APPENDIX A – NATURAL ENVIRONMENT ASSESSMENT REPORTS

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

Memorandum

Date: March 25, 2024

Project #: 1400399

To: Paula Steel, Amir Esmaeili - Associated Engineering (Ont.) Ltd.

From: Austin Adams and Carly Houghton (Palmer)

cc:

Re: Desktop Natural Environment Study – Lakelands Wastewater Pumping Station (WWPS)
City of Brampton, Peel Region, ON

1. Introduction

Palmer, in association with Associated Engineering (AE), was retained by the Region of Peel to complete this natural heritage assessments as part of the upgrades to the Lakelands Wastewater Pumping Station (WWPS) located at 26 Stoneylake Avenue in Brampton, Peel Region. This Natural Environment Desktop Study provides a preliminary description of existing ecological conditions, to be used for upgrade design planning and identification of the preferred location for the new offsite storage facility. Upgrades include renovations of the facility and main replacement at the WWPS, as well as construction of a new Offsite Storage Facility (the Study Area – **Figure 1**). It is Palmer's understanding that the intent of this Schedule B Class Environmental Assessment (EA) is to evaluate various locations for the new offsite storage facility and identify the preferred location. Following the completion of the Class EA, preliminary design and detailed design, tender document preparation, and contract administration for the upgrades to the Lakelands WWPS including the Offsite Storage Facility will be completed.

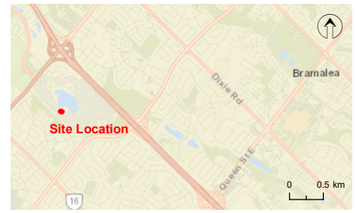
This technical memo describes the background review and desktop analysis undertaken to support the desktop characterization of existing natural environmental conditions within the Study Area to assist in the identification of potential impacts. As part of this collaborative process, this report provides input to AE regarding ecological features and recommended general and site-specific mitigation measures. This memo is an interim step, to be expanded into a complete Natural Environment Report (NER) for the project, which will provide a more complete assessment of natural features, with the completion of fieldwork for the project. Subsequently, the NER will be expanded into an Environmental Management Plan (EMP) for the preferred alternative at the detailed design stage; specific mitigations and permitting will be detailed and coordinated through the EMP process.

The objectives of this assessment are to provide a preliminary evaluation of the existing natural heritage features and ecological functions within the Study Area, from background sources. This information is provided for initial guidance on the design and mitigation recommendations for implementation.

As part of this technical memo the following supporting Figures have been provided:

- **Figure 1** – Site Location
- **Figure 2** – Preliminary Existing Environmental Conditions

KEY MAP



LEGEND

- Potential Offsite Storage Facility Location
- Lakelands Wastewater Pumping Station (WWPS)

0 25 50 75 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:2,500
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: Mar 21, 2024

NORTH

Source Notes:
Imagery (2022) provided by Brampton GIS REST services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Associated Engineering

PROJECT
Lakelands Waste Water Pumping Station

TITLE
Site Location

Palmer PART OF SLR

REF. NO. 1400399-1-1

Figure 1

Document Path: G:\Shared drives\Projects 2014\14003 - Associated Engineering\1400399 - Lakelands WWPS\GIS\1_Workspace\Task 2 - Ecology Figures\1400399-1-1-Site Location.mxd

2. Study Approach

2.1 Background Review

Palmer has reviewed relevant background material to provide a focus to field investigations and ensure compliance with applicable regulations and policy. Ecological background information collection is guided by the *Natural Heritage Information Request Guide* (Ministry of Natural Resources and Forestry, 2018). Current direction from the Ministry of Natural Resources and Forestry (MNRF) and Ministry of Environment, Conservation and Parks (MECP) is to gather natural heritage information and species occurrence records from available sources; the Natural Heritage Information Centre (NHIC) Make Make-a-Map application being the main source of information and records from the Ministry itself (Ministry of Natural Resources and Forestry, 2023). Information gathered is recommended to be balanced and supplemented by professional ecological review of potential habitats and characteristics of a project site.

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

- **Land Information Ontario (LIO):** certain data types including aquatic resource area (ARA) information is available through these publicly available data layers (2023).
- **Conservation Authorities:** The Toronto and Region Conservation Authority (TRCA) collect and maintain natural heritage mapping and data, and publish reports, that all provide regional and often site-specific ecological context.
- **Atlas of the Breeding Birds of Ontario:** Provides a range maps and other information regarding breeding birds in Ontario (Bird Studies Canada, 2023).
- **Ontario Reptile and Amphibian Atlas:** Ontario Nature maintains an identification resource including range maps (Ontario Nature, 2023).
- **Fisheries and Oceans Canada (DFO):** The DFO maintains mapping of aquatic species at risk (SAR) habitats, including the critical habitat, occupied and contributing habitat ranges of SAR and Special Concern species (Fisheries and Oceans Canada, 2023).

2.2 Vegetation Communities

Preliminary vegetation community boundaries and preliminary classifications were delineated through the interpretation of recent aerial photographs. The desktop level interpretation is based on the *Ecological Land Classification for Southern Ontario* (Lee, et al., 1998). Desktop level interpretation will be verified in the field in subsequent stages of this project.

2.3 Species at Risk Assessment

For the purposes of this memo, Species at Risk (SAR) include species listed as Endangered, Threatened or Special Concern under Ontario's *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 Threated on the SARO list. Special Concern species may be afforded protection through

policy instruments respecting significant wildlife habitat as defined by the Province or other relevant authority, or other protections contained in Official Plan policies.

Existing SAR records were queried with the NHIC database and other online resources. Habitat opportunities for SAR on the sites were then assessed at a desktop-level by comparing habitat preferences of species deemed to have potential to occur against current site conditions. The species noted during the NHIC search and others known through professional experience to have potential to occur were considered in the assessment.

2.4 Future Studies (Spring/Summer 2024)

2.4.1 Ecological Land Classification

A general terrestrial ecological survey will be completed to inventory and map existing vegetation communities, following the Ecological Land Classification (ELC) System for Southern Ontario protocols will be completed in the summer of 2024 (Lee, et al., 1998).

2.4.2 Breeding Bird Surveys

Two standard breeding bird surveys will be completed in the summer of 2024, as per accepted Bird Studies Canada protocols (Bird Studies Canada, 2023). Findings from these surveys will be provided as part of the NER.

2.4.3 Species at Risk (SAR) Screening

A SAR screening for potential habitat opportunities or occurrences will be completed within the Study Area. Through the screening, Palmer will determine whether there are design requirements or construction timing windows needed to conform to the *Endangered Species Act*. Supplemental wildlife observations will be recorded during all field visits.

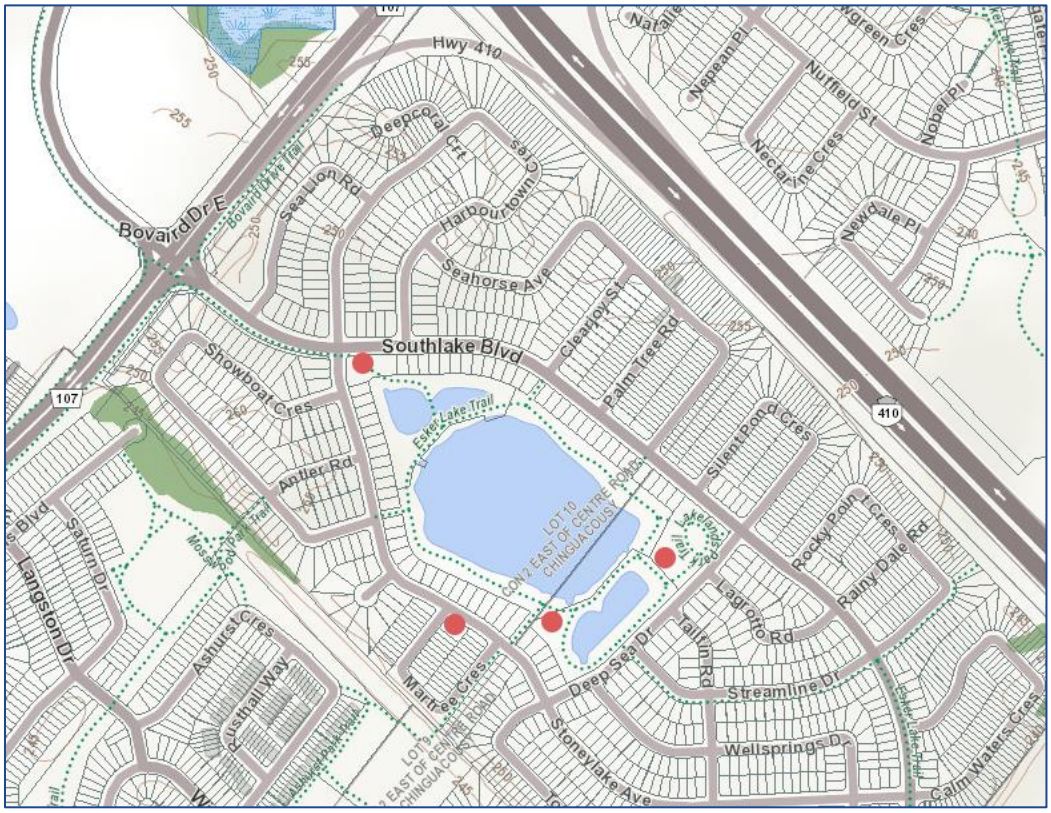
2.4.4 Tree Inventory

Palmer understands that a tree inventory will be completed by another party for this project. Transfer of the tree data and locations would assist in the ecological characterization of the area.

