain
105	Norway Spruce	*Picea abies*	51	51		F	3.6	Remove
106	Scots Pine	*Pinus sylvestris*	49.7	49.7		P	3	Remove
107	Scots Pine	*Pinus sylvestris*	39	39		F	2.4	Remove
108	Norway Spruce	*Picea abies*	35.5	35.5		F	2.4	Remove
109	Weeping Willow	*Salix babylonica*	105	105		F	6.3	Remove
110	English Walnut	*Juglans regia*	52	52		F	3.6	Remove
111	English Walnut	*Juglans regia*	92	92		P	6	Remove
112	Sugar Maple	*Acer saccharum*	36, 35.2, 48.9, 24, 19.6	77		G	4.8	Remove
113	Deadfall tree							
114	Eastern White Cedar	*Thuja occidentalis*	6.5, 7, 8.5, 10.4, 16, 7, 10, 19.3, 10, 8, 8.3	30		F	1.8	Retain
115	Eastern White Cedar	*Thuja occidentalis*	16.5, 8.4, 20, 8, 9, 10	30		F	1.8	Retain
116	Eastern White Cedar	*Thuja occidentalis*	28, 26.6, 16, 7, 8	43		F	3	Retain
117	Eastern White Cedar	*Thuja occidentalis*	10, 6.5, 13,16.7, 22, 5, 20.5, 5, 4, 4, 17, 5, 19, 9.4, 4, 3, 7, 7	39		F	2.4	Retain

Tree ID	Common Name	Scientific Name	DBH (cm)	Effective DBH (cm)	Dripline (m)	Condition Rating (Good/Fair/Poor)	TPZ (m)	Retain / Remove
118	Eastern White Cedar	*Thuja occidentalis*	37, 16, 27, 7, 22, 18.5, 8, 7, 22.6, 9, 15, 12, 22, 5, 5, 5, 5, 5, 7.5, 13, 18	55		G	3.6	Retain
119	Eastern White Cedar	*Thuja occidentalis*	5, 14.5, 5, 18.6, 22, 18.3, 30, 4, 5, 6, 3, 22.5	48		F	3	Injure
120	Eastern White Cedar	*Thuja occidentalis*	20, 4, 12, 18, 6, 6, 21, 6, 5.3, 16.6, 14, 3, 3, 5, 6, 17, 22, 16	42		F	3	Retain
121	Eastern White Cedar	*Thuja occidentalis*	20, 6, 13, 5, 11, 5, 18, 14, 19, 6.5, 19	40		F	2.4	Injure
122	Eastern White Pine	*Pinus strobus*	51	51		G	3.6	Remove
123	Norway Maple	*Acer platanoides*	45.4	45.4		G	3	Remove
124	Honey Locust	*Gleditsia triacanthos*	51	51		F	3.6	Remove
125	Eastern White Cedar	*Thuja occidentalis*	20.5, 14	25		F	1.8	Remove
126	Eastern White Cedar	*Thuja occidentalis*	17.5, 9.5, 15, 10	27		G	1.8	Remove
127	Eastern White Cedar	*Thuja occidentalis*	15.5, 20, 18.5, 7, 15.5	36		G	2.4	Remove
128	Eastern White Cedar	*Thuja occidentalis*	18, 11, 16, 12, 20	49		G	3	Remove
129	Eastern White Cedar	*Thuja occidentalis*	15.5	15.5		F	1.5	Remove
130	Eastern White Cedar	*Thuja occidentalis*	28	28		G	1.8	Remove
131	Eastern White Cedar	*Thuja occidentalis*	19.5, 35,16, 18	47		G	3	Remove
132	Eastern White Cedar	*Thuja occidentalis*	16	16		G	1.5	Remove
133	Eastern White Cedar	*Thuja occidentalis*	17	17		G	1.5	Remove
134	Eastern White Cedar	*Thuja occidentalis*	17.5	17.5		G	1.5	Remove
135	Eastern White Cedar	*Thuja occidentalis*	16	16		G	1.5	Remove
136	Eastern White Cedar	*Thuja occidentalis*	16, 17, 16.5, 7, 7, 17, 5.8, 12, 5, 6, 16.5	37		F	2.4	Remove

Tree ID	Common Name	Scientific Name	DBH (cm)	Effective DBH (cm)	Dripline (m)	Condition Rating (Good/Fair/Poor)	TPZ (m)	Retain / Remove
137	Eastern White Cedar	*Thuja occidentalis*	8, 15, 18.5, 10.6, 20, 6, 3, 5, 16, 9.2	34		F	2.4	Remove
138	Red Maple	*Acer rubrum*	46.5, 32.5, 50, 48	89		F	5.4	Remove
139	Scots Pine	*Pinus sylvestris*	50	50		F	3	Remove
140	Scots Pine	*Pinus sylvestris*	43	43		F	3	Remove
141	Norway Spruce	*Picea abies*	91	91		G	6	Remove
142	Norway Spruce	*Picea abies*	52	52		G	3.6	Remove
143	Norway Spruce	*Picea abies*	60	60		G	3.6	Remove
144	Norway Spruce	*Picea abies*	66.5	66.5		G	4.2	Remove
145	Eastern White Pine	*Pinus strobus*	40.2	40.2		F	3	Remove
146	Eastern White Pine	*Pinus strobus*	35	35		G	2.4	Remove
147	Eastern White Pine	*Pinus strobus*	50	50		G	3	Remove
148	Eastern White Pine	*Pinus strobus*	42.7	42.7		F	3	Remove
149	Eastern White Pine	*Pinus strobus*	50	50		G	3	Remove
150	Eastern White Pine	*Pinus strobus*	40.5	40.5		F	3	Remove
151	Eastern White Pine	*Pinus strobus*	34	34		F	2.4	Remove
152	Deadfall tree							
153	Deadfall tree							
154	Colorado Spruce	*Picea pungens*	32.8, 35	48		G	3	Remove
155	White Spruce	*Picea glauca*	30, 31	43		G	3	Remove
156	Colorado Spruce	*Picea pungens*	42	42		G	3	Remove
157	Colorado Spruce	*Picea pungens*	30.3	30.3		G	2.4	Remove
158	Freeman's Maple	*Acer freemanii*	124	124		F	7.4	Remove
159	Colorado Spruce	*Picea pungens*	40	40		G	2.4	Remove
160	Colorado Spruce	*Picea pungens*	50	50		G	3	Remove
161	White Spruce	*Picea glauca*	40.5	40.5		G	3	Remove
162	Colorado Spruce	*Picea pungens*	40.1	40.1		G	3	Remove
163	Common Apple	*Malus pumila*	43.5	43.5		G	3	Remove

Tree ID	Common Name	Scientific Name	DBH (cm)	Effective DBH (cm)	Dripline (m)	Condition Rating (Good/Fair/Poor)	TPZ (m)	Retain / Remove
164	Eastern White Cedar	*Thuja occidentalis*	41, 30.6, 22.4	56		F	3.6	Remove
165	Eastern White Cedar	*Thuja occidentalis*	21.1	21.1		F	1.8	Remove
166	Eastern White Cedar	*Thuja occidentalis*	50, 26.7	57		P	3.6	Remove
167	Black Walnut	*Juglans nigra*	60	60		F	3.6	Remove
168	White Spruce	*Picea glauca*	38.6	38.6		F	2.4	Remove
169	White Spruce	*Picea glauca*	50	50		F	3	Remove
170	Red Maple	*Acer rubrum*	51	51		F	3.6	Remove
171	Colorado Spruce	*Picea pungens*	49	49		G	3	Remove
172	Colorado Spruce	*Picea pungens*	39.4	39.4		G	2.4	Remove
173	Colorado Spruce	*Picea pungens*	44	44		G	3	Remove
174	Colorado Spruce	*Picea pungens*	41	41		G	3	Remove
175	Colorado Spruce	*Picea pungens*	49.2	49.2		G	3	Remove
176	Norway Maple	*Acer platanoides*	108	108		F	6.5	Remove
177	Black Cherry	*Prunus serotina*	43.8	43.8	6	G	3	Retain
178	Red Oak	*Quercus rubra*	51	51	12	G	3.6	Retain
179	Bur Oak	*Quercus macrocarpa*	45	45	8	F	3	Retain
180	Red Oak	*Quercus rubra*	18.8	18.8	6	G	1.5	Retain
181	Black Cherry	*Prunus serotina*	33.2, 37.9	50	8	F	3	Retain
182	Black Cherry	*Prunus serotina*	33	33	8	F	2.4	Retain
183	Eastern White Pine	*Pinus strobus*	51.5	51.5	4	G	3.6	Retain
184	Black Cherry	*Prunus serotina*	45.8, 28.8	54	6	F	3.6	Retain
185	American Basswood	*Tilia americana*	55	55	6	F	3.6	Retain
186	Norway Spruce	*Picea abies*	49	49	3.5	G	3	Retain
187	American Basswood	*Tilia americana*	14.2, 31.8, 35.7, 34	61	5	G	4.2	Retain
188	Norway Maple	*Acer platanoides*	41.7	41.7	5	F	3	Retain
189	Norway Spruce	*Picea abies*	52	52	5	G	3.6	Retain
190	Norway Spruce	*Picea abies*	25.5	25.5	3	F	1.8	Retain
191	Red Oak	*Quercus rubra*	62	62	6	F	8.4	Retain

