REPORT

Preliminary Scoped Environmental Impact Statement

Proposed Development of 30 Frank Nighbor Place, Ottawa, ON

Submitted to:

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Submitted by:

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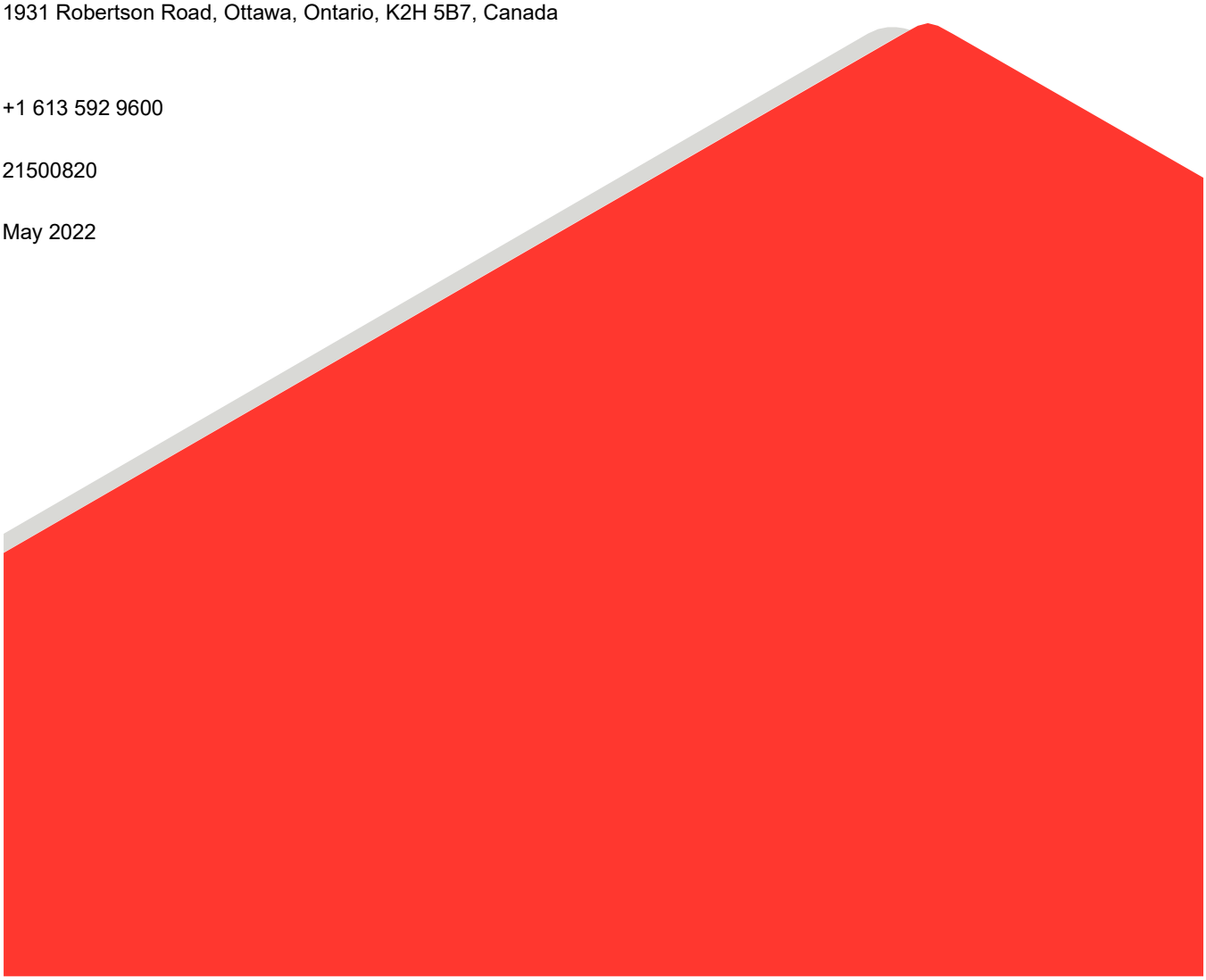

Distribution List

1 e-copy - AMERICO Real Estate Company

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1.0 INTRODUCTION

1.1 Purpose

Golder Associates Ltd. (Golder) has been retained by AMERICO Real Estate Company to conduct environmental studies for a Scoped Environmental Impact Statement (EIS) for the proposed commercial development at 30 Frank Nighbor Place, Ottawa, Ontario (The Site; Figure 1). The lands within 120 m of the Site (Study Area; Figure 1) were included in this assessment to the extent possible, considering land access.

The proposed project will be a storage facility with parking and a stormwater management facility. The proposed project also includes setbacks from sensitive natural features and areas of greenspace. There are no trees on the Site greater than 10 centimetres (cm) diameter-at-breast-height (DBH), therefore no Tree Conservation Report (TCR) is required per Tree Protection By-Law (No. 2020-340). Note that aerial imagery used in the figures for this report do not reflect current conditions.

This report provides a preliminary assessment of potential impacts from the proposed development. Following additional study, it is intended that an addendum report be prepared to confirm or update the findings of this preliminary report. This preliminary report, plus the eventual addendum, are intended to satisfy the City of Ottawa's official plan (Ottawa 2021) requirements for an EIS, which is triggered in this instance by the proximity of the proposed project to a surface water feature. Pre-consultation virtual meeting with the City of Ottawa (April 20, 2022; Sami Rehman, Planner) has determined that the EIS should be scoped to focus on the potential impacts of the proposed project on species at risk (SAR), setbacks to the Carp River, and fish habitat.

2.0 ENVIRONMENTAL POLICY CONTEXT

2.1 Fisheries Act

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

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

All projects where work is being proposed that cannot avoid impacts to fish or fish habitat require a Fisheries and Oceans Canada (DFO) project review (DFO 2019). DFO will review the project to identify potential risks of the project to the conservation and protection of fish and fish habitat. If potential impacts can be avoided, project approval is not required (DFO 2020). However, if it is determined that the project will result in death of fish or HADD of fish habitat, an authorization is required under the *Fisheries Act*. Proponents of projects requiring a *Fisheries Act* authorization may be required to also submit a habitat offsetting plan, which provides details of how the death of fish and/or HADD of fish habitat will be offset, and outlines associated costs and monitoring commitments. Proponents also have a duty to notify DFO of any unforeseen activities during the project that cause harm to fish or fish habitat.

2.2 Migratory Birds Convention Act

The *Migratory Birds Convention Act* (MBCA) (Canada 1994) prohibits the killing or capturing of migratory birds, as well as any damage, destruction, removal or disturbance of active nests. It also allows the Canadian government to pass and enforce regulations to protect various species of migratory birds, as well as their habitats.
While Environment and Climate Change Canada (ECCC) can issue permits allowing the destruction of nests for scientific or agricultural purposes, or to prevent damage being caused by birds, it does not typically allow for permits in the case of industrial or construction activities.

2.3 Species at Risk

2.3.1 Species at Risk Act (SARA)

At the federal level, Species at Risk (SAR) designations for species occurring in Canada are initially determined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). If approved by the federal Minister of the Environment and Climate Change, species are added to the federal List of Wildlife Species at Risk (Canada, 2002). Species that are included on Schedule 1 as endangered or threatened are afforded protection of critical habitat on federal lands under the *Species at Risk Act* (SARA) (Canada 2002). On private or provincially-owned lands, only aquatic species and migratory birds listed as endangered, threatened or extirpated are protected under SARA, unless ordered by the Governor in Council.

2.3.2 Endangered Species Act (ESA)

SAR designations for species in Ontario are initially determined by the Committee on the Status of Species at Risk in Ontario (COSSARO), and if approved by the provincial Minister of Environment, Conservation and Parks, species are added to the provincial *Endangered Species Act* (ESA) which came into effect June 30, 2008 (Ontario 2007). The legislation prohibits the killing or harming of species identified as endangered or threatened in the various schedules to the Act. The ESA also provides habitat protection to all species listed as threatened or endangered. The Species at Risk Ontario (SARO) list is contained in O. Reg. 230/08.

Subsection 9(1) of the ESA prohibits the killing, harming or harassing of species identified as ‘endangered’ or ‘threatened’ in the various schedules to the Act. Subsection 10(1)(a) of the ESA states that *“No person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario* (*SARO*) *list as an endangered or threatened species”*.

General habitat protection is provided, by the ESA, to all threatened and endangered species listed on O. Reg. 230/08. Species-specific habitat protection is only afforded to those species for which a habitat regulation has been prepared and passed into law as a regulation of the ESA. The ESA has a permitting process to allow alterations to protected species or their habitats as well as a registration process for certain activities and species.

2.4 Mississippi Valley Conservation Authority (MVCA)

The Site and Study Area are located within the jurisdiction of the MVCA. The western half of the Site lies within the MVCA regulation limit and are therefore regulated under O. Reg. 153/06 - *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses* (MVCA 2022) (Figure 1).

2.5 City of Ottawa

The Site is designated as Mixed Industrial in the City of Ottawa official plan (Ottawa 2021). The Carp River corridor, which lies along the eastern boundary of the Site, is designated Greenspace. Due to the proximity of the Site to the Carp River corridor, an EIS is required under the policies of the City of Ottawa official plan.