3. Existing Conditions

3.1 Designated Natural Heritage Features

The Study Area is located within Ecoregion 6E (Crins, Gray, Uhlig, & Wester, 2009). As depicted on the Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) mapping, the current Wastewater Pumping Station (WWPS) is located within an urban, residential neighbourhood and the new Offsite Storage Facility is proposed to be located within Lakelands Village Park adjacent to the stormwater management ponds. There are no designated natural features such as Provincially Significant Wetlands (PSW) and woodlands (**Map A**). As depicted in the TRCA's regulation mapping, the Study Area is outside the area regulated under O.Reg. 166/06 (**Map B**).



Map A: NHIC mapping, showing no designated features near the project sites.

Map B: TRCA Regulated Area (purple) outside project sites.

3.2 Vegetation Communities and Flora

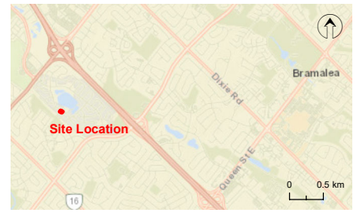
3.2.1 Ecological Land Classification

The Study Area is located within an urban setting and is largely comprised of anthropogenic lands. Palmer's desktop study preliminarily identified two anthropogenic land types. These anthropogenic areas are delineated on **Figure 2** summarized in **Table 1**. The communities listed in the table below are unconfirmed and are based on air photo interpretation. Vegetation communities will be confirmed and refined if necessary, after field investigations.

Table 1. ELC Communities

ELC Community	Description
Parkland (CGL_2)	Lakelands Village Park is located north of the WWPS. The Park appears to contain paved trails, manicured lawn, stormwater management ponds and hedgerows. Primarily deciduous trees border the shorelines of the ponds, and deciduous and coniferous plantings are found throughout the park.
Single Family Residential (CVR_3)	The adjacent subdivision contains single family residential houses. Mowed lawn and landscaping is present within this area. Landscaping for the WWPS includes deciduous and coniferous plantings.

KEY MAP



LEGEND

- Ecological Land Classification (ELC)
- Potential Offsite Storage Facility Location
- Lakelands Wastewater Pumping Station (WWPS)

ELC Legend:

CGL_2: Parkland
CVR_3: Single Family Residential

0 25 50 75 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:2,500
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: Mar 21, 2024

NORTH

Source Notes:
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CLIENT
Associated Engineering

PROJECT
Lakelands Waste Water Pumping Station

TITLE
Existing Ecological Condition

Palmer PART OF SLR

REF. NO. 1400399-2-1

Figure 2

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3.3 Species at Risk Screening

A background review was completed for potential SAR habitat opportunities by comparing habitat preferences of species deemed to have potential to occur against current site conditions. The NHIC database, the Ontario Breeding Bird Atlas (OBBA), and the Ontario Reptile and Amphibian Atlas (ORAA) were screened for SAR records in the general vicinity. Based on professional experience, it was determined that larger trees may present habitat opportunities for SAR bat species. The following 21 SAR were identified as having potential to occur within the general Study Area:

***Birds* (11)**

- Bank Swallow (*Riparia riparia*) – Threatened
- Barn Swallow (*Hirundo rustica*) – Special Concern
- Bobolink (*Dolichonyx oryzivorus*) – Threatened
- Chimney Swift (*Chaetura pelagica*) – Threatened
- Common Nighthawk (*Chordeiles minor*) – Special Concern
- Eastern Meadowlark (*Sturnella magna*) – Threatened
- Eastern Whip-poor-will (*Antrostomus vociferus*) – Threatened
- Eastern Wood-Pewee (*Contopus virens*) – Special Concern
- Grasshopper Sparrow (*Ammodramus savannarum*) – Special Concern
- Red-headed Woodpecker (*Melanerpes erythrocephalus*) – Endangered
- Wood Thrush (*Hylocichla mustelina*) – Special Concern

***Mammals* (4)**

- Little Brown Myotis (*Myotis lucifugus*) – Endangered
- Northern Myotis (*Myotis septentrionalis*) – Endangered
- Eastern Small-footed Myotis (*Myotis leibii*) – Endangered
- Tri-colored Bat *(Perimyotis subflavus)* – Endangered

***Herptiles* (4)**

- Eastern Musk Turtle (*Sternotherus odoratus*) – Special Concern
- Northern Map Turtle (*Graptemys geographica*) – Special Concern
- Jefferson Salamander (*Ambystoma jeffersonianum*) – Endangered
- Snapping Turtle (*Chelydra serpentina*) – Special Concern

***Flora* (1)**

- Butternut (*Juglans cinerea*) – Endangered

***Insects* (1)**

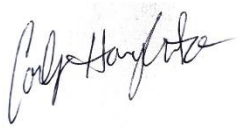
- Monarch (*Danaus plexippus*) – Special Concern

4. Conclusions

The findings of this Natural Environment Desktop Study are the result of a background review and an analysis of data using current scientific understanding of the ecology of the area. This Natural Environment

Desktop Study is provided as preliminary input into the project design, in the context of existing conditions and protection of the natural environment. This memo will be expanded into a more complete Natural Environment Report (NER) to be used for permitting purposes after fieldwork is completed in Spring/Summer 2024.

Prepared By:



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

Reviewed By:

Austin Adams, M.Sc., EP
Senior Ecologist

5. 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

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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/

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Memorandum

Date: October 11, 2024

Project #: 1400399

To: Paula Steel, Amir Esmaeili - Associated Engineering (Ont.) Ltd.

From: Austin Adams and Carly Houghton (Palmer)

cc:

Re: Natural Environment Assessment – Lakelands Wastewater Pumping Station (WWPS)
City of Brampton, Peel Region, ON

1. Introduction

Palmer (now part of SLR Consulting), in association with Associated Engineering (AE), was retained by the Region of Peel to complete this natural heritage assessments as part of the upgrades to the Lakelands Wastewater Pumping Station (WWPS) located at 26 Stoneylake Avenue in Brampton, Peel Region. This Natural Environment Assessment (NEA) Report provides a description of existing ecological conditions, to be used for upgrade design planning and identification of the preferred location for the new offsite storage facility.

Upgrades include renovations of the facility and main replacement at the WWPS, as well as construction of a new Offsite Storage Facility (the Study Area – **Figure 1**). It is Palmer's understanding that the intent of this Schedule B Class Environmental Assessment (EA) is to evaluate the identified locations for the new offsite storage facility and identify the preferred location. Following the completion of the Class EA, preliminary design and detailed design, tender document preparation, and contract administration for the upgrades to the Lakelands WWPS including the Offsite Storage Facility will be completed.

This technical report describes the background review, desktop analysis and site investigations to support the existing natural environmental conditions within the Study Area and the identification of potential impacts. As part of this collaborative process, this report provides input to AE regarding ecological features and recommended general and site-specific mitigation measures. This report is an interim step, to provide an assessment of natural features and will be expanded into an Environmental Management Plan (EMP) for the preferred alternative at the detailed design stage; specific mitigations and permitting will be detailed and coordinated through the EMP process.

The objectives of this assessment are to evaluate and determine the sensitivity of the existing natural heritage features and ecological functions within the Study Area. This information is provided for initial guidance on the design and mitigation recommendations for implementation.

KEY MAP

LEGEND

- Potential Offsite Storage Facility Location
- Lakelands Wastewater Pumping Station (WWPS)

0 25 50 75 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:2,500
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: Mar 21, 2024

Source Notes:
Imagery (2022) provided by Brampton GIS REST services. Contains information licensed under the Open Government Licence – Ontario.