Tree ID	Common Name	Scientific Name	DBH (cm)	Effective DBH (cm)	Dripline (m)	Condition Rating (Good/Fair/Poor)	TPZ (m)	Retain / Remove
192	Red Oak	*Quercus rubra*	52, 56	76	11	F	4.8	Retain
193	Black Walnut	*Juglans nigra*	43.2	43.2	9	F	3	Retain
194	Colorado Spruce	*Picea pungens*	25.4	25.4	0.5	P	1.8	Retain
195	Sugar Maple	*Acer saccharum*	56	56	6	F	3.6	Retain
196	White Spruce	*Picea glauca*	31.6	31.6	2.5	F	2.4	Retain
197	Colorado Spruce	*Picea pungens*	26	26	3	F	1.8	Retain
198	Sugar Maple	*Acer saccharum*	24.5	24.5	6	F	1.8	Retain
199	Red Oak	*Quercus rubra*	46.5, 27.9	55	7	F	3.6	Retain
200	Colorado Spruce	*Picea pungens*	21.7, 11.9	25	2	F	1.8	Retain
201	Sugar Maple	*Acer saccharum*	76	76	12	G	4.8	Retain
202	Sugar Maple	*Acer saccharum*	46.2	46.2	9	G	3	Retain
203	Sugar Maple	*Acer saccharum*	36.5	36.5	9	F	2.4	Retain
204	Sugar Maple	*Acer saccharum*	24, 49.5	55	8	G	3.6	Retain
205	American Basswood	*Tilia americana*	44.7, 11.6	47	6	G	3	Retain
206	Sugar Maple	*Acer saccharum*	50.5	50.5	7	G	3.6	Retain
874	Norway Maple	*Acer platanoides*	40	40	5	g	2.4	Retain
875	Willow	*Salix* sp.	21,18,17	32	3	F	2.4	Retain
876	White Spruce	*Picea glauca*	51	51	5	F	3.6	Retain
877	Norway Maple	*Acer platanoides*	48	48	7	G	3	Retain
878	Norway Maple	*Acer platanoides*	14	14	3	F	1.5	Remove
879	Colorado Spruce	*Picea pungens*	30	30	2	F	1.8	Retain
880	Colorado Spruce	*Picea pungens*	24	24	2	F	1.8	Retain
881	Colorado Spruce	*Picea pungens*	30	30	2	F	1.8	Retain
882	Colorado Spruce	*Picea pungens*	16	16	2	F	1.5	Retain
885	Sugar Maple	*Acer saccharum*	10	10	3	F	1.5	Retain
886	Sugar Maple	*Acer saccharum*	12	12	3	F	1.5	Retain
887	Northern Catalpa	*Catalpa speciosa*	10	10	2	F	1.5	Retain

Tree ID	Common Name	Scientific Name	DBH (cm)	Effective DBH (cm)	Dripline (m)	Condition Rating (Good/Fair/Poor)	TPZ (m)	Retain / Remove
888	Green Ash	*Fraxinus pennsylvanica*	19	19	2	Dead	1.5	Retain
AA	Red pine	*Pinus resinosa*	30	30	3	G	1.8	Retain
AB	Scots Pine	*Pinus sylvestris*	35	35	3	G	2.4	Retain
AC	Scots Pine	*Pinus sylvestris*	20	20	3	G	1.5	Retain
AD	Scots Pine	*Pinus sylvestris*	25	25	3	G	1.8	Retain
AE	Scots Pine	*Pinus sylvestris*	20	20	2	G	1.5	Retain
AF	Scots Pine	*Pinus sylvestris*	22	22	4	G	1.8	Retain
AG	Scots Pine	*Pinus sylvestris*	18	18	2	G	1.5	Retain
AH	Norway Maple	*Acer platanoides*	15	15	4	G	1.5	Retain
AI	Scots Pine	*Pinus sylvestris*	23	23	3	G	1.8	Retain
AJ	Green Ash	*Fraxinus pennsylvanica*	15	15	4	P	1.5	Retain
AK	Scots Pine	*Pinus sylvestris*	10	10	4	G	1.5	Retain
AL	Scots Pine	*Pinus sylvestris*	20	20	3	G	1.5	Retain
AM	Norway Spruce	*Picea abies*	40	40	5	G	2.4	Retain
AN	Norway Spruce	*Picea abies*	55	55	5	G	3.6	Retain
AO	Norway Spruce	*Picea abies*	15	15	3	G	1.5	Retain
AP	Scots Pine	*Pinus sylvestris*	20	20	4	G	1.5	Retain
AQ	Scots Pine	*Pinus sylvestris*	20	20	2	F	1.5	Retain
AR	Eastern White Pine	*Pinus strobus*	10	10	2	G	1.5	Retain
AS	Eastern White Pine	*Pinus strobus*	20	20	3	G	1.5	Retain
AT	Pine	*Pinus* sp.	30	30	2	G	1.8	Retain
AU	Norway Spruce	*Picea abies*	60	60	5	G	3.6	Retain
AV	Norway Spruce	*Picea abies*	40	40	5	G	2.4	Retain
AW	Apple	*Malus* sp.	25	25	7	F	1.8	Retain
AX	Norway Spruce	*Picea abies*	30	30	3	F	1.8	Retain
AY	Norway Spruce	*Picea abies*	25	25	1	F	1.8	Retain
AZ	Norway Spruce	*Picea abies*	40	40	3	F	2.4	Retain

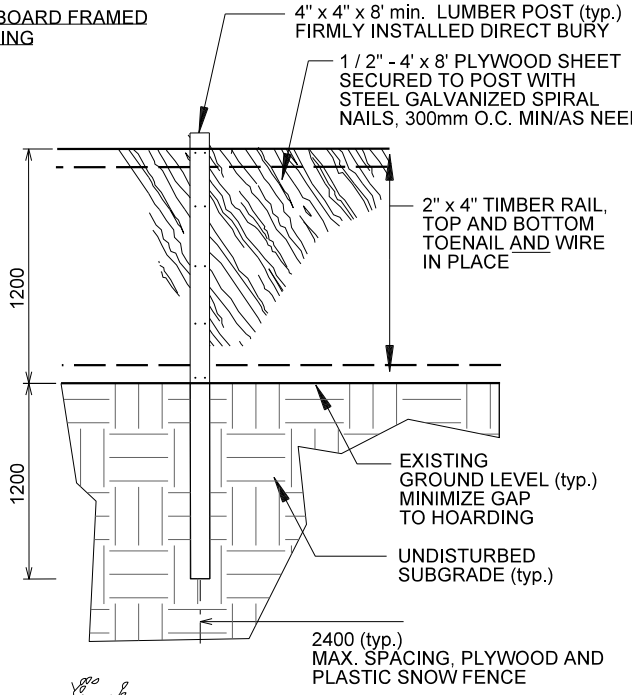
Tree ID	Common Name	Scientific Name	DBH (cm)	Effective DBH (cm)	Dripline (m)	Condition Rating (Good/Fair/Poor)	TPZ (m)	Retain / Remove
BA	Norway Spruce	*Picea abies*	30	30	2	F	1.8	Retain
BB	Norway Spruce	*Picea abies*	30	30	3	F	1.8	Retain
BC	Norway Spruce	*Picea abies*	25	25	3	F	1.8	Retain
BD	Norway Spruce	*Picea abies*	70	70	6	F	4.2	Retain
BE	Norway Spruce	*Picea abies*	25	25	4	F	1.8	Retain
BF	Norway Spruce	*Picea abies*	35	35	4	F	2.4	Retain
BG	Siberian Elm	*Ulmus pumila*	70	70	6	F	4.2	Injure
BH	Norway Spruce	*Picea abies*	15	15	3	F	1.5	Retain
BI	Norway Spruce	*Picea abies*	30	30	4	F	1.8	Retain
BJ	Norway Spruce	*Picea abies*	15	15	3	F	1.5	Retain
BK	Norway Spruce	*Picea abies*	40	40	5	F	2.4	Retain
BL	Norway Maple	*Acer platanoides*	25	25	4	G	1.8	Retain