3.0 METHODS

3.1 Background Review

Golder conducted a desktop review of published natural heritage data and information available for the Site and the Study Area. This information served to identify significant natural features as well as species at risk (SAR) known to be present, or having the potential to be present. This included review of the following resources:

- Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) Natural Heritage Information Centre (NHIC) Make-a-Map geographic explorer for SAR, rare (S1-S3) species reported as occurring in the vicinity of the Site, and natural areas information queries (NDMNRF 2022a)
- Environment and Climate Change Canada (ECCC) SAR Public Registry (ECCC 2022) including COSEWIC status reports, assessments, and recovery strategies
- List of SAR in Ontario (O. Reg. 230/08) (NDMNRF 2022b) including COSSARO species assessment reports
- DFO Aquatic Species at Risk Maps (DFO 2022)
- Breeding Bird Atlas of Ontario (OBBA) (Cadman et al. 2007)
- Atlas of the Mammals of Ontario (Dobbyn 1994)
- Ontario Reptile and Amphibian Atlas (Ontario Nature 2022)
- Bat Conservation International (BCI) range maps (BCI 2022)
- Ontario Butterfly Atlas (Jones et al. 2022)
- eBird species maps (eBird 2022)
- Vascular Plants at Risk (Leslie 2018)
- NDMNRF Land Information Ontario Aquatic Resources Area Layer (NDMNRF 2022c);
- Information contained in natural heritage related map layers from Land Information Ontario (LIO; 2022) and the Ontario Land Cover Compilation (NDMNRF 2022d)
- City of Ottawa Official Plan (Ottawa 2021)
- Existing high-resolution aerial imagery and mapping

To develop an understanding of the drainage patterns, ecological communities and potential natural heritage features that may be affected by the proposed project, NDMNRF LIO data were used to create base layer mapping for the Study Area. A geographic query of the NDMNRF Make-a-Map database was conducted to identify element occurrences of any natural heritage features, including wetlands, rare vegetation communities and rare species [i.e., S1-S3 species in the Natural Heritage Information Centre (NHIC)], threatened or endangered species and other natural heritage features within two kilometres of the Site.

3.2 SAR Screening

A SAR screening was completed for the Site and Study Area, focusing on the review of records and range maps pertaining to species that are designated as threatened, endangered or special concern under the ESA, and species that are protected under Schedule 1 of the SARA. Species with ranges overlapping the Site or Study Area, or recent occurrence records in the vicinity, were screened by comparing their habitat requirements to habitat conditions at the Site and Study Area.

The potential for the species to occur was determined through a probability of occurrence. A ranking of low indicates no suitable habitat availability for that species in the Site and Study Area and no specimens identified. Moderate probability indicates more potential for the species to occur, as suitable habitat appeared to be present in the Study Area, but no occurrence of the species has been recorded. Alternatively, a moderate probability could indicate an observation of a species, but there is no suitable habitat on the Site or in the Study Area.
High potential indicates a known species record at the Site or in the Study Area (including during field surveys or background data review) and good quality habitat is present.

Searches were conducted during field surveys for suitable habitats and signs of all SAR identified through the desktop screening. The screening was refined based on field surveys (i.e., habitat assessment during the site reconnaissance). Any habitat identified during the site reconnaissance with potential to provide suitable conditions for additional SAR not already identified through the desktop screening was also assessed and recorded.

3.3 Field Survey

A brief site reconnaissance was completed on May 11, 2022 to document existing conditions at the Site, assess habitat suitability for SAR identified in the desktop SAR screening, and verify presence of absence of trees greater than 10 cm DBH.

4.0 SITE DESCRIPTION

Based on a review of aerial imagery and the single site reconnaissance, the Site consists mainly of an existing filled area with some natural vegetation in the periphery of the Site. The natural areas of the Site appear to consist primarily of a narrow strip of meadow and a small area of thicket resulting from natural regeneration following human disturbance. An area of recent disturbance is present at the southern end of the Site, south of a pedestrian pathway. No trees are present anywhere on the Site. Photographs of the Site conditions are presented in Appendix A.

Aquatic habitat on the Site is limited to a portion of a small stormwater outlet that drains to the Carp River (Appendix A). The Carp River runs north-south approximately 23 m west of the Site (at it's closest point).
The Carp River watershed has been identified as having poor water quality (MVCA 2018). The stretch of the Carp River adjacent to the Site was part of a restoration project that began in 2016 and was completed in 2018, which involved creating a more natural alignment of the river and naturalizing the riparian zone.

Fish species known to be present in the Carp River include (NDMNRF 2022c): Banded Killifish, Blackchin Shiner, Blacknose Dace, Blacknose Shiner, Bluntnose Minnow, Brassy Minnow, Brook Stickleback, Brown Bullhead, Burbot, Central Mudminnow, Common Shiner, Creek Chub, Emerald Shiner, Fathead Minnow, Finescale Dace, Golden Shiner, Iowa Darter, Johnny Darter, Logperch, Longnose Dace, Mimic Shiner, Mottled Sculpin, Muskellunge, Northern Hog Sucker, Northern Pike, Northern Redbelly Dace, Pumpkinseed, Rock Bass, Smallmouth Bass, Tessellated Darter, White Sucker, Yellow Perch. According to Robinson et al. (2004), the fish community of the Carp River and its tributaries is dominated by minnow species, including both sensitive and

tolerant types that are adapted to a variety of warm water habitats typical of low gradient, slow flowing rivers with many backwater and streamside wetland features and broad, flat floodplains. No SAR fish species are known to be present in this reach of the Carp River (DFO 2022). The small stormwater channel is directly connected to the Carp River, and so may be expected to provide fish habitat in the form of a side-channel.

5.0 PROPOSED DEVELOPMENT

The proposed development consists of a self-storage facility and automobile rental facility with associated parking and stormwater management. (Figure 2). The proposed development will feature two storage buildings and two outdoor enclosed storage buildings. A total of ten bicycle parking spaces and 101 automobile parking spaces are included in the proposed development. Approximately 2.18 ha will be developed, with the remainder left in its current state.

The portion of the Site to be developed will be serviced by the municipal sanitary sewer, storm sewer and watermain located within an existing easement along the proposed access road extension off Frank Nighbor Place. Post-development stormwater flows from the portion of the Site to be developed will outlet to the existing 1050 millimetre (mm) diameter municipal storm sewer, which outlets to the downstream drainage ditch and eventually, to the Carp River.

On-site stormwater management will include both stormwater quantity and quality control measures (i.e., an Enhanced Level of Treatment equivalent to 80% Total Suspended Solids removal) prior to releasing flows to the existing storm sewer. This will be achieved by a treatment train of grass swales, an on-site stormwater management facility (dry pond) and the use of an oil/grit separator. Post-development storm flows will be controlled to a maximum release rate of 50 L/s/ha as defined in the Terry Fox Business Park – Stormwater Design Plan by means of restrictor pipes located within the on-Site storm sewer system. The stormwater management design will meet the requirements of the City of Ottawa, the MVCA and the Ministry of the Environment, Conservation and Parks (MECP).

6.0 IMPACT ASSESSMENT

6.1 Plant Communities and Wildlife Habitat

The proposed development is limited to the existing fill pad area and minor works associated with the proposed stormwater management area south of the pad. Impacts are therefore minimal, and not expected to result in any significant alteration to the existing assemblage of plants or wildlife that currently utilize the Site. This conclusion will be confirmed following an additional field survey, with the results included in an addendum to this EIS.

6.2 Aquatic Habitat

The proposed project lies within the MVCA regulated area (MVCA 2022) (Figure 1). Under Ontario Regulation 153/06, written permission is required from the MVCA prior to the initiation of development (which includes construction, site grading and the placement or removal of fill) within an area regulated by the MVCA.

The Carp River is located approximately 22 m from the Site at it’s closest point and lies more than 50 m from the proposed area of disturbance at it’s closest point. A small portion at the western edge of the Site lies within the 1:100 year floodline (MVCA 2022) (Figure 1); however, the proposed development lies outside of the 1:100 year floodline (Figure 2).

Section 4.9.2 of the City of Ottawa official plan (Ottawa 2021) indicates that the minimum setback from surface water features shall be the development limits as established by a Council-approved watershed, subwatershed or environmental management plan. Where a Council-approved watershed, subwatershed or environmental management plan does not exist, or provides incomplete recommendations, the minimum setback from surface water features shall be the greater of the following:

a) Development limits as established by the conservation authority's hazard limit, which includes the regulatory flood line, geotechnical hazard limit and meander belt;

b) Development limits as established by the geotechnical hazard limit in keeping with Council approved Slope Stability Guidelines for Development Applications;

c) 30 metres from the top of bank, or the maximum point to which water can rise within the channel before spilling across the adjacent land; and,

d) 15 metres from the existing stable top of slope, where there is a defined valley slope or ravine.

Robinson et al. (2004) prepared the Carp River Subwatershed Study, which outlines specific development setbacks to the Carp River; however, this document pre-s the Carp River restoration work in the vicinity of the Site and it's setback recommendations relating to the section of the river adjacent to the Site are therefore no longer relevant. The proposed development is located outside the regulatory floodline (1:100 year) (a] above) and as there is no ravine or defined valley, no stable top of slope is not applicable here (d] above). The proposed development is located more than 50 m from the top of bank of the Carp River (c] above). As the proposed development sits on an existing engineered fill pad located at minimum 50 m from the Carp River, with flat topography between the toe of the pad and the edge of the river, it is assumed that no slope stability issues are present (b] above). Based on this, the proposed development complies with the City's watercourse setback policies.