NORTH

CLIENT
Associated Engineering

PROJECT
Lakelands Waste Water Pumping Station

TITLE
Site Location

Palmer PART OF SLR

REF. NO. 1400399-1-1

Figure 1

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2. Study Approach

2.1 Background Review

Palmer has reviewed relevant background material to provide a focus to field investigations and ensure compliance with applicable regulations and policy. Ecological background information collection is guided by the *Natural Heritage Information Request Guide* (Ministry of Natural Resources and Forestry, 2018). The Ministry of Natural Resources and Forestry (MNRF) has transferred this responsibility to the Ministry of Environment, Conservation and Parks (MECP), and the general direction is to gather natural heritage information and species occurrence records from available sources; the Natural Heritage Information Centre (NHIC) Make Make-a-Map application being the main source of information and records from the Ministry itself (Ministry of Natural Resources and Forestry, 2024). Information gathered is recommended to be balanced and supplemented by professional ecological review of potential habitats and characteristics of a project site.

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

- **Land Information Ontario (LIO):** certain data types including aquatic resource area (ARA) information is available through these publicly available data layers (2024).
- **Conservation Authorities:** The Toronto and Region Conservation Authority (TRCA) collect and maintain natural heritage mapping and data, and publish reports, that all provide regional and often site-specific ecological context.
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- **Fisheries and Oceans Canada (DFO):** The DFO maintains mapping of aquatic species at risk (SAR) habitats, including the critical habitat, occupied and contributing habitat ranges of SAR and Special Concern species (Fisheries and Oceans Canada, 2024).

2.2 Field Investigations

The existing conditions comprising the Study Area were assessed during a total of three field investigations conducted in 2024. These investigations are summarized in **Table 1**, below.

Table 1. Field Investigations Summary

Date	Field Task(s)	Weather Conditions
June 6, 2024	Breeding Bird Survey 1	18°C, 10 km/h winds, partly cloudy
June 20, 2024	Breeding Bird Survey 2	23°C, 7 km/hr winds, partly cloudy
August 21, 2024	ELC and plant inventory	17°C, 18 km/hr winds, clear skies

2.2.1 Vegetation Communities

Ecological field investigations were undertaken on August 21, 2024, supplemented by general observations from the June bird surveys. Vegetation communities were mapped and described following the Ecological Land Classification (ELC) System for Southern Ontario protocols (Lee, et al., 1998) and unpublished 2008 update tables. Vegetation community boundaries were delineated on field maps through the interpretation of recent aerial photographs and refined in the field. Information collected during ELC includes dominant species cover, community structure, as well as level of disturbance, presence of indicator species, and other notable features.

2.2.2 Tree Inventory

Palmer understands that a tree inventory will be completed by another party for this project. Transfer of the tree data and locations would assist in the ecological characterization of the area.

2.2.3 Breeding Bird Surveys

Breeding bird surveys were conducted using a roving survey method whereby the entirety of site is covered. Thus, the site was walked such that the observer was within about 50 m or less of all parts of the site. Palmer conducted two breeding bird surveys, more than one week apart within the peak breeding season, on June 6 and June 20, 2024. Surveys were conducted between 7:30 and 9:00 a.m. to coincide with the dawn chorus. Surveys were conducted under suitable weather conditions when wind speeds were less than 20 km/h and there was no precipitation. The surveyor used a site map to record all bird species and individuals seen and heard in the approximate location observed. Any flyovers or migrants were excluded from the species list.

2.2.4 Incidental Wildlife

Incidental observations of wildlife were made during all field investigations. Palmer ecologists assessed the Study Area and adjacent lands, noting any evidence of wildlife or sensitive habitat features (e.g., potential amphibian breeding habitat, stick nests) as well as gaining a general characterization of available habitat. Any wildlife or evidence of wildlife, including nests, tracks, scat observed during the ecological inventories was recorded.

2.2.5 Species at Risk Assessment

For the purposes of this memo, Species at Risk (SAR) include species listed as Endangered, Threatened or Special Concern under Ontario's *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 Threated on the SARO list. Special Concern species may be afforded protection through policy instruments respecting significant wildlife habitat as defined by the Province or other relevant authority, or other protections contained in Official Plan policies.

Prior to field work, existing SAR records were queried with the NHIC database and other online resources. Habitat opportunities for SAR on the sites were then assessed at a desktop-level by comparing habitat preferences of species deemed to have potential to occur against current site

conditions. The species noted during the NHIC search and others known through professional experience to have potential to occur were considered in the assessment.

3. Existing Conditions

3.1 Designated Natural Heritage Features

The Study Area is located within Ecoregion 6E (Crins, Gray, Uhlig, & Wester, 2009). As depicted on the Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) mapping, the current Wastewater Pumping Station (WWPS) is located on a corner lot within an urban, residential neighbourhood and the new Offsite Storage Facility is proposed to be located within Lakelands Village Park adjacent to the stormwater management ponds. There are treed trails and a playground in the vicinity. There are no designated natural features such as Provincially Significant Wetlands (PSW) and woodlands (**Map A**). As depicted in the TRCA's regulation mapping, the Study Area is outside the area regulated under O.Reg. 41/24 (**Map B**).

Map A: NHIC mapping, showing no designated features near the project sites (red dots).

Map B: TRCA Regulated Area (purple) outside project sites.

3.2 Vegetation Communities and Flora

3.2.1 Ecological Land Classification

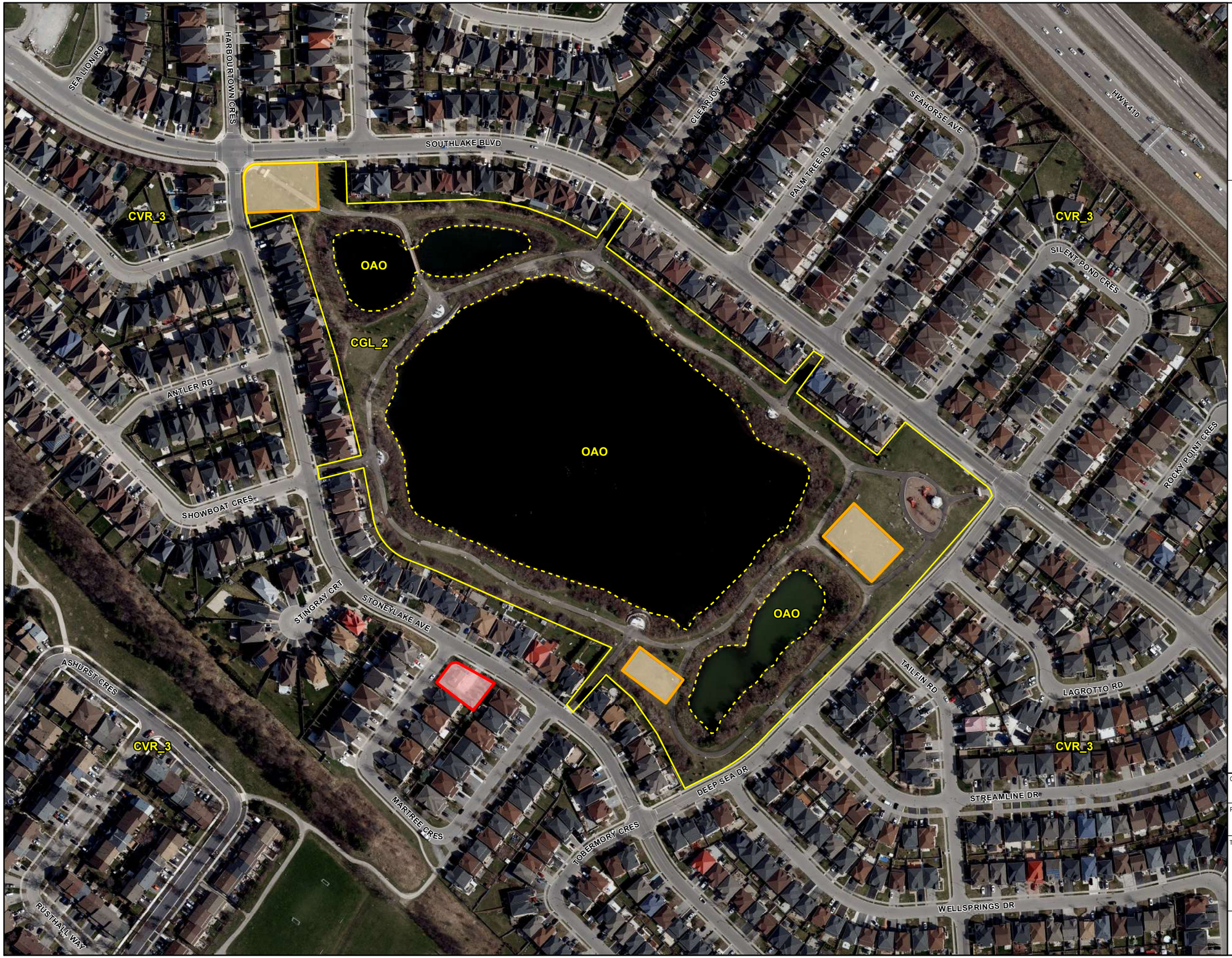
The Study Area is located within an urban setting. Field investigations identified two community types as comprising the overall Study Area. The boundaries of these communities are delineated on **Figure 2** and summarized in **Table 2**.