02830-6

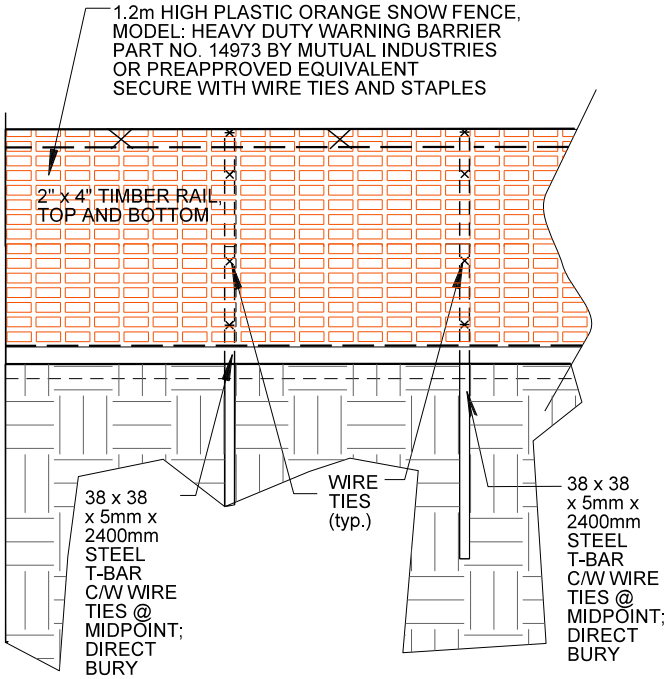
Hoarding
Framed Protective Construction Hoarding
Solid Board- Plastic Snow Fence

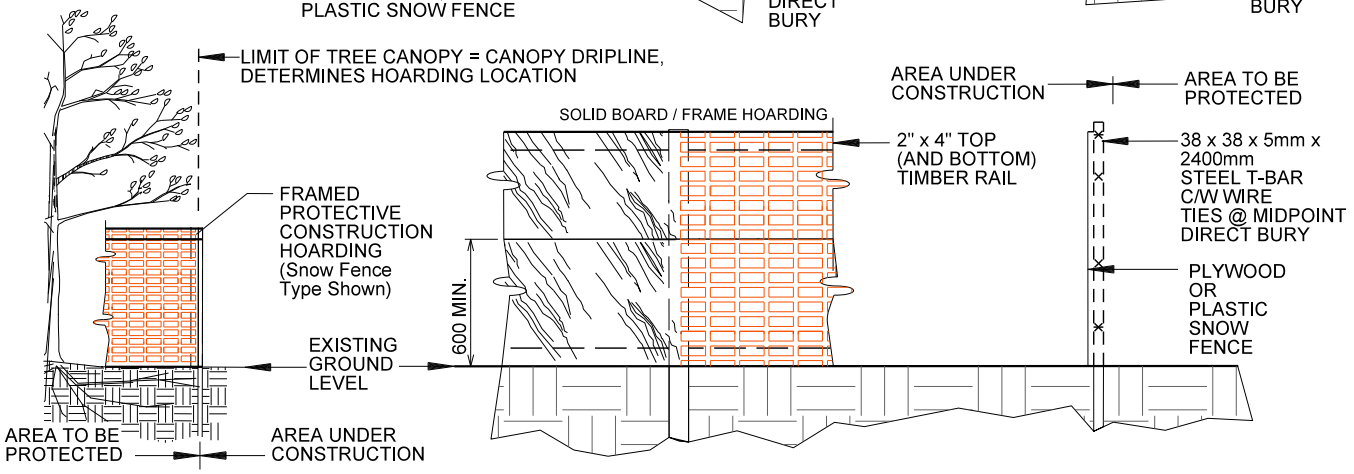
NOTE:
TO BE USED AS A GUIDELINE ONLY.
NOT TO SCALE. REMOVE CITY TITLE BLOCK AND REDRAW TO REPRESENT SITE SPECIFIC CONDITIONS. ALL SITE SPECIFIC CONDITIONS ARE TO BE CONFIRMED BY THE PROJECT CONSULTANT.

SOLID BOARD FRAMED HOARDING



PLASTIC SNOW FENCE FRAMED HOARDING





NOTES:

1. HOARDING LOCATION AS PER DRAWINGS. HOARDING INSTALLATIONS ARE TO INCLUDE WOVEN GEOTEXTILE FABRIC FOR SEDIMENT CONTROL.
2. NO MOBILIZATION OR CONSTRUCTION WORK TO OCCUR UNTIL HOARDING HAS BEEN INSPECTED AND APPROVED BY COMMUNITY SERVICES PROJECT MANAGER (CSPM). CONTRACTOR TO ARRANGE FOR A HOARDING INSPECTION WITH (CSPM), 48 HOUR NOTICE RQUIRED.
3. HOARDING TO BE SUPPLIED, INSTALLED AND MAINTAINED BY THE CONTRACTOR THROUGH ALL PHASES OF WORK ON SITE.
4. THE CONTRACTOR IS TO REMOVE AND DISPOSE THE HOARDING OFF SITE WHEN DIRECTED BY THE (CSPM).
5. ALL WOOD PRODUCTS TO BE NEW AND LUMBER KILN DRIED SPF.
6. ALL FASTENERS TO BE NEW GALVANIZED STEEL AND SECURELY INSTALLED. WIRE TIES MIN 3.5mm DIA. GALVANIZED STEEL.
7. DO NOT ALLOW WATER TO COLLECT AND/OR POND ON EITHER SIDE OF THE HOARDING.
8. WHEN INSTALLING DIRECT BURY TIMBER POSTS AND T-BARS, TAKE CARE TO AVOID VISIBLE AND ASCERTAINABLE TREE ROOTS.
9. PLACE HOARDING AT LIMIT OF TREE CANOPY DRIP LINE OR BEYOND (E.G. FURTHER AWAY FROM TRUNK) OF TREE.
10. HOARDED OFF AREA TO REMAIN UNDISTURBED. NO STOCKPILING, STAGING OR MOVEMENT OF VEHICLES TO OCCUR WITHIN PROTECTED AREA.
11. FOR PROTECTION OF TREE'S AND ROOT SYSTEM, CONTRACTOR MAY BE REQUIRED TO PROVIDE WATERING, MULCHING, FERTILIZING, PRUNING OR OTHER ACTIVITIES TO ENSURE THE HEALTH OF THE TREE(S).
12. ALL MEASUREMENTS IN MILLIMETRES UNLESS NOTED OTHERWISE (E.G. DIMENSIONAL LUMBER).
13. CONTRACTOR RESPONSIBLE FOR LOCATES

N.T.S.

Appendix C

Plant List

Appendix C

Plant List

Species		Status				Location	
Scientific Name	Common Name	COSEWIC	MNRF	SRank	Status	CUW1	FOD5-3
Acer negundo	Manitoba Maple			S5		X	X
Acer platanoides	Norway Maple			SE5		X	X
Acer saccharum var. saccharum	Sugar Maple			S5			X
Acer X freemanii	Freeman's Maple			S5		X	X
Aesculus hippocastanum	Horse Chestnut			SE2			X
Alliaria petiolata	Garlic Mustard			SE5		X	X
Arctium minus	Lesser Burdock			SE5		X	X
Symphyotrichum lateriflorum var. hirsuticaule	Hairy Calico Aster			S4?			X
Symphyotrichum novae-angliae	New England Aster			S5		X	
Campanula rapunculoides	Creeping Bellflower			SE5			X
Carex sp.	Sedge species					X	
Catalpa speciosa	Northern Catalpa			SNA		X	
Circaea lutetiana ssp. canadensis	Enchanter's Nightshade			S5		X	X
Cirsium vulgare	Bull Thistle			SE5			X
Cornus alternifolia	Alternate-leaf Dogwood			S5			X
Cynoglossum officinale	Hound's-tongue			SE5			X
Dactylis glomerata	Orchard Grass			SE5		X	X
Daucus carota	Queen Anne's Lace			SE5		X	
Erigeron annuus	White-top Fleabane			S5		X	
Euonymus europaeus	European Euonymus			SE2			X
Fagus sylvatica	European Beech						X
Fraxinus americana	White Ash			S5		X	X
Fraxinus pennsylvanica	Green Ash			S5			X
Fragaria vesca ssp. *americana*	Woodland Strawberry			S5			X