The areas of the Site that lie between the proposed development footprint and the 1:100 year floodline are undergoing natural regeneration. Over time, this area will continue to naturalize and mature, providing additional habitat for a range of wildlife and benefits to the Carp River itself.

The proposed stormwater management system will outlet via an underground connection to the existing underground municipal storm sewer pipe that eventually outlets to the open drainage ditch and eventually, to the Carp River. As this will not result in any alteration below the high-water mark of any watercourse, and water quantity and quality will be maintained as discussed, no impacts to fish or fish habitat are anticipated to result from the proposed project. Based on this, no project review by Fisheries and Oceans Canada under the *Fisheries Act* is required.

6.3 Species at Risk

The following is a discussion of those species identified in the screening as having a moderate or high potential to be present on the Site (Appendix B). Species identified as having a low potential, based on an absence of suitable habitat and no known records, and those listed as special concern under the SARA only, are included in Appendix A but are not discussed further in this report.

6.3.1 Provincially Endangered and Threatened Species

Based on the background review, no endangered or threatened species and/or their defined habitat were identified as having moderate or high potential to be present on the Site (Appendix A). One was identified as potentially present in the Study Area (Appendix B): Blanding's turtle (*Emydoidea blandingii*). Additional endangered and threatened species considered to have a low likelihood of being present at the Site or in the Study Area are presented in Appendix A but are not discussed further in this report. This conclusion will be confirmed following an additional field survey, with the results included in an addendum to this EIS.

Blanding's Turtle

Based on previous studies performed for lands adjacent to the Site (Carp River corridor), Kilgour (2014) mapped the Blanding's turtle habitat for the Carp River south of Richardson Side Road in accordance with NDMNRF (2019). No Category 1 or 2 Blanding's turtle habitat was mapped south of the Highway 417 corridor. Kilgour (2014) further concluded that any Category 3 habitat overlapping the Site leads only to developed areas and therefore cannot support overland travel corridors from the Carp River riparian edge to other wetlands as no other wetlands are present within or beyond the Site. Golder concurs with the results of this assessment, which was also reviewed and accepted by the NDMNRF (who were responsible for administering the *Endangered Species Act* at that time). Since it is possible that this species may utilize the newly restored Carp River, Golder recommends employing mitigation measures to assist in avoiding any impacts to individuals during construction at the Site (see Section 7). It is Golder's opinion that no permits under the ESA are required for this species.

6.3.2 Species of Conservation Concern

Habitat for species of conservation concern (SOCC) includes habitat for three groups of species:

- Species that are rare, those whose populations are significantly declining, or have a high percentage of their global population in Ontario;
- Species listed as special concern under the ESA; and,
- Species listed as threatened or endangered under SARA.

SOCC identified as present or having a moderate or high likelihood of being present at the Site, are discussed below.

Monarch

Monarch butterfly (*Danaus plexippus*) is designated special concern under the ESA and SARA and was identified as having moderate potential to be found on the Site and in the Study Area. This species utilizes open and edge areas where flowering plants offer foraging opportunities, and milkweeds (*Asclepias* spp.) provide food for their larval stage. Suitable habitat for this species will continue to be present on the Site post-development in the undisturbed portions of the Site. No further analysis is warranted.

Snapping Turtle

Snapping turtle is designated special concern under the ESA and SARA. There is potential habitat for this species in the Carp River adjacent to the Site (Study Area). This habitat will not be affected by the proposed development, and no further analysis is warranted.

7.0 RECOMMENDATIONS AND CONCLUSION

Based on the results of this preliminary review, no negative impacts to significant natural features are expected to result from the proposed development, and the proposed development satisfies all relevant federal, provincial and municipal laws, regulations and policies. This conclusion must be confirmed following additional study, including a field survey, with the results presented in an addendum to this report. This conclusion is based on the following recommendations:

- Complete an additional field survey at the Site in summer 2022, and prepare an addendum confirming or modifying the conclusions of this preliminary report. The additional field survey will be undertaken to:
  - i) Prepare a map of the plant communities using Ecological Land Classification (ELC) (Lee et al. 1998).
  - ii) Document the dominant plant species in each plant community, noting any SAR.
  - iii) Gather general habitat information for surface water features.
  - iv) Complete a single breeding bird survey (Sauer et al. 2008; Cadman et al. 2007).
  - v) Document all wildlife species observed.
  - vi) Assess the potential for SAR or their associated habitats.
  - vii) Prepare a photographic inventory of the Site with a focus on natural areas and habitats.
  - viii) Determine the need for additional surveys, if any.
- Clearly demarcate and maintain the development envelope using temporary fencing.
- If construction will take place during the active period for turtles (April – October), install turtle exclusion fencing along the western edge of the work area prior to May 1 of the development year, and maintain the fencing in-place until construction is completed. Fencing should be in accordance with NDMNRF (2021; https://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing).
- To comply with the *Migratory Birds Convention Act* (MBCA; Canada 1994), avoid removal of vegetation or ground disturbance during the active season for breeding birds (April 1 – August 15) unless preceded by a nesting survey, completed by a qualified biologist.
- If a SAR is observed on the Site during construction, contact the MECP immediately ([613] 549-4000).
- Comply with the City of Ottawa Protocol for Wildlife Protection during Construction (Ottawa 2015) by:
  - i) Avoiding disturbing active mammal burrows during the hibernation and natal period (October to June).
  - ii) Leave gaps in construction fencing to allow wildlife to leave the Site.
  - iii) Do not harm, feed or unnecessarily harass wildlife; keep the Site tidy and free of garbage.
  - iv) Check the work area daily for presence of wildlife. If any are observed, allow them to leave of their own accord, or contact a professional wildlife removal service.

- Obtain all necessary approvals from the MVCA prior to initiating site works or construction.
- Implement a lighting design that reduces lighting impacts on the adjacent natural habitats (e.g., downward pointing, motion lighting where appropriate, etc.).
- Install and maintain the stormwater management system as designed.
- Do not include any invasive species in landscaping plans and prioritize locally-adapted native species wherever possible.
- Implement Best Management Practices, including sediment and erosion controls, spill prevention, etc. during the construction phase of the project.
- Mitigation measures relating to protection of trees, if any, are to be included in an addendum to this report following the field survey.

8.0 LIMITATIONS AND USE OF REPORT

This report was prepared for the exclusive use of AMERICO Real Estate Company. The report, which specifically includes all tables, figures and attachments, is based on data and information collected by Golder Associates Ltd. and is based solely on the conditions of the properties at the time of the work, supplemented by historical information and data obtained by Golder Associates Ltd. as described in this report.

Golder Associates Ltd. has relied in good faith on all information provided and does not accept responsibility for any deficiency, misstatements, or inaccuracies contained in the report as a result of omissions, misinterpretation, or fraudulent acts of the persons contacted or errors or omissions in the reviewed documentation.

The services performed, as described in this report, were conducted in a manner consistent with that level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions, subject to the time limits and financial and physical constraints applicable to the services.

Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. Golder Associates Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

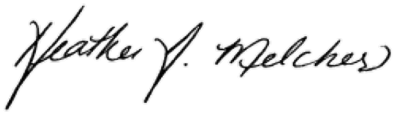
The findings and conclusions of this report are valid only as of the date of this report. If new information is discovered in future work, including excavations, borings, or other studies, Golder Associates Ltd. should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

9.0 CLOSURE

We trust this report meets your current requirements. If you have any questions regarding this report, please contact the undersigned.

Golder Associates Ltd.