Table 2. ELC Communities

ELC Community	Description
Willow Mineral Deciduous Swamp (SWD4-1)	
Parkland (CGL_2)	Lakelands Village Park is located north of the WWPS. The Park contains paved and grass trails, manicured lawn, recreational areas including a playground, picnic areas and work out stations. Scattered deciduous and coniferous sapling plantings are found throughout the park. Five stormwater management ponds are present, classed as open water aquatic areas (OAO). More hydrophilic vegetation conditions surround the perimeter of the stormwater management ponds (**Figure 2, Photo 1**). These fringes are characterized by a sparse canopy of generally good health, mid-aged Silver Maple (*Acer saccharinum*) and White Willow (*Salix alba*). The dense sub-canopy consists of White Willow, Green Ash (*Fraxinus pennsylvanica*), and

	Eastern White Cedar (*Thuja occidentalis*). The understory predominately includes Thin-leaved Snowberry (*Symphoricarpos albus*), Sandbar Willow (*Salix interior*) and Red-osier Dogwood (*Cornus sericea*). The ground layer has a mixture of plants such as Purple Loosestrife (*Lythrum salicaria*), White-sweet Clover (*Melilotus albus*) and Narrow-leaved Cattail (*Typha angustifolia*).
Single Family Residential (CVR_3)	The adjacent subdivision contains single family residential houses. Mowed lawn and landscaping is present within this area. Landscaping for the WWPS includes deciduous and coniferous tree and shrub plantings.

Photo 1. Willow Mineral Deciduous Swamp riparian area around SWM ponds



KEY MAP

LEGEND

- Ecological Land Classification (ELC)
- ELC Inclusion
- Potential Offsite Storage Facility Location
- Lakelands Wastewater Pumping Station (WWPS)

ELC Legend:

CGL_2: Parkland
CVR_3: Single Family Residential
OAO: Open Aquatic

0 25 50 75 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:2,500
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: Oct 11, 2024

Source Notes:
Imagery (2022) provided by Brampton GIS REST services. Contains information licensed under the Open Government Licence – Ontario.

NORTH

CLIENT
Associated Engineering

PROJECT
Lakelands Waste Water Pumping Station

TITLE
Existing Ecological Conditions

Palmer PART OF SLR

REF. NO. 1400399-2-2

Figure 2

Document Path: G:\Shared drives\Projects 2014\14003 - Associated Engineering\1400399 - Lakelands WWPS\GIS\1_Workspace\Task 2 - Ecology Figures\1400399-2-1-Existing Environmental Conditions.mxd

3.2.2 Flora

A total of 68 species of vascular plants were recorded within the Study Area, including 36 (53%) native species, 31 (46%) species which are non-native to Ontario and one (1%) species were identified to the genus only due to the limited representation of key characteristics (**Appendix A**). The high recorded presence of non-native species is indicative of the developed nature of the Study Area (Morton & Venn, 1984). Oldham *et al*. (1995) indicate that in southern Ontario plant communities, non-native flora presence averages between 20 and 30%.

All native plants identified as S4 or S5 ranking, indicating that they are common within Ontario (Ministry of Natural Resources and Forestry, 2024) with the exception of Grey-headed Prairie Coneflower (*Ratibida pinnata*), S3; however this is likely present within the Study Area as a volunteer from adjacent gardens. Additionally, no Species at Risk plants were observed during the field investigations.

3.3 Breeding Bird Surveys

A total of 13 bird species were documented on the Study Area (**Appendix B**). All birds recorded on the property are considered common, and widespread in Ontario. The most frequently observed species found on the property included disturbance-tolerant birds characteristic of suburban area, such as Red-winged Blackbird (*Agelaius phoeniceus*), Canada Goose (*Branta canadensis*) and Common Grackle (*Quiscalus quiscula*). No SAR birds, area-sensitive species, or birds with an SRank of S1 (Critically Imperiled), S2 (Imperiled), or S3 (Vulnerable) were recorded within the property. One Great Blue Heron (*Ardea herodias*) was observed foraging along the edge of a stormwater pond. This species has a TRCA fauna rank of L3 (Species of Regional Conservation Concern, generally less sensitive and more abundant than L1 and L2 ranked species) (TRCA, 2023); however, no breeding evidence was observed.

3.4 Incidental Wildlife

Direct evidence (observation or vocalization) was recorded for the following wildlife species as incidentals American Goldfinch (*Spinus tristis*), House Sparrow (*Passer domesticus*), Bullfrog (*Lithobates catesbeianus*) and Gray Squirrel (*Sciurus carolinensis*), all of which are considered common in Ontario. Warning signs are present within Lakelands Park for the potential of Coyote (*Canis latrans*). Other wildlife expected include those adapted to living near residential environments such as Raccoon (*Procyon lotor*), Eastern Chipmunk (*Tamias striatus*) and Red Fox (*Vulpes vulpes*).

3.5 Species at Risk Screening

A background review was completed for potential SAR habitat opportunities by comparing habitat preferences of species deemed to have potential to occur against current site conditions. The NHIC database, the Ontario Breeding Bird Atlas (OBBA), and the Ontario Reptile and Amphibian Atlas (ORAA) were screened for SAR records in the general vicinity. A total of 21 SAR were screened, as identified through background resources and professional knowledge, including 11 bird species, four mammals, four reptiles, one vascular plant, and one insect (**Appendix C**). No SAR were recorded during site investigations within the Study Area.

Due to the urban setting and absence of larger trees (>25 cm diameter at breast height (DBH)) there is no potential habitat opportunities for the four Endangered SAR bats. Additionally, the ponds lack structure and aquatic vegetation for turtles and birds.

4. Assessment of Significance

For the Subject Property, the on-site potential for Habitat for Endangered and Threatened species (Species at Risk) and Significant Wildlife Habitat (SWH) are evaluated in relation to the project in the following sections. The Subject Property does not support or have the potential to support other Natural Heritage Feature types (e.g., Significant Woodlands, Significant Wetlands and Valleylands), and these are not assessed in this report.

4.1 Species at Risk

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.

No Threatened or Endangered species were recorded or identified as having potential habitat within the Study Area (**Appendix C**).

4.2 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) can be difficult to appropriately determine at the site-specific level, as the assessment must incorporate information from a wide geographic area and consider other factors such as regional resource patterns and landscape effects. To help with site level assessments, the MNRF has developed the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (Ontario Ministry of Natural Resources, 2015).

SWH is defined by the MNRF in the Significant Wildlife Habitat Technical Guide (Ontario Ministry of Natural Resources, 2000) and Natural Heritage Reference Manual (Ontario Ministry of Natural Resources, 2010) and includes the following categories:

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities or Specialized Habitats for Wildlife;
- Habitats of Species of Conservation Concern; and
- Animal Movement Corridors.

Criteria for the identification of these features are also provided in the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E*. These criteria were used to provide a screening for potential SWH within and immediately adjacent to the proposed new offsite storage facility, as detailed in **Appendix D**.

No SWH types were identified as having potential to occur within or adjacent to the Study Area.