Species		Status				Location	
Scientific Name	Common Name	COSEWIC	MNRF	SRank	Status	CUW1	FOD5-3
Geranium robertianum	Herb-robert			SE5		X	
Geum urbanum	Wood Avens			SNA		X	
Hackelia virginiana	Virginia Stickseed			S5			X
Hypericum perforatum	St. John's-wort			SE5		X	X
Impatiens capensis	Spotted Jewel-weed			S5			X
Impatiens pallida	Pale Jewel-weed			S5	rare		X
Juglans nigra	Black Walnut			S4		X	X
Leonurus cardiaca ssp. *cardiaca*	Common Motherwort			SE5			X
Lonicera tatarica	Tartarian Honeysuckle			SE5		X	X
Morus alba	White Mulberry			SNA		X	
Parthenocissus vitacea	Thicket Creeper			S5		X	X
Picea abies	Norway Spruce			SE3		X	
Picea glauca	White Spruce			S5			X
Picea pungens	Colorado Spruce			SE1		X	
Pinus strobus	Eastern White Pine			S5			X
Poa pratensis ssp. *pratensis*	Kentucky Bluegrass			S5			X
Potentilla recta	Sulphur Cinquefoil			SE5			X
Prunus serotina	Wild Black Cherry			S5			X
Prunus virginiana var. *virginiana*	Choke Cherry			S5			X
Prunella vulgaris ssp. *vulgaris*	Common Heal-all			SE3			X
Pyrus communis	Common Pear			SE4		X	
Quercus rubra	Northern Red Oak			S5		X	X
Ranunculus recurvatus var. *recurvatus*	Hooked Crowfoot			S5		X	X
Rhamnus cathartica	Buckthorn			SE5		X	X
Rhus hirta	Staghorn Sumac			S5		X	X
Rorippa sylvestris	Creeping Yellow-cress			SE5			X
Rubus occidentalis	Black Raspberry			S5		X	X
Rumex acetosella ssp. *acetosella*	Sheep Sorrel			SE5			X
Solidago canadensis var. *scabra*	Tall Goldenrod			S5		X	X
Solanum dulcamara	Climbing Nightshade			SE5			X

Species		Status				Location	
Scientific Name	**Common Name**	**COSEWIC**	**MNRF**	**SRank**	**Status**	**CUW1**	**FOD5-3**
Sonchus arvensis ssp. *arvensis*	Field Sowthistle			SE5			X
Tilia americana	American Basswood			S5			X
Tsuga canadensis	Eastern Hemlock			S5			X
Ulmus rubra	Slippery Elm			S5			X
Verbascum thapsus	Common Mullein			SE5			X
Vitis riparia	Riverbank Grape			S5		X	X

Appendix D

Breeding Bird Species List

Appendix D

Breeding Bird List

Species		Status					Observations	
Scientific Name	Common Name	COSEWIC	SARO	SRank	CVC	Area-sensitive	2017	2023
Buteo jamaicensis	Red-tailed Hawk			S5	yes		3	
Charadrius vociferus	Killdeer			S5	yes		2	
Larus delawarensis	Ring-billed Gull			S5	yes		1	
Picoides pubescens	Downy Woodpecker			S5	yes		2	2
Colaptes auratus	Northern Flicker			S4	yes		1	1
Myiarchus crinitus	Great Crested Flycatcher			S4	yes		2	1
Cyanocitta cristata	Blue Jay			S5	yes		10	3
Poecile atricapillus	Black-capped Chickadee			S5	yes		4	2
Sitta canadensis	Red-breasted Nuthatch			S5	yes	A	2	
Sitta carolinensis	White-breasted Nuthatch			S5	yes	A	1	1
Turdus migratorius	American Robin			S5	yes		11	4
Dumetella carolinensis	Gray Catbird			S4	yes			1
Bombycilla cedrorum	Cedar Waxwing			S5	yes		3	1
Sturnus vulgaris	European Starling			SE	yes		4	1
Vireo olivaceus	Red-eyed Vireo			S5	yes		1	
Cardinalis cardinalis	Northern Cardinal			S5	yes		3	2
Melospiza melodia	Song Sparrow			S5	yes			2
Agelaius phoeniceus	Red-winged Blackbird			S4	yes		3	3
Quiscalus quiscula	Common Grackle			S5	yes		15	3
Molothrus ater	Brown-headed Cowbird			S5	yes		1	1

Species		Status					Observations	
Scientific Name	Common Name	COSEWIC	SARO	SRank	CVC	Area-sensitive	2017	2023
Icterus galbula	Baltimore Oriole			S4	yes		1	1
Carpodacus mexicanus	House Finch			SE	yes		1	
Cardeulis tristis	American Goldfinch			S5	yes		7	2
Passer domesticus	House Sparrow			SE	yes		16	1

Legend

COSEWIC = Committee on the Status of Endangered Wildlife in Canada

Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario)

SRANK (from Natural Heritage Information Centre) for breeding status if:

S1 (Critically Imperiled), S2 (Imperiled),S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure)

SZB (breeding migrants or vagrants) and SR (reported as breeding, but no persuasive documentation)

SE (exotic, i.e. non-native)

Field Work Conducted	Date	Temp (C)	Wind speed (km/h)	Cloud cover (%)	Start time	End Time	Level of effort (h:min)	Number of species
Site visit 1	*03-Jun-17*	15	4	0	8:50	10:15	1:25	20
Site visit 2	*17-Jun-17*	21	12	95	9:05	10:05	1:00	18
Site visit 3	*16-Jun-23*	14	8	95	7:41	9:14	1:33	12
Site visit 4	26-Jun-23	19	8	50	6:16	7:38	1:22	16

Appendix E

Species at Risk Screening

Appendix E

Species at Risk Screening

Name	Provincial Status (ESA)	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
AQUATIC						
American Eel (*Anguilla rostrata*)	END	The American eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. American eel spawn in the Sargasso Sea and the larva drift up the eastern seaboard of North America before undergoing metamorphosis into glass eels and then elvars. At this stage the juveniles swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for eight (8) to 23 years before migrating back to their spawning grounds. In Ontario the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible. The greatest threat to this species is the density and design of hydro power facilities along migration routes. American eels are affected during migration by the inability to pass these barriers while travelling upstream, and the high rates of mortality experienced by individuals pulled into turbines while heading downstream (Government of Canada, 2016).	NHIC	N	No aquatic habitat within the Subject Property.	None
Lake Sturgeon (Great Lakes - Upper St. Lawrence River population) (*Acipenser fulvescens*)	END	The lake sturgeon is a large freshwater fish, has an extended snout with four whisker-like organs hanging near the mouth and is dark to light brown or grey on its back and sides with a lighter belly. Lake sturgeon's live almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel and are usually found at depths of five (5) to 20 metres. Improvements in water quality and the strict regulation or elimination of commercial and recreational fishing of lake sturgeon in Ontario have positively impacted populations, while habitat fragmentation and regulated water flows from dams are the greatest threats to this species (Ministry of Natural Resources and Forestry, 2014).	NHIC (historic)	N	No aquatic habitat within the Subject Property.	None
Redside Dace (*Clinostomus elongatus*)	END	The redside dace is found in pools and slow-flowing sections of relatively small headwater streams with both pool and riffle habitats and a moderate to high gradient (McKee and Parker 1982, Meade et al. 1986, Goforth 2000, Andersen 2002, Daniels pers. comm. 2005). Substrate varies from silt to boulders, but they are often associated with gravel (McKee and Parker 1982; Becker 1983; Holm and Crossman 1986, Daniels, pers. comm. 2005). Overhanging riparian vegetation in the form of grasses and shrubs as well as undercut banks and instream cover (boulders, large woody debris) are important components of redside dace habitat. Redside dace are typically found in stream segments that flow through open meadows, pasture or shrub overstory as opposed to closed canopy forest in Ontario (Andersen 2002, Parish 2004) and Wisconsin (Becker 1983). They are known to be coolwater species and and water clarity is important to redside dace habitat.	NHIC (historic)	N	No aquatic habitat within the Subject Property.	None
AVIFAUNA						