Gwendolyn Weeks, H.B.Sc.Env.
Lead Ecologist



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GAW/HM/sg
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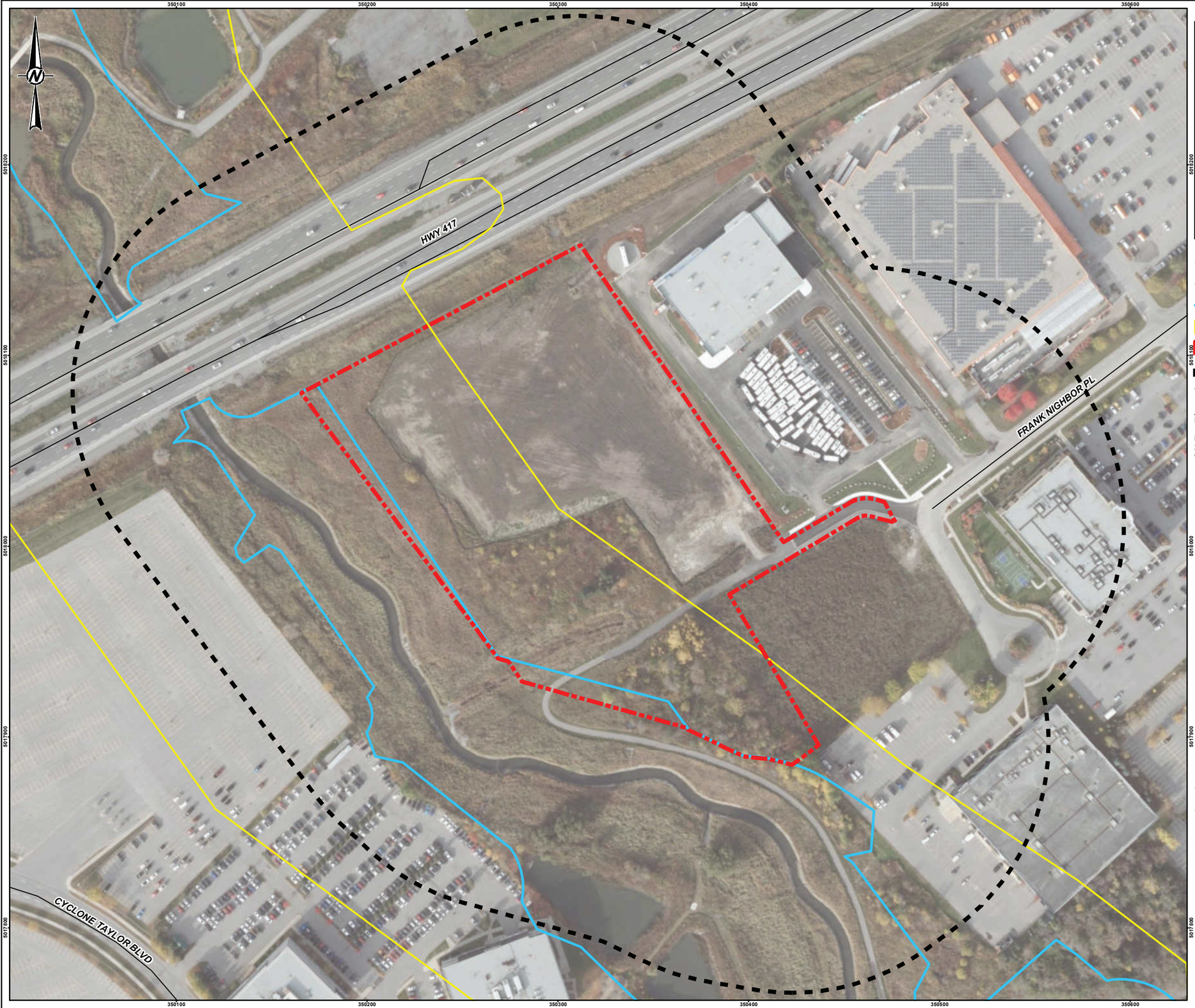
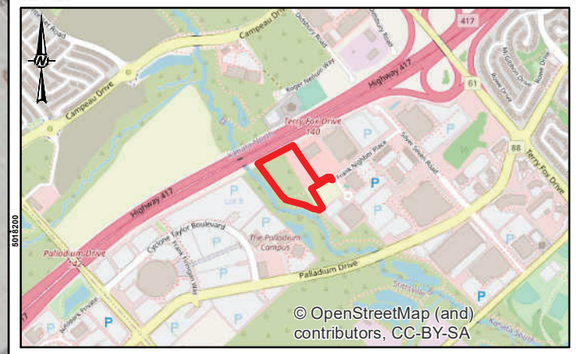


KEY MAP



SCALE 1:25,000

LEGEND

- ROADWAY
- 1:100 YEAR FLOODPLAIN (MVCA 2022)
- REGULATION LIMIT (MVCA 2022)
- SITE
- 120 m STUDY AREA

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 20 40 80
1:2,000 METRES

CLIENT
AMERCO REAL ESTATE COMPANY

PROJECT
ENVIRONMENTAL IMPACT STATEMENT
30 FRANK NIGHBOR PLACE, OTTAWA, ONTARIO

TITLE
SITE LOCATION AND EXISTING CONDITIONS

CONSULTANT
wsp GOLDER

YYYY-MM-DD	2022-04-13
DESIGNED	----
PREPARED	JEM
REVIEWED	GW
APPROVED	HM

PROJECT NO.	CONTROL	REV.	FIGURE
21500820	0001	0	1

Path: N:\Active\Spatial_IM\Amerco\20_30_Frank_Nighbor_PI\99_PRO\21500820_Amerco_EIS\00\01_Enviro_Impact_Statement\21500820-0001-HN-0001.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

LEGEND

SITE

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 12.5 25 50

1:1,250 METRES

CLIENT

AMERCO REAL ESTATE COMPANY

PROJECT

ENVIRONMENTAL IMPACT STATEMENT
30 FRANK NIGHBOR PLACE, OTTAWA, ONTARIO

TITLE

PROPOSED DEVELOPMENT

CONSULTANT

WSP GOLDER

YYYY-MM-DD	2022-04-28
DESIGNED	----
PREPARED	JEM
REVIEWED	GW
APPROVED	HM

PROJECT NO.	CONTROL	REV.	FIGURE
21500820	0001	0	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

APPENDIX A

Photographic Log

Photo 1: View across Site, looking north

Photo 2: Portion of Site south of pedestrian pathway

Photo 3: Stormwater culvert entering ditch

APPENDIX B

Species at Risk Screening

Taxon	Common Name	Scientific Name	Endangered Species Act, Reg. 230/08 SARO List Status[1]	Species at Risk Act, Schedule 1 List of Wildlife SAR Status[2]	COSEWIC Status [3]	Ontario Habitat Descriptions	Probability of Occurrence on Site	Probability of Occurrence in Study Area	ESA Habitat Protection Provisions[6]	SARA Critical Habitat Defined[7] (Yes or No)	References
Amphibian	Western chorus frog - Great Lakes St. Lawrence / Canadian Shield population	*Pseudacris triseriata*	—	THR	THR	In Ontario, habitat of this amphibian species typically consists of marshes or wooded wetlands, particularly those with dense shrub layers and grasses, as this species is a poor climber. They will breed in almost any fishless pond including roadside ditches, gravel pits and flooded swales in meadows. This species hibernates in terrestrial habitats under rocks, dead trees or leaves, in loose soil or in animal burrows. During hibernation, this species is tolerant of flooding (Environment Canada 2015).	Low - no suitable habitat is present on the Site.	Low - no suitable habitat is present in the Study Area.		Yes • Suitable wetland habitat (all areas of suitable habitat incorporated): temporary wetlands or shallow portions of permanent wetlands with vegetation structure/composition generally herbaceous with occasional shrubby wildlands, or partially submerged trees forming open/discontinuous canopy (although some pop'n breed in heavily canopied habitat), and an absence of fish and other aquatic predators • Terrestrial habitat (incorporating up to 300 m from boundaries of breeding wetlands) includes same vegetation structure/composition as wetlands, as well as soft substrate with dead leaves, woody debris and burrows for hibernation habitat • Site occupancy: established by selecting point count data from 1992 or later and covering at least two separate years within 20 year period (with at least 1 observation from last 10 years) • Dispersal corridor connects 2 breeding sites that meet habitat occupancy criteria and that are separated by maximum distance of 900 m • 211 critical habitat parcels identified in Ontario • Excludes anthropogenic structures	Environment Canada. 2015. Recovery Strategy for the Western Chorus Frog (Pseudacris triseriata), Great Lakes/ St. Lawrence - Canadian Shield population, in Canada. Species at Risk Act Recovery Strategy Series. Ottawa ON: Environment Canada; [accessed 29 November 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/plans/Rs-WesternChorusFrogGLSLBC-v00-2015Dec01_e.pdf. vi + 50 p.
Arthropod	Monarch	*Danaus plexippus*	SC	SC	END	In Ontario, monarch is found throughout the northern and southern regions of the province. This butterfly is found wherever there is milkweed (*Asclepias* spp.) plants for its caterpillars and wildflowers that supply a nectar source for adults. It is often found on abandoned farmland, meadows, open wetlands, prairies and roadsides, but also in city gardens and parks. Important staging areas during migration occur along the north shores of the Great Lakes (COSEWIC 2010).	Moderate - suitable habitat is present in the open, natural areas of the Site.	Moderate - suitable habitat is present in open, natural areas in the Study Area.		No	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2010. COSEWIC assessment and status report on the Monarch Danaus plexippus in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 22 November 2019]. https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Monarch_0810_e1.pdf. vii + 43 p.
Arthropod	Rusty-patched bumble bee	*Bombus affinis*	END	END	END	In Ontario, rusty-patched bumble bee is found in areas from the southern Great Lakes – St. Lawrence forest region southwards into the Carolinian forest. It is a habitat generalist, but it is typically found in open habitats, such as mixed farmland, savannah, marshes, sand dunes, urban and lightly wooded areas. It is cold –tolerant and can be found at high elevations. Most recent sightings in Ontario have been in oak savannah habitat with well-drained, sandy soils and moderately open canopy. It requires an abundance of flowering plants for forage. This species most often builds nests underground in old rodent burrows, but also in hollow tree stumps and fallen dead wood (Colla and Taylor-Pindar 2011). The only recent sightings in Ontario are from the Pinery Provincial Park.	Low - The urban context of the Site makes it unlikely habitat for this species.	Low - The urban context and built-up nature of the Study Area makes it unlikely habitat for this species.	Regulated In the geographic areas of: where species occurs south of 45○30'0'' north latitude (approximately south of Algonquin Park) Regulated Habitat: • any nesting or hibernation site and surrounding 30 m area • natural areas within 500 m of a rusty-patched bumble bee that provide suitable foraging conditions (i.e. prairie, savannah, woodland, marsh, bog, forest, sand dune, old field or similar areas); and if these areas extend beyond 500 m, those areas protected up to an additional 500 m • natural areas that provide suitable foraging conditions between Apr 1 to May 31 that fall between 500 m and 1000 m of a rusty-patched bumble bee • areas protected until 5 consecutive years of non-use • unsuitable habitat includes open water and built-up areas (e.g. roads, parking lots) • regulation does not apply to areas used in past 12 months for pasture, growing, producing or raising farm animals, producing agricultural crops, or growing a garden or lawn	Yes (proposed) • Area of suitable habitat within 1 km of any occupied record • Occupancy defined as valid sightings since 2005 • Suitable habitat includes: o nesting habitat (old rodent burrows, hollow tree stumps, fallen dead wood) o overwintering sites (undergrown burrows, fallen dead wood) o foraging habitat (foraging opportunities in savannah, woodland, forest, prairie, marsh, bog, sand dune or cultural sites) • Anthropogenic structures, open water and manicured lawns within the 1 km zone are not considered critical habitat, except within the 30m critical function zone of any valid record of occupied overwintering or nesting site	Colla SR, Taylor-Pindar A. 2011. Recovery Strategy for the Rusty-patched Bumble Bee (Bombus affinis) in Ontario. Ontario Recovery Strategy Series. Peterborough ON: Ontario Ministry of Natural Resources; [accessed 29 November 2019]. https://www.ontario.ca/page/rusty-patched-bumble-bee-recovery-strategy. vi + 21 p.
Arthropod	Yellow-banded bumble bee	*Bombus terricola*	SC	SC	SC	Yellow-banded bumblebee is a forage and habitat generalist, occupying open woodlands, meadows, grasslands, farmlands and urban parks, and taking nectar from various flowering plants (COSEWIC 2015). It is an early emerging species, making it likely an important pollinator of early blooming wild flowering plants (e.g. wild blueberry) and agricultural crops (e.g., apple). Nest sites are often in abandoned rodent burrows in old fields and queens overwinter by burrowing into loose soil or rotting trees (COSEWIC 2015).	Low - The urban context of the Site makes it unlikely habitat for this species.	Low - The urban context and built-up nature of the Study Area makes it unlikely habitat for this species.		No	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2015. COSEWIC assessment and status report on the Yellow-banded Bumble Bee Bombus terricola in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 22 November 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_Yellow-banded%20Bumble%20Bee_2015_e.pdf. ix + 60 p.