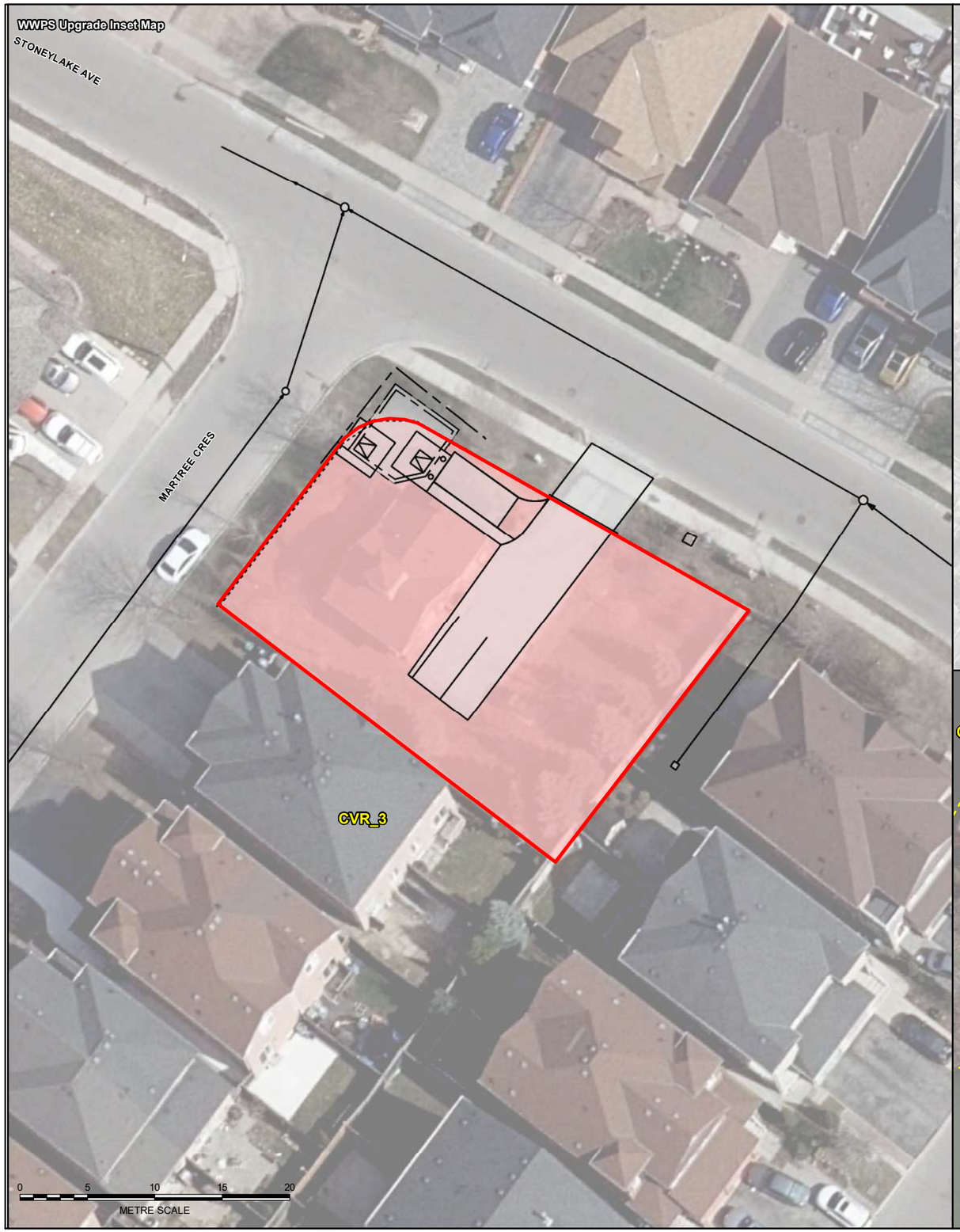
5. Impact Assessment

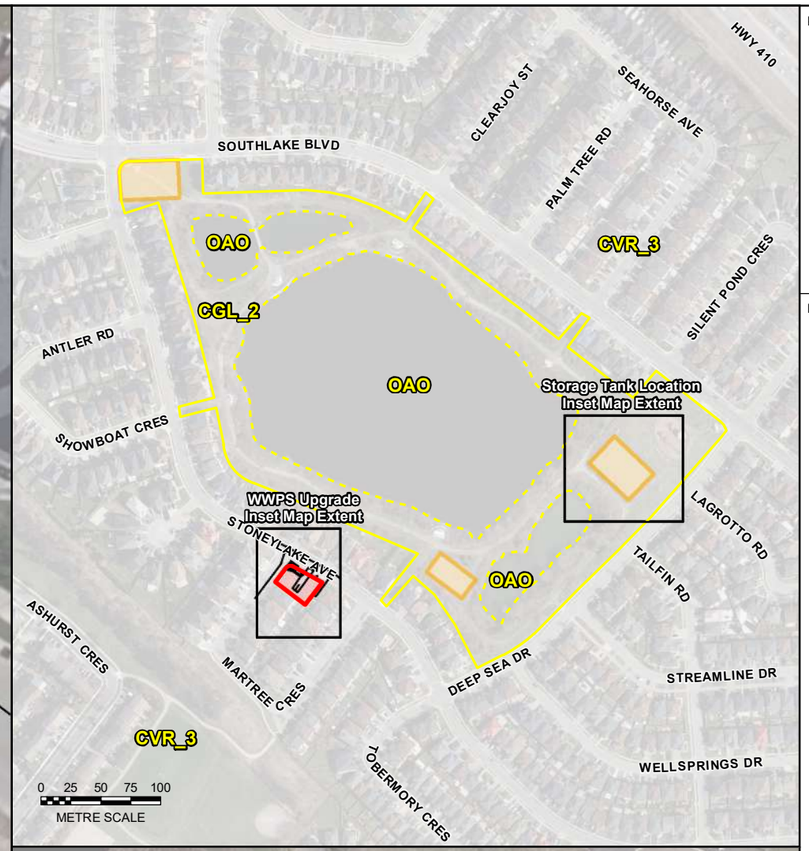
Based on the Study Area, the preferred location for the new offsite storage facility will occur within a manicured area of Lakelands Park (**Figure 3**). Three locations were detailed for consideration. It is understood that the eastern option is preferred from a design standpoint. While there are limited natural environment concerns for any of the three options, this location has the potential to avoid tree removal, and access could be direct from Deep Sea Drive. The north location would potentially require removal of trees and is an entranceway to the park. The south location is more encompassed by trees and access would require trail use, making it the most intrusive option into the park.

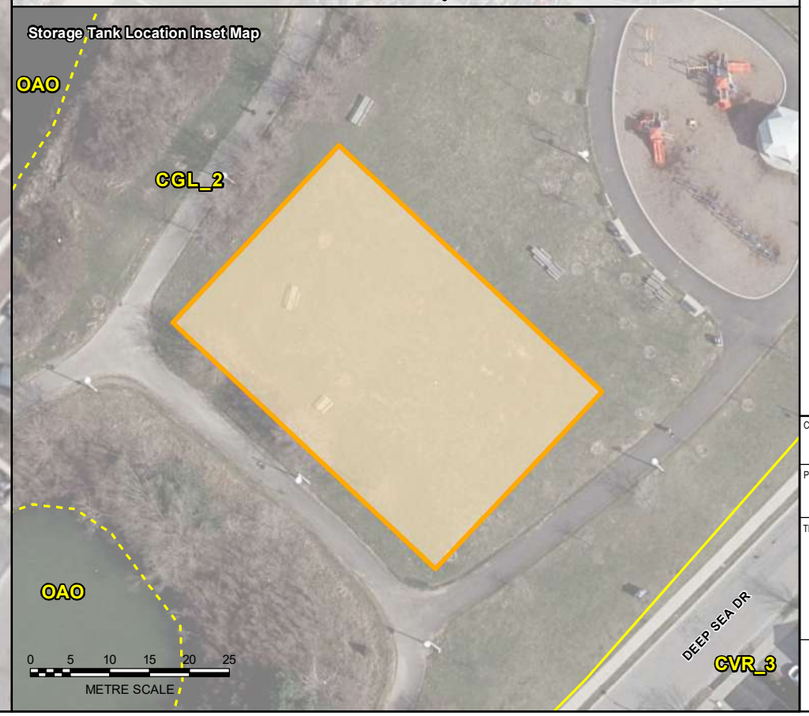
The WWPS location is already developed, and presents no natural feature concerns. There are planted trees within the lot; disturbances and protections are to be detailed in the Arborist Report for the project, to be completed by others.

The proposed works will potentially result in the removal of a limited number of planted trees. Potential impacts to the overall function of the parkland community are not expected. Potential impacts associated with runoff and sedimentation into the stormwater ponds are the primary concern and erosion and sediment control will be necessary.

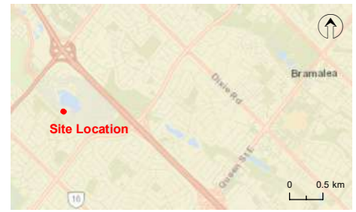
Potential impacts to wildlife due to construction activity include minor impacts to potential habitat and individuals. Construction activities such as vegetation removal, grading, use of machinery, noise/activity, and other nearby disturbances, should be avoided and/or minimized to the greatest extent feasible. Impacts to wildlife are associated with construction works and are therefore considered short-term.