Name	Provincial Status (ESA)	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Bald Eagle (*Haliaeetus leucocephalus*)	SC	The Bald Eagle is a species of special concern, is found throughout North America, and nest in throughout northern Ontario, with a large numbers found near Lake of the Woods. Bald eagles nest in a variety of habitats and forest types, almost always near a major lake or river where they do most of their hunting. While fish are their main source of food, Bald eagles can easily catch prey up to the size of ducks, and frequently feed on dead animals, including White-tailed Deer. They usually nest in large trees such as pine and poplar. During the winter, bald eagles sometimes congregate near open water such as the St. Lawrence River, or in places with a high deer population where carcasses might be found. The Bald eagle was relatively common in Southern Ontario near Lake Erie, but the population was wiped out in the 1960's related to increased development of the shoreline and introduction of DDT. An intensive re-introduction program and environmental clean-up efforts have caused a rebound in population and may be frequently seen throughout southern Ontario (Ministry of Natural Resources and Forestry, 2015).	CVC, OBBA	N	Potentially suitable habitat is associated with the forested river valley, outside the Subject Property to the northeast. Bald Eagle were not observed during field investigations. An active raptor stick nest was observed outside of the property east of Mississauga Road.	None
Bank Swallow (*Riparia riparia*)	THR	The bank swallow is threatened by loss of breeding and foraging habitat, destruction of nesting habitat and widespread pesticide use. Bank swallows are small songbirds with brown upperparts, white underparts and a distinctive dark breast band. It averages 12 cm long and weighs between 10 and 18 grams. The swallow can be distinguished in flight from other swallows by its quick, erratic wing beats and its almost constant buzzy, chattering vocalizations. They nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposit, including banks of rivers and lakes, active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs (Ministry of Natural Resources and Forestry, 2014).	CVC, OBBA, NHIC	N	There are no suitable vertical faces required for nesting on the Subject Property.	None
Barn Swallow (*Hirundo rustica*)	SC	The Barn Swallow is a species of special concern found throughout southern Ontario, and can range into the north as long as suitable nesting locations can be found. These birds prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud; they are typically attached to horizontal beams or vertical walls underneath an overhang. A significant decline in populations of this species has been documented since the mid-1980s, which is thought to be related to a decline in prey. Since the Barn Swallow is an aerial insectivore, this species relies on the presence of flying insects at specific times during the year. Changes in building practices and materials may also be having an impact on this species (Ministry of Natural Resources and Forestry, 2015).	NHIC	N	There are no suitable structures required for nesting on the Subject Property.	None
Black Tern (*Chlidonias niger*)	SC	The Black Tern is a small shorebird that builds floating nests in loose colonies in shallow marshes, with a preference for cattails. The Black Tern is a species of special concern in Ontario due to population decline that is thought to be directly related to the loss of wetland habitat and anthropogenic influences in near shore areas of wetlands and shallow water bodies (i.e. fluctuations in water level, boat traffic, and wakes) (Ministry of Natural Resources and Forestry, 2015).	OBBA	N	No aquatic habitat within the Subject Property.	None
Bobolink (*Dolichonyx oryzivorus*)	THR	The Bobolink is found in grasslands and hayfields, and feeds and nests on the ground. This species is widely distributed across most of Ontario; however, are designated at risk because of rapid population decline over the last 50 years (Ministry of Natural Resources and Forestry, 2014). The historical habitat of the bobolink was tallgrass prairie and other natural open meadow communities; however, as a result of the clearing of native prairies and the post-colonial increase in agriculture, bobolinks are now widely found in hayfields. Due to their reproductive cycle, nesting habits, and use of agricultural areas, bobolink nests and young are particularly vulnerable to loss as a result of common agricultural practices (i.e. first cut hay).	NHIC	N	There are no meadows/grasslands within the Subject Property for this species to use as potential habitat.	None

Name	Provincial Status (ESA)	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Chimney Swift (*Chaetura pelagica*)	THR	The Chimney Swift is a threatened species which breeds in Ontario and winters in northwestern South America. It is found mostly near urban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. Prior to settlement, the chimney swift would mainly nest in cave walls and hollow tress. The chimney swift initially benefitted from human settlement; however, recent declines in flying insects and the modernization of chimneys are factors attributed to their current population declines. As a threatened species, the chimney swift receives protection for both species and habitat under the ESA (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	Existing chimney on the Subject Property were observed to be capped or covered during surveys.	None
Common Nighthawk (*Chordeiles minor*)	SC	The Common Nighthawk is an extremely well camouflaged bird that inhabits gravel beaches, rock outcrops and burned woodlands, that have little to no ground vegetation. This species can also be found in highly disturbed locations such as clear cuts, mine tailings areas, cultivated fields, urban parks, gravel roads, and orchards. As an insectivore, the primary threat to this species is the widespread application of pesticides (Ministry of Natural Resources and Forestry, 2015). Special concern species do not receive habitat protection under the ESA.	OBBA	N	No suitable habitat within the Suject Property, forest community has >60% cover.	None
Eastern Meadowlark (*Sturnella magna*)	THR	The Eastern Meadowlark is a bird that prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields and human use areas such as airports and roadsides. Eastern meadowlarks can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses. The decline in population of these species is thought to be at least partially related to habitat destruction and agricultural practices (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	There are no meadows/grasslands within the Subject Property for this species to use as potential habitat.	None
Eastern Wood-Pewee (*Contopus virens*)	SC	The eastern wood-pewee is classified as a species of special concern by COSSARO. Their population has been gradually declining since the mid-1960's (The Cornell Lab of Ornithology, 2015). The eastern wood-pewee is a "flycatcher", a bird that eats flying insects, that lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation. Threats to the population are largely unknown; however, causes may include loss of habitat due to urban development and decreases in the availability of flying insect prey (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	Species was not recorded on the Subject Property during breeding bird surveys.	None
Grasshopper Sparrow (*Ammodramus savannarum*)	SC	Grasshopper Sparrow are specialized to open relatively short grassland habitat, preferably grasslands with relatively sparse cover such as those in areas of poor soils, including alvars, moraines, and sand plains and generally does not favour tall grass moist meadows. It will also breed in manmade hayfields and occasionally in cereals such as Rye (Secale cereale).	OBBA	N	There are no meadows/grasslands within the Subject Property for this species to use as potential habitat.	None
Golden Eagle (*Aquila chrysaetos*)	END	The golden eagle is one of Ontario's largest and most powerful birds of prey. Golden eagles nest remote, undisturbed areas, building their nests on the ledges of steep cliffs or riverbanks, or occasionally in large trees. Golden eagles are presently only known to breed in the Hudson Bay Lowlands (Ministry of Natural Resources and Forestry, 2016). During migration, golden eagles can be encountered anywhere, but are most frequently observed migrating west along the shores of Lake Ontario and Erie in November. Small numbers of golden eagles also winter in the southern half of Ontario, often near large deer wintering habitats where carcasses might be found. Threats to golden eagles include: illegal shooting and trapping; electrocution on power lines and collisions with wind turbines; disturbance near nesting areas; and chemicals and toxins in the animals they eat.	CVC	N	This species was not observed. Potentially suitable habitat is associated with the forested river valley, primarily outside the Subject Property to the northeast. During the May 15, 2017 site visit, a raptor was observed on a stick nest in the forest east of Mississauga Road in close proximity to the Credit River. The species could not be confirmed.	None

Name	Provincial Status (ESA)	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Henslow's Sparrow (*Ammodramus henslowii*)	END	Henslow's sparrow is found in large fields with tall grass, a dense litter layer, and standing dead vegetation. Continuous patches of grassland of at least 30 hectares are likely required to support Henslow's sparrow populations, which nest and probably feed on the ground. This species is extremely rare in Ontario, and there have been no confirmed breeding occurrences in the province in many years. Habitat management programs have been undertaken in Ontario to increase the area of grassland through shrub removal and mowing. Due to their reproductive cycle, nest habits, and specialized habitat requirements, Henslow's sparrow nests and young are particularly vulnerable to the loss and degradation of moist, grassy habitats (Committee on the Status of Species at Risk in Ontario (COSSARO), 2011).	NHIC, MNRF	N	There are no meadows/grasslands within the Subject Property for this species to use as potential habitat.	None
Peregrine Falcon (*Falco peregrinus*)	SC	The Peregrine Falcon is a species of Special Concern in Ontario because of habitat loss and destruction, disturbance and persecution by people, and environmental contaminants. Peregrine falcons are medium sized birds of prey, with a blue back, cream-coloured chest covered in dark markings and bright yellow legs and feet. It can be found nesting on tall, steep cliff ledges close to large bodies of water. The majority of Ontario's breeding population is found around Lake Superior in northwestern Ontario (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	While this species is also known to nest on tall buildings, Peregrine Falcon was not recorded on the Subject Property during breeding bird surveys. An active raptor stick nest was observed outside of the property east of Mississauga Road.	None
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	END	The Red-headed Woodpecker is a medium-sized bird, with black and white colouring and a bright red head, neck, and breast. Adults often return to the same nesting site year after year. Between May and June, adults often return to the same nesting site and females lay from three to seven eggs. Habitat for the birds includes open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. The red-headed woodpecker is widespread across southern Ontario but rare (Ministry of Natural Resource and Forestry, 2014).	OBBA	N	The forest community found within the Subject Property is unlikely used as habitat by this species due to the limited number of old, tall trees.	None
Wood Thrush (*Hylocichla mustelina*)	SC	The Wood Thrush is a species of Special Concern because of habitat degradation or destruction by anthropogenic development. The Wood Thrush is a medium-sized songbird, generally rusty-brown on the upper parts with white under parts and large blackish spots on the breast and sides, and about 20 cm long. The Wood Thrush forages for food in leaf litter or on semi-bare ground, including larval and adult insects as well as plant material. They seek moist stands of trees with well-developed undergrowth in large mature deciduous and mixed (conifer-deciduous) forests. The Wood Thrush flies south to Mexico and Central America for the winter (Ministry of Natural Resources and Forestry, 2014).	NHIC	N	Species was not recorded on the Subject Property during breeding bird surveys.	None
HERPTILES						
Blanding's Turtle (*Emydoidea blandingii*)	THR	Blanding's turtles are threatened in Ontario primarily as a result of habitat loss and fragmentation. Blanding's turtles spend the majority of their life cycle in the aquatic environment, using terrestrial sites for travel between habitat patches and to lay clutches of eggs. These turtles prefer shallow nutrient rich water with organic sediment and dense vegetation. Blanding's turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (Government of Canada, 2015).	ORRA	N	No aquatic habitat within the Subject Property.	None
Eastern Musk Turtle (*Sternotherus odoratus*)	SC	The eastern musk turtle is a small freshwater turtle with a highly arched shell and a dull black-brown body. These turtles are found primarily in slow moving water bodies with abundant emergent vegetation and mucky bottoms along the southern edge of the Canadian Shield. Wetland drainage and shoreline development are among the most significant contributors to the decline in the population of this species (Ministry of Natural Resources and Forestry, 2014).	NHIC	N	No aquatic habitat within the Subject Property.	None