Taxon	Common Name	Scientific Name	Endangered Species Act, Reg. 230/08 SARO List Status[1]	Species at Risk Act, Schedule 1 List of Wildlife SAR Status[2]	COSEWIC Status [3]	Ontario Habitat Descriptions	Probability of Occurrence on Site	Probability of Occurrence in Study Area	ESA Habitat Protection Provisions[6]	SARA Critical Habitat Defined[7] (Yes or No)	References
Bird	Bank swallow	*Riparia riparia*	THR	THR	THR	In Ontario, bank swallow breeds in a variety of natural and anthropogenic habitats, including lake bluffs, stream and riverbanks, sand and gravel pits, and roadcuts. Nests are generally built in a vertical or near-vertical bank. Breeding sites are typically located near open foraging sites such as rivers, lakes, grasslands, agricultural fields, wetlands and riparian woods. Forested areas are generally avoided (Garrison 1999).	Low - no suitable banks are present at the Site.	Low - no suitable banks are present in the Study Area.	General (Draft) Category 1 – Breeding colony, including burrows and substrate between them Category 2 – Area within 50 m of the front of breeding colony face Category 3 – Area of suitable foraging habitat within 500 m of the outer edge of breeding colony	No	Garrison BA. 1999. Bank Swallow (Riparia riparia). The Birds of North America Online (AF Poole and FB Gill, eds). Ithaca NY: Cornell Lab of Ornithology; [accessed 20 November 2019]. https://doi.org/10.2173/bna.414.
Bird	Barn swallow	*Hirundo rustica*	THR	THR	SC	In Ontario, barn swallow breeds in areas that contain a suitable nesting structure, open areas for foraging, and a body of water. This species nests in human made structures including barns, buildings, sheds, bridges, and culverts. Preferred foraging habitat includes grassy fields, pastures, agricultural cropland, lake and river shorelines, cleared rights-of-way, and wetlands (COSEWIC 2011). Mud nests are fastened to vertical walls or built on a ledge underneath an overhang. Suitable nests from previous years are reused (Brown and Brown 2019).	Low - no structures suitable for nesting are present at the Site.	Low - no structures suitable for nesting are present in the Study Area.	General Category 1 – Nest Category 2 – Area within 5 m of the nest Category 3 – Area between 5-200 m of the nest	No, but Residence Description Provided: • During period of occupancy (May-Aug) any barn swallow nest, whether occupied or not, is considered a residence	Brown MB, Brown CR. 2019. Barn Swallow (Hirundo rustica). In The Birds of North America Online (P. G. Rodewald, ed), version 2.0. Ithaca NY: Cornell Lab of Ornithology; [accessed 20 November 2019]. https://doi.org/10.2173/bna.barswa.02. COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2011. COSEWIC assessment and status report on the Barn Swallow Hirundo rustica in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 22 November 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_barn_swallow_0911_eng.pdf. ix + 37 p.
Bird	Bobolink	*Dolichonyx oryzivorus*	THR	THR	THR	In Ontario, bobolink breeds in grasslands or graminoid dominated hayfields with tall vegetation (Gabhauer 2007). Bobolink prefers grassland habitat with a forb component and a moderate litter layer. They have low tolerance for presence of woody vegetation and are sensitive to frequent mowing within the breeding season. They are most abundant in established, but regularly maintained, hayfields, but also breed in lightly grazed pastures, old or fallow fields, cultural meadows and newly planted hayfields. Their nest is woven from grasses and forbs. It is built on the ground, in dense vegetation, usually under the cover of one or more forbs (Renfrew et al. 2015).	Low - the small size and presence of abundant shrubs makes the Site unsuitable for this species.	Low - no large, open habitats are present in the Study Area.	General Category 1 – Nest and area within 10 m of nest Category 2 – Area between 10 – 60 m of the nest or centre of approximated defended territory Category 3 - Area of continuous suitable habitat between 60 – 300 m of the nest or centre of approximated defended territory	No	Gabhauer MA. 2007. Bobolink, pp. 586-587 in Cadman MD, Sutherland DA, Beck GG, Lepage D, Couturier AT, eds. Atlas of the Breeding Birds of Ontario, 2001-2005. Toronto ON: Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources and Ontario Nature. xxii + 706 p. Renfrew R, Strong AM, Perlut NG, Martin SG, Gavin TA. 2015. Bobolink (Dolichonyx oryzivorus). In The Birds of North America (PG Rodewald, ed.), version 2.0. Ithaca NY: Cornell Lab of Ornithology; [accessed 29 November 2019]. https://doi.org/10.2173/bna.176.
Bird	Canada warbler	*Cardellina canadensis*	SC	THR	THR	In Ontario, breeding habitat for Canada warbler consists of moist mixed forests with a well-developed shrubby understory. This includes low-lying areas such as cedar and alder swamps, and riparian thickets (McLaren 2007). It is also found in densely vegetated regenerating forest openings. Suitable habitat often contains a developed moss layer and an uneven forest floor. Nests are well concealed on or near the ground in dense shrub or fern cover, often in stumps, fallen logs, overhanging stream banks or mossy hummocks (Reitsma et al. 2010).	Low - no suitable forested habitats are present at the Site.	Low - no suitable forested habitats are present in the Study Area.		No	McLaren P. 2007. Canada Warbler, pp. 528-529 in Cadman MD, Sutherland DA, Beck GG, Lepage D, Couturier AT, eds. Atlas of the Breeding Birds of Ontario, 2001-2005. Toronto ON: Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources and Ontario Nature. xxii + 706 p. Reitsma L, Goodnow M, Hallworth MT, Conway CJ. 2009. Canada Warbler (Cardellina canadensis). In The Birds of North America Online (A. Poole, ed.), version 2.0. Ithaca NY: Cornell Lab of Ornithology; [accessed 29 November 2019]. https://doi.org/10.2173/bna.421.
Bird	Chimney swift	*Chaetura pelagica*	THR	THR	THR	In Ontario, chimney swift breeding habitat is varied and includes urban, suburban, rural and wooded sites. They are most commonly associated with towns and cities with large concentrations of chimneys. Preferred nesting sites are dark, sheltered spots with a vertical surface to which the bird can grip. Unused chimneys are the primary nesting and roosting structure, but other anthropogenic structures and large diameter cavity trees are also used (COSEWIC 2007).	Low - no structures suitable for nesting are present at the Site.	Low - no structures suitable for nesting are present in the Study Area.	General Category 1 – Human-made nest/roost, or natural nest/roost cavity and area within 90 m of natural cavity	No	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2007. COSEWIC assessment and status report on the Chimney Swift Chaetura pelagica in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 22 November 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_chaetura_pelagica_e.pdf. vii + 49 p.
Bird	Common nighthawk	*Chordeiles minor*	SC	THR	SC	In Ontario, these aerial foragers require areas with large open habitat. This includes farmland, open woodlands, clearcuts, burns, rock outcrops, alvars, bogs, fens, prairies, gravel pits and gravel rooftops in cities (Sandilands 2007)	Low - no large, open habitats suitable for nesting are present at the Site.	Low - no large, open habitats suitable for nesting are present in the Study Area.		No	Sandilands A. 2007. Common Nighthawk, pp. 308-309 in Cadman, MD, Sutherland DA, Beck GG, Lepage D, Couturier AR, eds. Atlas of the Breeding Birds of Ontario, 2001-2005. Toronto ON: Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources and Ontario Nature. xxii + 706 p.