KEY MAP



LEGEND

- Ecological Land Classification (ELC)
- ELC Inclusion
- Potential Offsite Storage Facility Location
- Development Plan
- Lakelands Wastewater Pumping Station (WWPS)

ELC Legend:

CGL_2: Parkland
CVR_3: Single Family Residential
OAO: Open Aquatic

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:5,000
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: CH
Date: Oct 11, 2024

Source Notes:
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NORTH

CLIENT
Associated Engineering

PROJECT
Lakelands Waste Water Pumping Station

TITLE
Upgrades to WWPS

Palmer PART OF SLR

REF. NO. 1400399-3-3

Figure 3

Document Path: G:\Shared drives\Projects 2014\14003 - Associated Engineering\1400399 - Lakelands WWPS\GIS\1_Workspace\Task 2 - Ecology Figures\1400399-3-1-Upgrades to WWPS.mxd

6. Mitigation

Through Preliminary Design, mitigation measures are to be detailed and coordinated with the design. These measures typically include standard mitigation, as well as site-specific measures. Specific mitigation measures applicable to the environmental conditions of the selected alternative will be finalized during the detailed design stage. The following general mitigation and enhancement measures are recommended for consideration through subsequent detailed design phases:

- Vegetation clearing (including tree removals, if required) should not occur between April 1 to August 31, to avoid the breeding bird season, complying with the *Migratory Birds Convention Act*. In the event that tree removal must occur within the breeding bird window a qualified biologist must screen the area. Clearing in identified nesting areas would be prohibited until such time that it has been confirmed that the young have fledged.
- To minimize the potential for erosion and off-site transport of sediment into surface water features and the natural environment, the project will implement Best Practices related to erosion and sediment control (ESC). ESC measures used by the contractor on all construction should meet guidelines as outlined in the *Erosion and Sediment Control Guide for Urban Construction*, December 2006 (ESC Guideline) (Toronto and Region Conservation Authority, 2019).
- Environmental protection, specifically ESC fencing, will be installed along the limits of the reconstruction.
- All ESC measures will be inspected for placement and installation prior to commencement of any construction activities.
- Where feasible and necessary, trees proposed to be retained will be protected by tree protection fencing (TPF), which is to be placed at the dripline or in a location to minimize encroachment into the root zone and protect the trunk. Fencing provides protection from potential damage during construction activities such as the use of machinery near trees and branches and stockpiling of materials over the root zone. ESC fencing can be combined with TPF.
- In the unlikely event that SAR are encountered, work will stop and the MECP will be contacted for direction.
- All activities, including the maintenance of construction machinery, should be controlled to prevent the entry of petroleum products, debris, rubble, concrete or other deleterious substances into the natural environment. Refueling should not occur within 30 m of the ponds.
- Construction practices to control the spread of invasive species will be implemented (Ontario Invasive Species Council, 2012).

7. Conclusions

The findings of this Natural Environment Assessment 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. This Natural Environment Assessment is provided as input into the project design, in the context of existing conditions and protection of the natural environment.

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Appendix A Flora List

Natural Environment Assessment – Lakelands Wastewater Pumping Station (WWPS)

Brampton, Ontario

Associated Engineering (Ont.) Ltd.

SLR Project No.: 1400399

October 11, 2024

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Appendix A

Flora List

Family	Scientific Name	Common Name	COSEWIC	SARA	SARO	NHIC Ranks		Coefficient of Conservatism	Coefficient of Wetness	Peel	TRCA RANKS 2019
						Provincial	Exotic				
Aceraceae	*Acer negundo*	Manitoba Maple				S5	N	0	0		L+?
Aceraceae	*Acer platanoides*	Norway Maple				SNA	E		5		L+
Aceraceae	*Acer rubrum*	Red Maple				S5	N	4	0		L4
Aceraceae	*Acer saccharinum*	Silver Maple				S5	N	5	-3		L4
Aceraceae	*Acer x freemanii*	Freeman's Maple				SNA	E	6	-5		L4
Anacardiaceae	*Rhus typhina*	Staghorn Sumac				S5	N	1	3		L5
Apiaceae	*Cicuta maculata*	Spotted Water-hemlock				S5	N	6	-5		L5
Apiaceae	*Daucus carota*	Wild Carrot				SNA	E		5		L+
Asteraceae	*Ambrosia artemisiifolia*	Common Ragweed				S5	N	0	3		L5
Asteraceae	*Arctium minus*	Common Burdock				SNA	E		3		L+
Asteraceae	*Bidens frondosa*	Devil's Beggarticks				S5	N	3	-3		L5
Asteraceae	*Carduus acanthoides*	Spiny Plumeless Thistle				SNA	E		5		L+
Asteraceae	*Cichorium intybus*	Wild Chicory				SNA	E		5		L+
Asteraceae	*Erigeron sp.*	Fleabane Species									
Asteraceae	*Euthamia graminifolia*	Grass-leaved Goldenrod				S5	N	2	0		L5
Asteraceae	*Helenium autumnale*	Common Sneezeweed				S4	N	7	-3		L+?
Asteraceae	*Ratibida pinnata*	Grey-headed Prairie Coneflower				S3	N	9	5		L+
Asteraceae	*Sonchus arvensis*	Field Sow-thistle				SNA	E		3		
Asteraceae	*Symphyotrichum novae-angliae*	New England Aster				S5	N	2	-3		

Legend:

COSEWIC - Committee on the Status of Endangered Wildlife in Canada

SARA - Ontario Species at Risk Act List

SARO - Species at Risk in Ontario

NHIC - Natural Heritage Information Centre

Coefficients (Conservatism and Wetness) – Oldham et al., 1995

Peel Rank – Varga et al. (2000)

TRCA Rank – TRCA (2019)

Family	Scientific Name	Common Name	COSEWIC	SARA	SARO	NHIC Ranks		Coefficient of Conservatism	Coefficient of Wetness	Peel	TRCA RANKS 2019
						Provincial	Exotic				
Asteraceae	*Taraxacum officinale*	Common Dandelion				SNA	E		3		L+
Betulaceae	*Betula papyrifera*	Paper Birch				S5	N	2	3		L4
Caprifoliaceae	*Symphoricarpos albus*	Thin-leaved Snowberry				S5	N	7	3	R8	L3
Convolvulaceae	*Convolvulus arvensis*	Field Bindweed				SNA	E		5		L+
Cornaceae	*Cornus obliqua*	Silky Dogwood				S5	N	2	-3	R5	L3
Cornaceae	*Cornus sericea*	Red-osier Dogwood				S5	N	2	-3		L5
Cupressaceae	*Thuja occidentalis*	Eastern White Cedar				S5	N	4	-3		L5
Cyperaceae	*Scirpus atrovirens*	Dark-green Bulrush				S5	N	3	-5		L5
Fabaceae	*Cercis canadensis*	Eastern Redbud				SX	N	8	3		
Fabaceae	*Gleditsia triacanthos var. inermis*	Thornless Honey Locust									
Fabaceae	*Lotus corniculatus*	Garden Bird's-foot Trefoil				SNA	E		3		L+
Fabaceae	*Melilotus albus*	White Sweet-clover				SNA	E		3		L+
Fabaceae	*Robinia pseudoacacia*	Black Locust				SNA	E		3		L+
Fabaceae	*Securigera varia*	Purple Crown-vetch				SNA	E		5		L+
Fabaceae	*Trifolium repens*	White Clover				SNA	E		3		L+
Fabaceae	*Vicia cracca*	Tufted Vetch				SNA	E		5		L+
Fagaceae	*Quercus macrocarpa*	Bur Oak				S5	N	5	3		L4
Fagaceae	*Quercus rubra*	Northern Red Oak				S5	N	6	3		L4
Juglandaceae	*Carya cordiformis*	Bitternut Hickory				S5	N	6	0		L4
Juglandaceae	*Juglans nigra*	Black Walnut				S4?	N	5	3		L5
Lamiaceae	*Lycopus europaeus*	European Water-horehound				SNA	E		-5		L+
Lythraceae	*Lythrum salicaria*	Purple Loosestrife				SNA	E		-5		L+
Moraceae	*Morus alba*	White Mulberry				SNA	E		0		L+

Legend:

COSEWIC - Committee on the Status of Endangered Wildlife in Canada

SARA - Ontario Species at Risk Act List

SARO - Species at Risk in Ontario

NHIC - Natural Heritage Information Centre

Coefficients (Conservatism and Wetness) – Oldham et al., 1995

Peel Rank – Varga et al. (2000)

TRCA Rank – TRCA (2019)