Name	Provincial Status (ESA)	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Jefferson Salamander (*Ambystoma jeffersonianum*)	END	Adult Jefferson Salamanders, throughout their range, are found within deciduous or mixed upland forests containing, or adjacent to, suitable breeding ponds. Breeding ponds are normally ephemeral, or vernal, woodland pools that dry in late summer. Terrestrial habitat is in mature woodlands that have small mammal burrows or rock fissures that enable adults to over-winter underground below the frost line.	ORRA	N	Although deciduous forest is present, no pools were obsered. The last record within 10km was observed in 2004.	None
Northern Map Turtle (*Graptemys geographica*)	SC	The northern map turtle is a medium sized turtle with a carapace marked by concentric rings that resemble contour lines on a map. The range of this turtle includes larger lakes and rivers that contain an abundance of their primary prey species; molluscs. Shoreline development, water pollution and the spread of the zebra mussel are notable reasons for the decline in populations of this species (Ministry of Natural Resources and Forestry, 2014).	ORRA	N	No aquatic habitat within the Subject Property.	None
Snapping Turtle (*Chelydra serpentina*)	SC	The snapping turtle is a species of special concern in Ontario due to the potential for the species to become threatened or endangered as a result of biological factors or other identified threats. While not presently protected by law, the snapping turtle has been recognized as a species of special concern by COSSARO. Snapping turtles spend the majority of their lives in water and travel slightly upland to gravel or sandy embankments or beaches to lay their eggs (Ontario Ministry of Natural Resources and Forestry, 2014).	NHIC, ORAA	N	No aquatic habitat within the Subject Property.	None
INSECTS						
Monarch Butterfly (*Danaus plexippus*)	SC	The Monarch is an orange and black butterfly with small white spots and is classified as a species of special concern by COSSARO. The monarch relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers. The greatest threat to the monarch is loss of overwintering habitat in Mexico. Other threats include use of pesticides and herbicides throughout its range (Ministry of Natural Resources and Forestry, 2014).	CVC, OBA	Y	One Monarch was observed during field survey (August 23, 2017). No milkweed plants were identified within the Subject Property although scattered occurrences are possible.	None
MAMMALS						
Tri-colored Bat (*Perimyotis subflavus*)	END	The Tri-colored Bat is a small bat that is widely distributed in eastern North America and whose range extends north to southern Ontario. The Tri-colored Bat is rare in this region of Ontario which is at the northernmost limit of the natural range for the species. These bats prefer to nest in foliage, tree cavities and woodpecker holes, and are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Tri-colored Bat feed primarily on small insects and prefer an open forest habitat type in proximity to water (University of Michigan Museum of Zoology, 2004).	MNRF	P	Potential suitable forest habitat with limited snags exists within the Subject Property, however, large snags with ideal peeling bark/cavities occur in limited quantities.	While no impacts to the forested areas are expected, SAR bats are typically active between early April and late October, and hibernate in caves outside of that period, tree removal should be carried out between October 1 and April 1. This will avoid harm or impacts to individuals. To avoid any potential impacts to SAR bats which could be present in the existing building, it is recommended that demolition not occur within the active maternity roosting season (April 1st – October 30th).

Name	Provincial Status (ESA)	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Eastern Small-footed Myotis (*Myotis leibii*)	END	The eastern small-footed myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Eastern small-footed bat's fur has black roots and shiny light brown tips, giving it a yellowish-brown appearance. Its face mask, ears and wings are black, and its underside is grayish-brown, about 8 cm long in size and weighs 4-5 grams. In the spring and summer, eastern small-footed bats will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects to eat, including beetles, mosquitos, moths, and flies. They hibernate in winter, often in caves and abandoned mines. They can be found from south of Georgian Bay to Lake Erie and east to the Pembroke area, and choose colder and drier sites (Ministry of Natural Resources and Forestry, 2014).	MNRF	P	Potential suitable forest habitat with limited snags exists within the Subject Property, however, large snags with ideal peeling bark/cavities occur in limited quantities.	While no impacts to the forested areas are expected, SAR bats are typically active between early April and late October, and hibernate in caves outside of that period, tree removal should be carried out between October 1 and April 1. This will avoid harm or impacts to individuals. To avoid any potential impacts to SAR bats which could be present in the existing building, it is recommended that demolition not occur within the active maternity roosting season (April 1st – October 30th).
Little Brown Myotis (*Myotis lucifugus*)	END	Little brown myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Little brown myotis have glossy brown fur and usually weigh between four and 11 grams. Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown myotis hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing – an ideal environment for the fungus to grow and flourish. The syndrome affects bats by disrupting their hibernation cycle, so that they use up body fat supplies before the spring when they can once again find food sources (Ministry of Natural Resources and Forestry, 2014).	MNRF	P	Potential suitable forest habitat with limited snags exists within the Subject Property, however, large snags with ideal peeling bark/cavities occur in limited quantities.	While no impacts to the forested areas are expected, SAR bats are typically active between early April and late October, and hibernate in caves outside of that period, tree removal should be carried out between October 1 and April 1. This will avoid harm or impacts to individuals. To avoid any potential impacts to SAR bats which could be present in the existing building, it is recommended that demolition not occur within the active maternity roosting season (April 1st – October 30th).
Northern Myotis (*Myotis septentrionalis*)	END	The northern myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Northern Myotis have dull yellow-brown fur with pale grey bellies. They are approximately eight cm long, with a wingspan of about 25 cm, and usually weigh six to nine grams. Northern Myotiscan be found in boreal forests, roosting under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April, most often in caves or abandoned mines (Ministry of Natural Resources and Forestry, 2014).	MNRF	P	Potential suitable forest habitat with limited snags exists within the Subject Property, however, large snags with ideal peeling bark/cavities occur in limited quantities.	While no impacts to the forested areas are expected, SAR bats are typically active between early April and late October, and hibernate in caves outside of that period, tree removal should be carried out between October 1 and April 1. This will avoid harm or impacts to individuals. To avoid any potential impacts to SAR bats which could be present in the existing building, it is recommended that demolition not occur within the active maternity roosting season (April 1st – October 30th).
VASCULAR PLANTS						

Name	Provincial Status (ESA)	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Butternut (*Juglans cinerea*)	END	The butternut is designated as endangered by COSSARO and is tracked by the NHIC as a species at risk. The tree is federally regulated by the Species at Risk Act (2002). Butternut belongs to the walnut family and produces edible nuts which are a preferred food source for wildlife. The range of butternut trees is south of the Canadian Shield on soils derived from calcium rich limestone bedrock. Butternut trees, which at one time were much more common to the south extending to the northern aspect of zone 6E, have been declining due to factors including forest loss and disease. Butternut trees suffer from a highly transmissible fungal disease called butternut canker. Butternut canker is causing very rapid decline in this tree species across its native range. The fungal disease is easily transmitted by wind and is very difficult to prevent. Trees often die within a few years of infection by butternut canker (Ministry of Natural Resource and Forestry, 2014).	MNRF, NHIC	N	No Butternuts were recorded within the Subject Property during field investigations.	None