Taxon	Common Name	Scientific Name	Endangered Species Act, Reg. 230/08 SARO List Status[1]	Species at Risk Act, Schedule 1 List of Wildlife SAR Status[2]	COSEWIC Status [3]	Ontario Habitat Descriptions	Probability of Occurrence on Site	Probability of Occurrence in Study Area	ESA Habitat Protection Provisions[6]	SARA Critical Habitat Defined[7] (Yes or No)	References
Bird	Eastern meadowlark	*Sturnella magna*	THR	THR	THR	In Ontario, eastern meadowlark breeds in pastures, hayfields, meadows and old fields. Eastern meadowlark prefers moderately tall grasslands with abundant litter cover, high grass proportion, and a forb component (Hull 2019). They prefer well drained sites or slopes, and sites with different cover layers (Roseberry and Klimstra 1970).	Low - the small size and presence of abundant shrubs makes the Site unsuitable for this species.	Low - no large, open habitats are present in the Study Area.	General Category 1 – Nest and area within 10 m of the nest Category 2 – Area between 10 – 100 m of the nest or centre of approximated defended territory Category 3 – Area of continuous suitable habitat between 100 – 300 m of the nest or centre of approximated defended territory	No	Hull SD, Shaffer JA, Lawrence DI. 2019. The effects of management practices on grassland birds: Eastern Meadowlark (Sturnella magna). Jamestown ND: US Geological Survey; [accessed 02 December 2019]. https://pubs.usgs.gov/pp/1842/mm/pp1842MM.pdf. Roseberry JL, Klimstra WD. 1970. The nesting ecology and reproductive performance of the Eastern Meadowlark. The Wilson Bulletin 82(3): 243-267.
Bird	Eastern whip-poor-will	*Antrostomus vociferus*	THR	THR	THR	In Ontario, whip-poor-will breeds in semi-open forests with little ground cover. Breeding habitat is dependent on forest structure rather than species composition, and is found on rock and sand barrens, open conifer plantations and post-disturbance regenerating forest. Territory size ranges from 3 to 11 ha (COSEWIC 2009). No nest is constructed, and eggs are laid directly on the leaf litter (Mills 2007).	Low - no suitable forested habitats are present at the Site.	Low - no suitable forested habitats are present in the Study Area.	General Category 1 – Nest and area within 20 m of nest Category 2 – Area between 20-170 m from nest or centre of approximated defended territory Category 3 – Area of suitable habitat within 170-500 m of the nest, or centre of approximated defended territory	Yes • Occupancy defined as atlas square where records from 2001 breeding season consist of at least: o 1 confirmed breeding record OR o 2 records where a minimum of 1 record is probably breeding OR o 2 possible breeding records in a single year + at least one possible breeding record from another year OR o 5 possible breeding records (single or different years) • Suitable habitat for nesting and foraging includes all corresponding areas of 3 ha or more within a 10 km x 10 km atlas square: o forests with sparse to moderate tree cover or open habitats + sparse to moderate shrub and herbaceous cover + well-drained soils • Suitable habitat for nesting only includes all corresponding areas up to 30 m on the interior side of the forest edge within a 10 km x 10 km atlas square: o forests with dense tree cover + sparse to moderate shrub and herbaceous cover + well-drained soils • Suitable habitat for foraging only includes all corresponding areas up to 1,250 m from the edge of suitable nesting habitat within a 10 km x 10 km atlas square: o forests with sparse tree cover or open habitats + dense shrub cover + soil drainage is deficient OR o agricultural land with scattered shrubs or trees (e.g. hedgerows) that can be used as perches	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2009. COSEWIC assessment and status report on the Whip-poor-will Caprimulgus vociferus in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_whip-poor-will_0809_e.pdf. vi + 28 p. Mills A. 2007. Whip-poor-will, pp. 312-313 in Cadman MD, Sutherland DA, Beck GG, Lepage D, Couturier AR, eds. Atlas of the Breeding Birds of Ontario, 2001-2005. Toronto ON: Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources and Ontario Nature. xxii + 706 p.
Bird	Eastern wood-pewee	*Contopus virens*	SC	SC	SC	In Ontario, eastern wood-pewee inhabits a wide variety of wooded upland and lowland habitats, including deciduous, coniferous, or mixed forests. It occurs most frequently in forests with some degree of openness. Intermediate-aged forests with a relatively sparse midstory are preferred. In younger forests with a relatively dense midstory, it tends to inhabit the edges. Also occurs in anthropogenic habitats providing an open forested aspect such as parks and suburban neighborhoods. Nest is constructed atop a horizontal branch, 1-2 m above the ground, in a wide variety of deciduous and coniferous trees (COSEWIC 2012).	Low - no suitable forested habitats are present at the Site.	Low - no suitable forested habitats are present in the Study Area.		No	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2012. COSEWIC assessment and status report on the Eastern Wood-pewee Contopus virensin Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_Eastern%20Wood-pewee_2013_e.pdf. x + 39 p.
Bird	Evening grosbeak	*Coccothraustes vespertinus*	SC	SC	SC	In Ontario, evening grosbeak breeds across northern Ontario, as far south as southern Georgian Bay, in open mature coniferous or mixed forests dominated by fir species, white spruce and/or trembling aspen (MECP 2019).	Low - no suitable forested habitats are present at the Site.	Low - no suitable forested habitats are present in the Study Area.		No	MECP (Ministry of Environment, Conservation and Parks). 2019. Evening Grosbeak. [updated 04 November 2019; accessed 02 December 2019]. https://www.ontario.ca/page/evening-grosbeak.
Bird	Olive-sided flycatcher	*Contopus cooperi*	SC	THR	SC	In Ontario, olive-sided flycatcher breeding habitat consists of natural openings in coniferous or mixed forests, including bogs, burns, riparian zones, and cutover areas. They are also found in semi-open forest stands and early successional forest when tall snags and residual live trees are present. In the boreal forest it is often associated with muskeg, bogs, fens and swamps dominated by spruce and tamarack. Open areas with tall trees or snags for perching are used for foraging (COSEWIC 2007). Nests are usually built on horizontal branches of conifers (Peck and James 1987).	Low - no suitable forested habitats are present at the Site.	Low - no suitable forested habitats are present in the Study Area.		No	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2007. COSEWIC assessment and status report on the Olive-sided Flycatcher Contopus cooperi in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/srOlive-sidedFlycatcher2018e.pdf. vii + 25 p. Peck GK, James RD. 1987. The breeding birds of Ontario: nidiology and distribution. Vol. 2: Passerines. Toronto ON: Royal Ontario Museum. 397 p.

Taxon	Common Name	Scientific Name	Endangered Species Act, Reg. 230/08 SARO List Status[1]	Species at Risk Act, Schedule 1 List of Wildlife SAR Status[2]	COSEWIC Status[3]	Ontario Habitat Descriptions	Probability of Occurrence on Site	Probability of Occurrence in Study Area	ESA Habitat Protection Provisions[6]	SARA Critical Habitat Defined[7] (Yes or No)	References
Bird	Red-headed woodpecker	*Melanerpes erythrocephalus*	END	END	END	In Ontario, red-headed woodpecker breeds in open, deciduous woodlands or woodland edges and are often found in parks, cemeteries, golf courses, orchards and savannahs (Woodliffe 2007). They may also breed in forest clearings or open agricultural areas provided that large trees are available for nesting. They prefer forests with little or no understory vegetation. They are often associated with beech or oak forests, beaver ponds and swamp forests where snags are numerous. Nests are excavated in the trunks of large dead trees (Frei et al. 2017).	Low - no suitable forested habitats are present at the Site.	Low - no suitable forested habitats are present in the Study Area.	General (as of Jan 27, 2022)	No	Frei B, Smith KG, Withgott JH, Rodewald PG, Pyle P, Patten MA. 2017. Red-headed Woodpecker (Melanerpes erythrocephalus). In The Birds of North America (PG Rodewald, ed), version 2.1. Ithaca, NY: Cornell Lab of Ornithology; [accessed 02 December 2019]. https://doi.org/10.2173/bna.rehwoo.02.1. Woodliffe PA. 2007. Red-headed Woodpecker, pp. 320-321 in Cadman MD, Sutherland DA, Beck GG, Lepage D, Couturier AR, eds. Atlas of the Breeding Birds of Ontario, 2001-2005. Toronto ON: Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources and Ontario Nature. xxii + 706 p.
Bird	Wood thrush	*Hylocichla mustelina*	SC	THR	THR	In Ontario, wood thrush breeds in moist, deciduous hardwood or mixed stands that are often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches. This species selects nesting sites with the following characteristics: lower elevations with trees less than 16 m in height, a closed canopy cover (>70 %), a high variety of deciduous tree species, moderate subcanopy and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter (COSEWIC 2012).	Low - no suitable forested habitats are present at the Site.	Low - no suitable forested habitats are present in the Study Area.		No	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2012. COSEWIC assessment and status report on the Wood Thrush Hylocichla mustelina in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_Wood%20Thrush_2013_e.pdf. ix + 46 p.
Fish	American Eel	*Anguilla rostrata*	END	—	THR	In Ontario, American eel is native to the Lake Ontario, St. Lawrence River and Ottawa River watersheds. Their current distribution includes lakes Huron, Erie, and Superior and their tributaries. The Ottawa River population is considered extirpated. The preferred habitat of the American eel is cool water of lakes and streams with muddy or silty substrates in water temperatures between 16 and 19°C. The American eel is a catadromous fish that lives in fresh water until sexual maturity then migrates to the Sargasso Sea to spawn (Burridge et al. 2010; Eakins 2016).	Low - no watercourses are present on the Site.	Low - although this species was listed in the NHIC square containing the Study Area, the Carp River is not known habitat for this species.	General (as of June 30, 2013)		Burridge ME, Holm E, Mandrak NE. 2010. The ROM Field Guide to Freshwater Fishes of Ontario. Toronto, ON: Royal Ontario Museum. 464 p. Eakins RJ. 2016. Ontario Freshwater Fishes Life History Database. [1999-current; accessed 02 December 2019]. http://www.ontariofishes.ca.
Lichen	Flooded jellyskin	*Leptogium rivulare*	—	SC	SC	In Ontario, flooded jellyskin is found in the eastern region of the province. This lobed, leaf-like lichen grows on the lower trunks of trees in hardwood swamps where flooding occurs in the spring. The most common tree host is black ash, but it has also been recorded on silver maple, trembling aspen, bur oak and white cedar. Trees must be live to support the lichen. These seasonal pond habitats typically occur over top of calcareous bedrock, such as limestone. There is unlikely to be a minimum size requirement for the area of flooded forest habitat available to the lichen, as long as adequate flooding is present (Environment Canada 2013; COSEWIC 2015).	Low - no suitable hardwood swamps are present on the Site.	Low - no suitable hardwood swamps are present in the Study Area.	General (as of June 30, 2013)	Yes Suitable habitat for all extant populations. Suitable habitat: • Seasonal ponds – area encompassed by high watermark of seasonal ponds known to support extant population, plus a 30 m distance beyond the high watermark. • Seasonally flooded stream/riverbeds – rock surfaces and treed areas within the floodplain, up to 30 m downstream and upstream of extant occurrences.	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2015. COSEWIC assessment and status report on the flooded jellyskin Leptogium rivulare in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_Flooded%20Jellyskin_2015_e.pdf. xii + 48 p. Environment Canada. 2013. Recovery Strategy for the Flooded Jellyskin Lichen (Leptogium rivulare) in Canada. Species at Risk Act Recovery Strategy Series. Ottawa ON: Environment Canada; [accessed 02 December 2019]. http://publications.gc.ca/collections/collection_2013/ec/En3-4-147-2013-eng.pdf. 23 p.