Family	Scientific Name	Common Name	COSEWIC	SARA	SARO	NHIC Ranks		Coefficient of Conservatism	Coefficient of Wetness	Peel	TRCA RANKS 2019
						Provincial	Exotic				
Oleaceae	*Fraxinus pennsylvanica*	Red Ash				S4	N	3	-3		L5
Pinaceae	*Larix laricina*	Tamarack				S5	N	7	-3		L3
Pinaceae	*Picea glauca*	White Spruce				S5	N	6	3	R3	L3
Pinaceae	*Pinus strobus*	Eastern White Pine				S5	N	4	3		L4
Pinaceae	*Pinus sylvestris*	Scots Pine				SNA	E		3		L+
Plantaginaceae	*Plantago lanceolata*	English Plantain				SNA	E		3		L+
Plantaginaceae	*Plantago major*	Common Plantain				SNA	E		3		L+
Poaceae	*Agrostis stolonifera*	Creeping Bentgrass				SNA	E		-3		L+?
Poaceae	*Andropogon gerardi*	Big Bluestem				S4	N	7	3	R5	
Poaceae	*Bromus inermis*	Smooth Brome				SNA	E		5		L+
Poaceae	*Glyceria striata*	Fowl Mannagrass				S5	N	3	-5		L5
Poaceae	*Phalaris arundinacea*	Reed Canarygrass				S5	N	0	-3		L+?
Poaceae	*Phragmites australis ssp. australis*	European Reed				SNA	E		-3		L+
Polygonaceae	*Rumex crispus*	Curled Dock				SNA	E		0		L+
Rhamnaceae	*Rhamnus cathartica*	European Buckthorn				SNA	E		0		L+
Rosaceae	*Physocarpus opulifolius*	Eastern Ninebark				S5	N	5	-3	R1	L3
Rubiaceae	*Cephalanthus occidentalis*	Eastern Buttonbush				S5	N	7	-5	R8	L3
Salicaceae	*Populus tremuloides*	Trembling Aspen				S5	N	2	0		L5
Salicaceae	*Salix alba*	White Willow				SNA	E		-3		L+
Salicaceae	*Salix interior*	Sandbar Willow				S5	N	1	-3		L5
Solanaceae	*Solanum dulcamara*	Bittersweet Nightshade				SNA	E		0		L+
Tiliaceae	*Tilia cordata*	Little-leaved Linden				SNA	E		5		L+
Typhaceae	*Typha angustifolia*	Narrow-leaved Cattail				SNA	E		-5		L+

Legend:

COSEWIC - Committee on the Status of Endangered Wildlife in Canada

SARA - Ontario Species at Risk Act List

SARO - Species at Risk in Ontario

NHIC - Natural Heritage Information Centre

Coefficients (Conservatism and Wetness) – Oldham et al., 1995

Peel Rank – Varga et al. (2000)

TRCA Rank – TRCA (2019)

Family	Scientific Name	Common Name	COSEWIC	SARA	SARO	NHIC Ranks		Coefficient of Conservatism	Coefficient of Wetness	Peel	TRCA RANKS 2019
						Provincial	Exotic				
Ulmaceae	*Ulmus pumila*	Siberian Elm				SNA	E		3		L+
Verbenaceae	*Verbena hastata*	Blue Vervain				S5	N	4	-3		L5
Vitaceae	*Vitis riparia*	Riverbank Grape				S5	N	0	0		L5

Legend:

COSEWIC - Committee on the Status of Endangered Wildlife in Canada

SARA - Ontario Species at Risk Act List

SARO - Species at Risk in Ontario

NHIC - Natural Heritage Information Centre

Coefficients (Conservatism and Wetness) – Oldham et al., 1995

Peel Rank – Varga et al. (2000)

TRCA Rank – TRCA (2019)

Appendix B Breeding Bird List

Natural Environment Assessment – Lakelands Wastewater Pumping Station (WWPS)

Brampton, Ontario

Associated Engineering (Ont.) Ltd.

SLR Project No.: 1400399

October 11, 2024

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Breeding Birds of Lakelands WWPS

Common Name	Scientific Name	Status					Number of Pairs/Territories
		National Species at Risk COSEWIC [a]	Species at Risk in Ontario Listing [a]	Provincial breeding season SRANK [b]	TRCA Status	Area-sensitive (OMNR) [c]	
Great Blue Heron	*Ardea herodias*			S4	L3		1
Canada Goose	*Branta canadensis*			S5	L5		5
Mallard	*Anas platyrhynchos*			S5	L5		2
Mourning Dove	*Zenaida macroura*			S5	L5		1
American Robin	*Turdus migratorius*			S5	L5		4
Gray Catbird	*Dumetella carolinensis*			S4	L4		2
European Starling	*Sturnus vulgaris*			SE	L+		2
Warbling Vireo	*Vireo gilvus*			S5	L5		2
Yellow Warbler	*Setophaga petechia*			S5	L5		1
Northern Cardinal	*Cardinalis cardinalis*			S5	L5		2
Song Sparrow	*Melospiza melodia*			S5	L5		1
Red-winged Blackbird	*Agelaius phoeniceus*			S4	L5		10
Common Grackle	*Quiscalus quiscula*			S5	L5		5

Field Work Conducted On:	Date	Temp (°C)	Wind Speed (km/h)	Cloud Cover (%)	Start time	End time
Site visit 1	6-Jun-24	18	10	50	8:05	8:45
Site visit 2	20-Jun-24	23	7	50	7:55	8:30

Number of Species: 13
Number of (provincial and national) Species at Risk: 0
Number of S1 to S3 (provincially rare) Species: 0
Number of Regionally Rare Species: 1
Number of Area-sensitive Species: 0

KEY
a COSEWIC = Committee on the Status of Endangered Wildlife in Canada
a Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario)
END = Endangered, THR = Threatened, SC = Special Concern

[b] 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)

c Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide (Appendix G). 151 p plus appendices.

d Toronto and Region Conservation Authority L rank:
L1 to L3 Regional species of concern from highest to lowest; L4 Urban concern; L5 Secure through region

Appendix C Species at Risk Screening

Natural Environment Assessment – Lakelands Wastewater Pumping Station (WWPS)

Brampton, Ontario

Associated Engineering (Ont.) Ltd.

SLR Project No.: 1400399

October 11, 2024

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Appendix C - Species at Risk Screening

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
AVIFAUNA										
Bank Swallow (*Riparia riparia*)	THR	THR	THR	1	S4B	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).	NHIC, OBBA	N	No large, vertical faces (i.e., cliffs or steep riverbanks) are noted on the Study Area.	None
Barn Swallow (*Hirundo rustica*)	THR	SC	SC	1	S4B	The Barn Swallow is a threatened species, is 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).	OBBA	N	Suitable structures are not present on the Study Area.	None
Bobolink (*Dolichonyx oryzivorus*)	THR	THR	THR	1	S4B	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).	OBBA	N	Although grassed habitat is present on the Study Area, this habitat is manicured lawn.	None
Chimney Swift (*Chaetura pelagica*)	THR	THR	THR	1	S4B,S4N	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	Suitable structures are not present on the Study Area.	None
Common Nighthawk (*Chordeiles minor*)	SC	SC	SC	1	S4B	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	Suitable gravel beach, rock outcrops, and burned woodland communities were not noted on or adjacent to the Study Area.	None
Eastern Meadowlark (*Sturnella magna*)	THR	THR	THR	1	S4B	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	Although grassed habitat is present on the Study Area, this habitat is manicured lawn.	None
Eastern Whip-poor-will (*Antrostomus vociferus*)	THR	THR	THR	1	S4B	Once widespread throughout the central Great Lakes region, distribution of the Eastern Whip-poor-will in this area is now fragmented. Although there is uncertainty about the causes of the population decline, the main threat is likely habitat loss and fragmentation. Additional threats may include car mortality and food supply changes related to pesticides and climate change. The Eastern Whip-poor-will is usually found in areas with a mix of open and forested areas, such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands or openings in more mature forests. Breeding habitat is dependent on forest structure rather than composition, although common tree associations are pine and oak, and it nests directly on the forest floor. Its distinctive call can be heard at dusk or dawn during the breeding season, and whip-poor-wills heard singing between mid-May and mid-July are likely local breeders (Committee on the Status of Endangered Wildlife in Canada, 2009).	OBBA	N	No forested communities noted on or adjacent to the Study Area.	None

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Eastern Wood-Pewee (*Contopus virens*)	SC	SC	SC	1	S4B	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	No forested communities noted on or adjacent to the Study Area.	None
Grasshopper Sparrow (*Ammodramus savannarum*)	SC	SC	SC	-	S4B	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	Suitable habitats (alvar, moraines, and sandy plains) are not present on or adjacent to the Study Area.	None
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	END	END	END	1	S4B	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	No forested communities noted on or adjacent to the Study Area.	None
Wood Thrush (*Hylocichla mustelina*)	THR	SC	THR	1	S4B	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).	OBBA	N	No forested communities noted on or adjacent to the Study Area.	None
HERPTILES										
Eastern Musk Turtle (*Sternotherus odoratus*)	SC	SC	SC	1	S3	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).	ORAA 2019	N	Not suitable habitat. The isolated SWM ponds on the Study Area contains minimal vegetation and no basking structures.	None
Jefferson Salamander (*Ambystoma jeffersonianum*)	END	END	END	1	S2	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.	ORAA 2007	N	No forested communities or vernal pools are noted on or adjacent to the Study Area.	None
Northern Map Turtle (*Graptemys geographica*)	SC	SC	SC	1	S3	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).	ORAA 2018	N	Lake/River habitats are not noted on or adjacent to the Study Area.	None
Snapping Turtle (*Chelydra serpentina*)	SC	SC	SC	1	S3	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).	ORAA 2019	N	Not suitable habitat. The isolated SWM ponds on the Study Area contains minimal vegetation and no basking structures.	None
VASCULAR PLANTS										
Butternut (*Juglans cinerea*)	END	END	END	1	S2?	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).	Professional Experience	N	No Butternut trees were observed during field investigations.	None
MAMMALS										