Appendix F

Significant Wildlife Habitat Assessment

Appendix F

Significant Wildlife Habitat Assessment

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	No habitat present within Subject Property boundaries.
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	No habitat present within Subject Property boundaries.
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	No habitat present within Subject Property boundaries.
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	FOD5-3 is < 20 ha in size. No adjacent meadow. No stick nests were observed on the Subject Property during surveys, though one was observed in adjacent lands east of Mississauga Road.
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices, mines, karsts	Buildings and active mine sites **not** SWH.	N	No habitat present within Subject Property boundaries.
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Deciduous or mixed forests and swamps.	Mature deciduous and mixed forests with >10/ha cavity trees >25 cm DBH.	P	Existing FOD5-3 is < 10 ha in size. Potential but limited suitable snag trees were observed within or on the Subject Property.
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	No habitat present within Subject Property boundaries. Potential opportunities are restricted to the adjacent Credit River Valley northeast of the property.
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	No suitable opportunities present within Subject Property boundaries.
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	No habitat present within Subject Property boundaries.
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	No habitat present within Subject Property boundaries.
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	No habitat present within Subject Property boundaries.
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	No >10 ha undisturbed habitat within the Subject Property.
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	Woodlots are < 5 ha within the Subject Property.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Deer Winter Congregation Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	No habitat present within Subject Property boundaries.
Rare Vegetation Communities					
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	No habitat present within Subject Property boundaries.
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	No habitat present within Subject Property boundaries.
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 Indicator Spp**. <50% vegetation cover are exotic species.	N	No habitat present within Subject Property boundaries.
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	Existing FOD5-3 does not have large, > 140 year old trees.
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	No habitat present within Subject Property boundaries.
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	No habitat present within Subject Property boundaries.
Other Rare VegetationCommunities		Provincially Rare S1, S2 and S3vegetation communities are listed in Appendix M of SWHTG.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	N	No habitat present within Subject Property boundaries.
Specialized Habitat for Wildlife					
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	No habitat present within Subject Property boundaries.
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	No super-canopy trees suitable for nesting. No stick nests observed on the Subject Property during surveys, although one was observed in adjacent lands east of Mississauga Road.
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	Existing FOD5-3 is < 30 ha in size.
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	No habitat present within Subject Property boundaries.
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	No seeps or springs were observed during field surveys.
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	No pond or woodland pools observed within the Subject Property.
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders, E. Newt	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland	Open water wetland ecosites >500m^2 isolated from woodland ecosites with high species diversity.	N	No wetland habitat present within Subject Property boundaries.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
		ecosites, however larger wetlands may be adjacent to woodlands.	Permanent water with abundant vegetation for bullfrogs.		
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	Existing FOD5-3 community is < 30 ha in size.
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	No habitat present within Subject Property boundaries.
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	No habitat present within Subject Property boundaries.
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	Existing CUW1 community is < 10 ha in size.
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	No habitat present within Subject Property boundaries.
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	No species of Special Concerns were recorded within or adjacent to the Subject Property
Animal Movement Corridors					
Amphibians	Amphibians	all ecosites assoc. w/ water	When Breeding Habitat - wetland confirmed	N	No habitat present within Subject Property boundaries.
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	Subject Property is not within Ecoregion 7E-2.