Taxon	Common Name	Scientific Name	Endangered Species Act, Reg. 230/08 SARO List Status[1]	Species at Risk Act, Schedule 1 List of Wildlife SAR Status[2]	COSEWIC Status [3]	Ontario Habitat Descriptions	Probability of Occurrence on Site	Probability of Occurrence in Study Area	ESA Habitat Protection Provisions[6]	SARA Critical Habitat Defined[7] (Yes or No)	References
Lichen	Pale-bellied frost lichen	*Physconia subpallida*	END	END	END	In Ontario, pale-bellied frost lichen grows on trees in mature, deciduous forests with relatively open understory, but moderate to high canopy cover. Common host trees include ash, black walnut, hop-hornbeam, and elm, although in Ontario, it is most often found on hop-hornbeam. This lichen has also been found growing on fence rails and rocks (Lewis 2011).	Low - no suitable mature forests are present at the Site.	Low - no suitable mature forests are present in the Study Area.	Regulated In the geographic areas of: Algonquin Provincial Park, counties of Haliburton, Hastings, Lanark, Lennox and Addington, Peterborough and Renfrew; townships of Central Frontenac, North Frontenac, and South Frontenac within County of Frontenac, townships of Athens, Elizabethtown-Kitley, Merrickville-Wolford and Rideau Lakes within County of Leeds and Grenville, and township of South Algonquin in District of Nipissing; Municipalities of Central Frontenac, Northern Frontenac, Lanark Highlands, Addington Highlands and Greater Madawaska Regulated Habitat: • host tree on which the lichen exists and area within 50 m of trunk • area within 100 m of lichen that falls within water body, watercourse, or area belonging to ELC community and that is (i) suitable for natural colonization from existing population of lichen or (ii) contributes to maintenance of suitable microsite characteristics for the lichen to exist	Yes Critical Habitat is same as Provincial Habitat Regulation	Lewis CL. 2011. Recovery Strategy for the Pale-bellied Frost Lichen (Physconia subpallida) in Ontario. Ontario Recovery Strategy Series. Peterborough ON: Ontario Ministry of Natural Resources; [accessed 02 December 2019]. https://www.ontario.ca/page/pale-bellied-frost-lichen-recovery-strategy.
Mammal	Eastern small-footed myotis	*Myotis leibii*	END	—	—	In Ontario, eastern small-footed myotis is not known to roost in trees, but there is very little known about its roosting habits. The species generally roosts on the ground under rocks, in rock crevices, talus slopes and rock piles, but it occasionally inhabits buildings. Entrances of caves or abandoned mines where humidity is low, and temperatures are cool and sometimes subfreezing may be used as hibernacula (Humphrey 2017).	Low - no suitable roost features are present at the Site.	Low - no suitable roost features appear to be present in the Study Area.	General	n/a	Humphrey C. 2017. Recovery Strategy for the Eastern Small-footed Myotis (Myotis leibii) in Ontario. Ontario Recovery Strategy Series. Peterborough ON: Ontario Ministry of Natural Resources; [accessed 02 December 2019]. https://files.ontario.ca/mnrf_sar_rs_esfm_final_accessible.pdf vii + 76 p.
Mammal	Little brown myotis	*Myotis lucifugus*	END	END	END	In Ontario, this species' range is extensive and covers much of the province. It will roost in both natural and man-made structures. Roosting colonies require a number of large dead trees, in specific stages of decay and that project above the canopy in relatively open areas. May form nursery colonies in the attics of buildings within 1 km of water. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Low - no suitable structures or forest communities are present on the Site.	Low - no suitable structures or forest communities are present in the Study Area.	General	Yes • Critical habitat partially identified as: o Any site where little brown myotis has been observed hibernating during the winter at least once since 1995	ECCC (Environment and Climate Change Canada). 2018. Recovery Strategy for the Little Brown Myotis (Myotis lucifugus), the Northern Myotis (Myotis septentrionalis), and the Tri-colored Bat (Perimyotis subflavus) in Canada. Species at Risk Act Recovery Strategy Series. Ottawa ON: Environment and Climate Change Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/plans/Rs-TroisChauveSourisThreeBats-v01-2019Nov-Eng.pdf. ix + 172 p.
Mammal	Northern myotis	*Myotis septentrionalis*	END	END	END	In Ontario, this species' range is extensive and covers much of the province. It will usually roost in hollows, crevices, and under loose bark of mature trees. Roosts may be established in the main trunk or a large branch of either living or dead trees. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Low - no suitable forest communities are present on the Site.	Low - no suitable forest communities are present in the Study Area.	General	Yes • Critical habitat partially identified as: o Any site where northern myotis has been observed hibernating during the winter at least once since 1995	ECCC (Environment and Climate Change Canada). 2018. Recovery Strategy for the Little Brown Myotis (Myotis lucifugus), the Northern Myotis (Myotis septentrionalis), and the Tri-colored Bat (Perimyotis subflavus) in Canada. Species at Risk Act Recovery Strategy Series. Ottawa ON: Environment and Climate Change Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/plans/Rs-TroisChauveSourisThreeBats-v01-2019Nov-Eng.pdf. ix + 172 p.
Mammal	Tri-colored bat	*Perimyotis subflavus*	END	END	END	In Ontario, tri-colored bat may roost in foliage, in clumps of old leaves, hanging moss or squirrel nests. They are occasionally found in buildings although there are no records of this in Canada. They typically feed over aquatic areas with an affinity to large-bodied water and will likely roost in close proximity to these. Hibernation sites are found deep within caves or mines in areas of relatively warm temperatures. These bats have strong roost fidelity to their winter hibernation sites and may choose the exact same spot in a cave or mine from year to year (ECCC 2018).	Low - no suitable structures or forest communities are present on the Site.	Low - no suitable structures or forest communities are present in the Study Area.	General	Yes • Critical habitat partially identified as: o Any site where tri-colored bat has been observed hibernating during the winter at least once since 1995	ECCC (Environment and Climate Change Canada). 2018. Recovery Strategy for the Little Brown Myotis (Myotis lucifugus), the Northern Myotis (Myotis septentrionalis), and the Tri-colored Bat (Perimyotis subflavus) in Canada. Species at Risk Act Recovery Strategy Series. Ottawa ON: Environment and Climate Change Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/plans/Rs-TroisChauveSourisThreeBats-v01-2019Nov-Eng.pdf. ix + 172 p.