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Tri-colored Bat (*Perimyotis subflavus*)	END	END	END	1	S3?	Tri-colored Bat is a small bat that is widely distributed in eastern North America and whose range extends north to southern Ontario. 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).	Professional Experience	N	No buildings or suitable forested habitat within the Study Area. Trees >25cm diameter are rarely present.	None
Eastern Small-footed Myotis (*Myotis leibii*)	-	END	-	-	S2S3	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).	Professional Experience	N	Preferred habitat, rocky features is not present within the Study Area.	None
Little Brown Myotis (*Myotis lucifugus*)	END	END	END	1	S4	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 bats 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 bats 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).	Professional Experience	N	No buildings or suitable forested habitat within the Study Area. Trees >25cm diameter are rarely present.	None
Northern Myotis (*Myotis septentrionalis*)	END	END	END	1	S3	The northern myotis is 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 myotis can 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).	Professional Experience	N	No buildings or suitable forested habitat within the Study Area. Trees >25cm diameter are rarely present.	None
OTHER										
Monarch Butterfly (*Danaus plexippus*)	SC	SC	END	1	S2N,S4B	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).	OBA 2022	N	Niether milkweed or Monarchs were observed during field investigations within the Study Area.	None

Notes:
SC - Special Concern
THR - Threatened
END - Endangered
S1 - Extremely rare in Ontario
S2 - Very rare in Ontario
S3 - Rare to uncommon in Ontario
S4 - Considered to be common in Ontario
S5 - Species is widespread in Ontario
SH - Possibly extirpated
S#S# - Indicates insufficient information exists to assign a single rank.
S#? - Indicates some uncertainty with the classification due to insufficient data.
S#N - Nonbreeding
S#B - Breeding
Y= Yes, P = Potential, N = No

Appendix D Significant Wildlife Habitat Screening

Natural Environment Assessment – Lakelands Wastewater Pumping Station (WWPS)

Brampton, Ontario

Associated Engineering (Ont.) Ltd.

SLR Project No.: 1400399

October 11, 2024

Palmer™
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SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/P/N)	Rationale
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial)	Ducks	CUM + CUT ecosites	Fields with sheet-water flooding mid-March to May	No	Grassed areas within the parkland are too small for suitable waterfowl sheet-water flooding.
Waterfowl Stopover and Staging Area (Aquatic)	Ducks, Geese	Ponds, Lakes, Inlets, Marshes, Swamps, Shallow Water Ecosites	Sewage & SWM ponds **not** SWH. Reservoir managed as a large wetland or pond/lake qualifies.	No	Stormwater management ponds are not considered SWH.
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes	Shorelines. Sewage treatment ponds and storm water ponds **not** SWH.	No	River shorelines are not present in the Study Area.
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.	No	Associated ecosites are not present on or adjacent to the Study Area.
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices, mines, karsts	Buildings and active mine sites **not** SWH.	No	Associated ecosites are not present on or adjacent to the Study Area.
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Decidious or mixed forests and swamps.	Mature deciduous and mixed forests with >10/ha cavity trees >25 cm DBH.	No	Associated ecosites are not present on or adjacent to the Study Area.
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.	No	Stormwater management ponds appear to be fairly shallow and are not considered SWH.
Reptile Hibernaculum	Snakes	**Snakes:** Any ecosite (esp. w/ rocky areas), other than very wet ones. **Five-lined Skink:** FOD and FOM, FOC1, FOC3 - with rock outcrops	**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.	No	Associated ecosites and features are not present on or adjacent to the Study Area.
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).	No	No soil banks or cliffs were noted on or adjacent to the Study Area.
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned NightHeron, 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.	No	Associated ecosites are not present on or adjacent to the Study Area.
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.	No	The Study Area is not located on an island or peninsula near open water or marshy areas.
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.	No	The Study Area is not within 5 km of Lake Ontario. Abundant nectar species not present.
Landbird Migratory Stopover Areas	All migratory songbirds. All migrant raptor species.	Forest (FO) and Swamp (SW) ecosites	Woodlots >10 ha within 5 km of Lake Ontario. If multiple woodlands are along the shoreline, those <2 km from L. Ontario are more significant.	No	The Study Area is not within 5 km of Lake Ontario. Not a large woodlot.
Deer Yarding Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	No	Not mapped on NHIC or LIO. No forested ecosites were documented on or adjacent to the Study Area.
Deer Winter Congregation Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	No	Not mapped on NHIC or LIO. No forested ecosites were documented on or adjacent to the Study Area.
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	No	No soil banks or cliffs were noted on or adjacent to the Study Area.
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.	No	Associated ecosites are not present on or adjacent to the Study Area.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/P/N)	Rationale
Alvar	*Carex crawei, Panicum philadelphicum, Eleocharis compressa, Scutellaria parvula, Trichostema brachiatum,* Loggerhead Shrike	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Alvar >0.5 ha. **Need 4 of the 5 Alvar Inidcator Spp**. <50% vegetation cover are exotic species.	No	Associated ecosites are not present on or adjacent to the Study Area. Required alvar indicator species were not documented.
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 ≥30 ha with a≥10 ha interior habitat, assuming a 100 m buffer at edge of forest.	No	Forested areas were not documented on or adjacent to the Study Area.
Savannah	Prairie Grasses w/ trees	TPS1, TPS2, TPW1, TPW2, CUS2	A Savannah is a tallgrass prairie habitat that has tree cover of 25 – 60%. <50% cover of exotic species.	No	Associated ecosites are not present on or adjacent to the Study Area.
Tallgrass Prairie	Prairies Grasses dominate	TPO1, TPO2	An open Tallgrass Prairie habitat has < 25% tree cover. Less than 50% cover of exotic species.	No	Associated ecosites are not present on or adjacent to the Study Area.
Other Rare Vegetation Communities		Provincially Rare S1 - S3 veg. comm. are listed in Appendix M of SWHTG.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	No	Provinically significant vegetation communities were not documented on the Study Area.
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).	No	No wetlands, only narrow riparian communities around the ponds, with sparse tree cover.
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.	No	Forested areas were not documented on or adjacent to the Study Area.
Woodland Raptor Nesting Habitat	Barred Owl. **Hawks:** N. Goshawk, Cooper's, Sharp-shinned, Red-shouldered, Broad-winged.	Forests (FO), swamps (SW), and conifer plantations	>30 ha with > 10 ha interior habitat.	No	Forested areas were not documented on or adjacent to the Study Area.
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	Nest sites within open sunny areas with soil suitable for digging. Sand and gravel beaches.	No	Exposed mineral soils were not documented adjacent to SWM ponds.
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).**	No	Forested areas were not documented on or adjacent to the Study Area. No seeps or springs were observed during field investigations.
Amphibian Breeding Habitat (Woodland)	Woodland Frogs and Salamanders	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.	No	Forested and treed communities were not documented on or adjacent to the Study Area.
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.	Open water wetland ecosites >500m^2 isolated from woodland ecosites with high species diversity. Permanent water with abundant vegetation for bullfrogs.	No	No breeding amphibians surveys were completed due to the habitat being SWM ponds.
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.	No	Forested areas were not documented on or adjacent to the Study Area.
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.	No	Wetland habitat is limited and associated birds were observed to be absent.
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, N. Harrier, Savannah Sparrow, **Short-eared Owl (SC)**	CUM1, CUM2	Grassland/meadow >30 ha. Not being actively used for farming. Habitat established for 5 years or more.	No	Grassed areas present in the parkland are small and mowed. Associated species were not recorded.
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.	No	No suitable communities were documented on the Study Area.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/P/N)	Rationale
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).	No	No crayfish species were observed during field investigations. Wetlands with potetnial for chimneys not present.
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.	No	No Special Concern or rare wildlife species were observed and are not expected due to lack of naturalized habitat.
Animal Movement Corridors					
Amphibians	Amphibians	all ecosites assoc. w/ water	When Breeding Habitat - wetland confirmed	No	No amphibian movement corridors have been documented by MNRF or the municipality.
Deer Movement	White-tailed Deer	all forested ecosites	When Deer Wintering Habitat confirmed	No	No deer movement corridors have been documented by MNRF or the municipality.
Exceptions for Ecoregion 6E					
Mast Producing: 6E-14	Black Bear	Forested Ecosites	>30 ha w/ mast producing species: Cherry (berries), Oak, Beech (nuts).	No	Not in 6E-14. Mast species not present.
Leks: 6E-17	Sharp-tailed Grouse	CUM, CUS, CUT	Grassland/meadow >15 ha adjacent to shrublands, >30 ha adjacent to woodlands. Low agricultural intensity.	No	Not in 6E-17 - out of range.

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