Appendix G

Significant Wildlife Habitat Assessment – Peel Region

Appendix G

Significant Wildlife Habitat Assessment – Peel Region

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Seasonal Concentration Areas of Animals					
A1. Deer Wintering (Congregation) Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	White-tailed Deer Wintering Area not recorded within the Subject Property on NHIC or LIO.
A2. Colonial Bird Nesting Sites	Great Blue Heron, Great Egret, Black-crowned Night-Heron & Black Tern. Additional species w/# of pairs: Green Heron (2), Common Tern (5), Northern Rough-winged Swallow (5), Bank Swallow (30), Cliff Swallow (8), Barn Swallow (3), Sedge Wren (3) and Marsh Wren (3).	Any ELC code.	Any community excluding areas with human activity (recreational or human services)	N	No suitable habitat features such as exposed banks or wetlands present within the Subject Property. Associated species not recorded during breeding bird surveys.
A3. Waterfowl Nesting Habitat	Wood Duck, Gadwall, American Wigeon, American Black Duck, Blue-winged Teal, Northern Shoveler, Northern Pintail, Green-winged Teal, Redhead, Hooded Merganser, Common Merganser, Ruddy Duck	Uplands adjacent to wetlands	Upland habitats (up to 120 m) adjacent to Marsh, Swamp or Shallow Water. Wetlands >0.5 ha, or 3+ (<0.5 ha) within 150 m Any comb. of 3+ nesting pairs, or any combo of 10+, including Mallards.	N	Wetland habitat is not present within the Subject Property. Associated species not recorded during breeding bird surveys.
A4i. Migratory Landbird Stopover Areas (Peel only)	*7E: All migratory songbirds. All migrant raptor species.*	All ELC codes; and cultural (w/ size threshold)	2 km of L. Ontario; River and creek valleys ≤5 km of L. Ontario; 500 m of a river valley ≤5 km of L. Ontario. (If "Successional (CU)", must be >5 ha on lakeshore, or >10 ha in above areas). Not recreation areas.	N	The Subject Property is approximately 5km away from Lake Ontario. However, there is no aquatic or wetland habitat on site.
A4ii. Migratory Bat Stopover Areas	Bats	Any ELC code.	OMNR Wind Resource Atlas (future ID). Likely overlap with SWH A4i.	N	As stated in SWH A4i, the Subject Property is approximately 5km away from Lake Ontario.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
A4iii. Migratory Butterfly Stopover Area (Peel only)	*7E: Painted Lady, Red Admiral,* ***Special Concern:*** *Monarch*	*6E/7E: Combination of open (CU) and forested (FO) ecosites (need one from each).*	Criteria A4i areas. Lakeside Park, Rattray Marsh during fall.	N	Only one butterfly species, Monarch was observed during field survey on August 23, 2017 within the Subject Property. No milkweed plants were identified within the Subject Property although scattered occurrences are possible. Suitable grass habitat is mowed.
A4iv. Migratory Waterfowl Stopover/Staging Areas (Terrestrial)	Wood Duck, Gadwall, Am. Wigeon, Am. Black Duck, Blue-winged Teal, N. Shoveler, N. Pintail, Green-winged Teal, Ring-necked Duck.	*6E/7E: CUM + CUT ecosites*	1-day observations of 100+ individuals of criteria species (background or field studies over 2-years)	N	Subject Property could not support the required number of criteria species, and does not provide ideal habitat.
A4v. Migratory Waterfowl Stopover/Staging Areas (Aquatic)	Mainland and Nearshore species lists	*6E/7E: Ponds, Lakes, Inlets, Marshes, Swamps, Shallow Water Ecosites*	**Mainland:** 100+ indiv. (1-day obs.) **Nearshore:** West End of L. Ontario IBA, & areas east of IBA w/250+ indiv. (1-day obs.)	N	Subject Property could not support the required number of criteria species, and does not provide ideal habitat.
A4vi. Migratory Shorebird Stopover Area	Shorebirds (75 or more individuals - 1-day obs.)	*6E/7E: Beaches, Dunes, Meadow Marshes*	100 m reach of shoreline or 0.2 ha size.	N	No shorelines including beaches, dunes or meadow marshes in the Subject Property.
A5. Raptor Wintering Area	Northern Harrier, Red-tailed Hawk, Rough-legged Hawk or American Kestrel	*6E/7E: CUM or AGR*	Open fields >20ha, with forest adjacent. Occupied 60% of winters. 2+ criteria species and 10+ indiv. Any Short-eared Owl site.	N	No appropriate habitat, meadow or open field large enough to meet the habitat size criteria.
A6. Snake Hibernaculum	E. Gartersnake (10+), Dekay's Brownsnake (5+), Ring-necked Snake, Smooth Greensnake, N. Watersnake or Red-bellied Snake (2+)	*6E/7E: Any ELC code. Except foundations of buildings*	Species at numbers listed, or any comb. of 2+ criteria species. ***Access below frost line - see 6E/7E criteria***	N	No snake species were observed within the Subject Property. No appropriate habitat ie. Burrows, rock crevices, piles or slopes, stone fences or foundations were observed.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
A7. Bat Maternity Roosts and Hibernacula	Big Brown Bat (30;30), Little Brown Bat (100;50), Eastern Popistrelle (10;20), Silver-haired Bat (10;N/A), Long Eared Bat (10;20), Small-footed Bat (10, All sites)	all ecosites including caves, crevices and old mine shafts	OMNR Wind Resource Atlas. Criteria numbers are for roosts, then hibernacula (X:Y)	P	No Bat Hibernacula such as caves, crevices, mines and karsts are present within the Subject Property. The existing forest (FOD5-3) may provide maternity roost habitat due to the presence of deciduous trees >25cm.
A8. Bullfrog Concentration Areas	Bullfrog	Non-forested ELC sites	Any site w/ Bullfrog	N	Appropriate habitat (wetlands with still open waters) not within the Subject Property.
A10. Turkey Vulture Summer Roosting Areas	Turkey Vulture	No criteria given.	No criteria given.	N	Turkey Vulture (and nests) not recorded during breeding bird surveys.
Rare Vegetation Communities or Specialized Habitat for Wildlife					
B1. Rare Vegetation Communities	Any S1-S3 Veg. Comm., Bogs, Fens, and: FOC1-2, FOM2-1, FOM2-2, FOM6-1, FOD1-1, FOD1-2. FOD1-4, FOD2-2, FOD2-3, FOD6-2, MAM3-6, SWC3-2, SWT3-2	Plus targeted S3S4 - S5 comm. In 6E-7, 7E-4 (see Guide)	Minium size of 0.5 ha	N	No Provincially Rare or listed communities are present within the Subject Property.
B2. Forests Providing a High Diversity of Habitats			Criteria captured under **Significant Woodlands** criteria (size/interior, prox. to watercourse, Sig. habitats/spp.)	Y	The FOD5-3 within the Subject Property is considered significant woodland.
B3. Old-Growth/Mature Forest Stands	*6E/7E: Trees >140 yrs; heavy mortaily = gaps. Multi-layer canopy, lots of snags and downed logs*	*6E/7E: FOD, FOC, FOM, SWD, SWC, SWM*	Sig, Woodland criteria for Age/Size. *6E/7E: Woodland areas ≥30 ha with a≥10 ha interior habitat, assuming a 100 m buffer at edge of forest.*	N	Existing FOD5-3 does not have large, > 140 year old trees.
B4. Foraging Areas w/ Abundant Mast	*6E: 6E-14 only*	Consider FOD1, FOD2, FOD9 sites.	Sig, Woodland criteria for Age/Size.	N	The Subject Property is not located in Ecoregion 6E.
B5. Highly Diverse Areas	**Note - Not adopted on Town of Caledon Official Plan** **No mapping provided of top 5% continuous areas**	Woodlands, Wetlands and Cultural	Top 5% of continuous natural areas; not seperated by roads or built-up area by >20 m gaps.	N	Appropriate Habitat not within the Subject Property. High disturbance area of mowed lawn and invasive species in forests.
B6. Cliffs and Caves		Any cliff, talus, crevice or cave ELC code - S1 - S3.	Any Cliff, talus, crevice or cave ELC code - S1 - S3.	N	Listed habitat is not present within Subject Property boundaries.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
B7. Seeps and Springs			Seep area must be surveyed for evidence of area supporting **other** SWH criteria	N	Listed habitat is not present within Subject Property boundaries.
B8i. Amphibian Breeding Habitat (Forested Sites - vernal pools)	Woodland Frogs, Newts, and Salamanders - Group A and Group B species	Vernal pools in forested sites	Group A: 2+ spp., w/ 40+ indiv. (20+ callers) Group B: 30+ indiv. (salamanders) - vernal pool obligates.	N	No woodland pools observed within the Subject Property. Existing forest has sloped topography.
B8ii. Amphibian Breeding Habitat (Non-Forested Sites)	Woodland Frogs, Newts, and Salamanders - Group A and Group B species	*6E/7E: SW, MA, FE, BO, OA and SA.* *Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.*	Group A: 2+ spp., w/ 40+ indiv. (20+ callers) Group B: 30+ indiv. (salamanders) - vernal pool obligates. All Bullfrog or Mudpuppy sites - any #	N	No wetland habitat present within Subject Property boundaries.
B9. Turtle Nesting and Turtle Overwintering Areas	Midland and Snapping		5+ pairs/individuals	N	No turtle species observed as no wetland or aquatic habitat is present within the Study Area.
B10. Habitat for Area Sensitive Forest Interior Breeding Bird Species	Birds (area-sensitive species) - see list, as is specific	*6E/7E: FOC, FOM, FOD, SWC, SWM, SWD*	Mature forests (>60 yrs) w/interior patch of 4+ ha. 3+ listed spp. w/confirmed breeding evidence.	N	Two individual Red-breasted Nuthatches were recorded during the 2017 breeding bird surveys. Criteria is not met due to the lack of breeding pairs and area-sensitive species diversity. The forest on the Subject Property is narrow with no interior habitat.
B11. Habitat of Open Country & Early Successional Breeding Birds	Gropup A and Group B Species	*6E/7E: CUM1, CUM2*	Open country Habitats ≥10 ha, not farmed for ≥5 yrs, with confirmed: - 4+ Group A spp., or - 3+ Group A and 4+ Group B.	N	Species and habitat requirements are not present within the Subject Property.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
B12. Habitat for Wetland Breeding Birds	Gropup A and Group B Species	*6E/7E:* *MAM1 to MAM6, SAS1, SAM1, SAF1, FEO1, BOO1* ***Green Heron:*** *SW, MA and CUM1*	Group A: 5 nesting pairs (any) Group B: 4 nesting pairs (any)	N	Species and habitat requirements are not present within the Subject Property.
B13i. Raptor Nesting Habitat (Wetlands, ponds and rivers)	N. Harrier, Osprey		1+ active nests	N	Appropriate Habitat not observed within the Subject Property and criteria species not observed.
B13ii. Raptor Nesting Habitat (Woodlands)	**Hawks:** Sharp-shinned, Coopers, N. Goshawk, Red-shouldered, Broaad-winged **Owls**: Saw-whet, Barred, Long-eared		1+ active nests	N	An active raptor stick nest was observed in 2017 outside of the property east of Mississauga Road. Raptor species or nests were not recorded in 2023.
B14. Minks, River Otter, Marten and Fisher Denning Sites	Minks, River Otter, Marten, Fisher	Close to bodies of water.	Areas with dens - min. 10x10 m around the den site. Mink dens in areas of low disturbance. Add'l mgmt. criteria.	N	Aquatic habitat not present within the Subject Property.
Habitat of Species of Conservation Concern					
C1. Nationally Endangered or Threatened by COESWIC (but not ESA)	Any Nationally Endangered or Threatened species, not found in Endangered Species Act.	Any ELC code.	Determined on a case-by-case basis with the MNRF.	N	No Endangered or Threatened species recorded within the Subject Property, proposed disturbance is an anthropogenic area.
C2. Species Identified as Special Concern - SARO	Any Special Concern species. Based on SARO list.	Any ELC code.	Determined on a case-by-case basis with the MNRF.	N	One Monarch was observed in 2017 but suitable habitat is not present.
C3. Species that are Rare (S1-3) or Historical in Ontario (NHIC)	Rare (S1-S3) NHIC species	Any ELC code.	Determined on a case-by-case basis with the MNRF.	N	No Provincially rare species recorded within the Subject Property.
C4. Species whose populations appear to be experiencing substancial declines in Ontario.	Species with Significant Declines (Breeding Birds, Amphibians and Reptiles)	Any ELC code.	Significant Declines with a 90% confidence level or higher.	N	No amphibians or reptiles observed within Subject Property; proposed disturbance area is an anthropogenic mowed lawn and forest will be retained.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
C5. Species with a high percentage of their global population in Ontario and are Rare or Uncommon in the Region.	Any determined species.	Any ELC code.	Determined by Municipality of Peel or Town of Caledon	N	Vegetation and wildlife species recorded are common in Ontario.
C6. Species that are Rare within Peel/Caledon	Any determined species.	Any ELC code.	Plants determined as Rare by *Varga et al.,* 2005. Wildlife determined by TRCA or CVC list.	N	The site has a higher-than-average percentage of non-native species.
C7. Species that are subjects of Recovery Programs	Rapids Clubtail, Western Chorus Frog, Common Nighthawk, Whip-poor-will, Chimney Swift, Olive-sided Flycatcher and Canada Warbler	Any ELC code.	As well as any species subject to other recovery programs.	N	Listed species were not recorded within the Subject Property.
C8. Species considered inportant to the Region of Peel/Town of Caledon - Local Conservation Advisory Committee	Any determined species.	Any ELC code.	Currently no list but this SWH section is put in place in case a list is created.	N	Vegetation and wildlife species recorded are common in Ontario.
Animal Movement Corridors					
D1. White-tailed Deer and General Animal/Plant Movement Corridors	White-tailed Deer	Criteria to be defined, but could include: Primary: (E.g. Niagara Escarpment) Secondary (e.g., major river valleys) Tertiary (e.g., hedgerows)	Consider local importance of potential corridor. Tertiary determined via site-specific studies, based on policy, if exists.	N	Species and habitat requirements are not present within the Subject Property.