Taxon	Common Name	Scientific Name	Endangered Species Act, Reg. 230/08 SARO List Status[1]	Species at Risk Act, Schedule 1 List of Wildlife SAR Status[2]	COSEWIC Status [3]	Ontario Habitat Descriptions	Probability of Occurrence on Site	Probability of Occurrence in Study Area	ESA Habitat Protection Provisions[6]	SARA Critical Habitat Defined[7] (Yes or No)	References
Reptile	Blanding's turtle - Great Lakes / St.Lawrence population	*Emydoidea blandingii*	THR	END	END	In Ontario, Blanding's turtle will use a range of aquatic habitats, but favor those with shallow, standing or slow-moving water, rich nutrient levels, organic substrates and abundant aquatic vegetation. They will use rivers but prefer slow-moving currents and are likely only transients in this type of habitat. This species is known to travel great distances over land in the spring in order to reach nesting sites, which can include dry conifer or mixed forests, partially vegetated fields, and roadsides. Suitable nesting substrates include organic soils, sands, gravel and cobble. They hibernate underwater and infrequently under debris close to water bodies (COSEWIC 2016).	Kilgour (2014) mapped the Blanding's turtle habitat for the Carp River south of Richardson Side Road. No Category 1 or 2 Blanding's turtle habitat was mapped south of the Highway 417 corridor. Kilgour (2014) further concluded that any Category 3 habitat overlapping the Site leads only to developed areas and therefore cannot support overland travel corridors from the Carp River riparian edge to other wetlands as no other wetlands are present within or beyond the Site. This study was reviewed and accepted by the NDMNRF (who, at the time, were responsible for administering the ESA).	Moderate - this species may inhabit the Carp River. following restoration efforts that occurred after the completion of Kilgour (2014).	General Category 1 – Nest and area within 30 m or overwintering sites and area within 30 m Category 2 – Wetland complex (i.e. all suitable wetlands or waterbodies within 500 m of each other) that extends up to 2 km from occurrence, and the area within 30 m around those suitable wetlands or waterbodies Category 3 – Area between 30 – 250 m around suitable wetlands/waterbodies identified in category 2, within 2 km of an occurrence	Yes • Critical habitat identified as suitable habitat occupied by Blanding's turtle • Occupancy defined as: o Min 2 individuals observed in any single year in the past 40 years; OR o Single individual observed in 2+ years in the past 40 years • Suitable habitat defined as: o Aquatic habitat (marshes, swamps, bogs, streams, rivers and lakes) o Overwintering habitat (permanent or seasonal wetlands, channels or pooled water with unfrozen water and soft organic substrates) o Nesting habitat of bare ground and sparsely vegetated areas for nesting o Terrestrial habitat (shrubland, grassland and upland forest)	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2016. COSEWIC assessment and update status report on the Blanding's Turtle Emydoidea blandingii (Nova Scotia population and Great Lakes/St. Lawrence population) in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_Blanding%E2%80%99s%20Turtle_2016_e.pdf. xix + 110 p.
Reptile	Snapping turtle	*Chelydra serpentina*	SC	SC	SC	In Ontario, snapping turtle uses a wide range of waterbodies, but shows preference for areas with shallow, slow-moving water, soft substrates and dense aquatic vegetation. Hibernation takes place in soft substrates under water. Nesting sites consist of sand or gravel banks along waterways or roadways (COSEWIC 2008).	Low - there are no waterbodies present on the Site.	Moderate - this species may inhabit the Carp River.		No Management Plan Available	COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2008. COSEWIC assessment and status report on the Snapping Turtle Chelydra serpentina in Canada. Ottawa ON: Committee on the Status of Endangered Wildlife in Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_snapping_turtle_0809_e.pdf. vii + 47 p.
Vascular Plant	American ginseng	*Panax quinquefolius*	END	END	END	In Ontario, American ginseng is found in moist, undisturbed and relatively mature deciduous woods often dominated by sugar maple. It is commonly found on well-drained, south-facing slopes. American ginseng grows under closed canopies in well-drained soils of glacier origin that have a neutral pH (ECCC 2018).	Low - no suitable forested habitats are present at the Site.	Low - no suitable forested habitats are present in the Study Area.	General Category 1 – Area occupied by American ginseng and area of forest or treed swamp ELC community classes within 100 m of occupied area Category 2 – Area of forest or treed swamp ELC community classes between 100-150 m of occupied area, and contiguous with category 1	Yes Based on 2 criteria- Habitat Occupancy: established from existing occurrence records based on the data available (at the time of analysis) from conservation data centres. The records associated with imprecise, historical, and extirpated occurrences are excluded. Only data from 1994 to 2013 (inclusive) corresponding to wild plants are considered. Records from other sources that may be awaiting integration into an existing occurrence or the assignment of an occurrence number are included Habitat Suitability: Within 100 m radius surrounding each plant Structure is typical of mature forests (e.g., more than 90 years old) or older secondary forests with few recent disturbances (e.g., large trees, closed-canopy) • Composition of trees is deciduous or mixed with species such as Sugar Maple, White Ash, Bitternut Hickory, Basswood, Red Oak, and Butternut; although some populations are found in White Cedar or Hemlock forests/swamps • Shrub cover is relatively sparse (<25%) and understory companion plant species are generally diverse • Soils are usually of glaciary origin, thick (50 to 100 cm), well drained (drainage classes of 20-well or 30-moderate) and have a relatively neutral pH; although some populations are found on very shallow, rocky soils, sometimes growing directly in small crevices in dolomitic limestone • Light penetration at ground level is low (under 30%; typical of closed-canopy forests) Maximum 50 m radius over and above the 100 m radius surrounding each plant • Other forest habitats and treed swamps	ECCC (Environment and Climate Change Canada). 2018. Recovery Strategy for the American Ginseng (Panax quinquefolius) in Canada. Species at Risk Act Recovery Strategy Series. Ottawa ON: Environment and Climate Change Canada; [accessed 02 December 2019]. https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/plans/rs_american_ginseng_e_final.pdf. vii + 32 p.

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Vascular Plant	Black ash	*Fraxinus nigra*	END (temporary suspension of protection until Jan 2024)	—	THR	Found throughout Ontario in moist ecosystems; commonly found in northern swampy woodlands (MNRF 2018). This species typically grows on mucky or peaty soils and is considered a facultative wetland species (Reznicek et al. 2011).	Low - No trees on the Site.	TBD	No protection until Jan 2024 per temporary suspension order		MNRF (Ministry of Natural Resources and Forestry). 2019. Black Ash. [modified 16 October 2019; accessed 04 December 2019]. https://www.ontario.ca/page/black-ash. Reznicek AA, Voss EG, Walters BS. 2011. Fraxinus nigra. Ann Arbour MI: University of Michigan; [accessed 19 December 2018]. https://michiganflora.net/species.aspx?id=1733.
Vascular Plant	Butternut	*Juglans cinerea*	END	END	END	In Ontario, butternut is found along stream banks, on wooded valley slopes, and in deciduous and mixed forests. It is commonly associated with beech, maple, oak and hickory (Voss and Reznicek 2012). Butternut prefers moist, fertile, well-drained soils, but can also be found in rocky limestone soils. This species is shade intolerant (Farrar 1995).	Low - No trees on the Site.	TBD	General (as of June 30, 2013)	No	Farrar JL. 1995. Trees in Canada. Markham, ON: Fitzhenry & Whiteside Limited and Ottawa, ON: Canadian Forest Service, Natural Resources Canada. 502 p. Voss EG, Reznicek AA. 2012. Field Manual of Michigan Flora. Ann Arbour MI: University of Michigan Press. 990 p.

Notes:

[1] *Endangered Species Act* (ESA), 2007. General (O.Reg 242/08 last amended 1 April 2021 as O. Reg 228/21). Species at Risk in Ontario List (O.Reg 230/08 last amended 26 January 2022 as O. Reg. 24/22); Schedule 1 (Extirpated - EXP), Schedule 2 (Endangered - END), Schedule 3 (Threatened - THR), Schedule 4 (Special Concern - SC)

[2] *Species at Risk Act* (SARA), 2002. Schedule 1 (Last amended 01 September 2021); Part 1 (Extirpated), Part 2 (Endangered), Part 3 (Threatened), Part 4 (Special Concern)

[3] Committee on the Status of Endangered Wildlife in Canada (COSEWIC) http://www.cosewic.gc.ca/

[4] Global Ranks (GRANK) are Rarity Ranks assigned to a species based on their range-wide status. GRANKS are assigned by a group of consensus of Conservation Data Centres (CDCs), scientific experts and the Nature Conservancy. These ranks are not legal designations. G1 (Extremely Rare), G2 (Very Rare), G3 (Rare to uncommon), G4 (Common), G5 (Very Common), GH (Historic, no record in last 20yrs), GU (Status uncertain), GX (Globally extinct), ? (Inexact number rank), G? (Unranked), Q (Questionable), T (rank applies to subspecies or variety). Last assessed August 2011

[5] Provincial Ranks (SRANK) are Rarity Ranks assigned to a species or ecological communities, by the Natural Heritage Information Centre (NHIC). These ranks are not legal designations. SRANKS are evaluated by NHIC on a continual basis and updated lists produced annually. SX (Presumed Extirpated), SH (Possibly Extirpated - Historical), S1 (Critically Imperiled), S2 (Imperiled), S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure), SNA (Not Applicable), S#S# (Range Rank), S? (Not ranked yet), SAB (Breeding Accident), SAN (Non-breeding Accident), SX (Apparently Extirpated). Last assessed November 2019.

[6] General Habitat Protection is applied when a species is newly listed as endangered or threatened on the SARO list under the ESA, 2007. The definition of general habitat applies to areas that a species currently depends on. These areas may include dens and nests, wetlands, forests and other areas essential for breeding, rearing, feeding, hibernation and migration. General habitat protection will also apply to all listed endangered or threatened species without a species-specific habitat regulation as of June 30, 2013 (ESA 2007, c.6, s.10 (2)). Regulated Habitat is species-specific habitat used as the legal description of that species habitat. Once a species-specific habitat regulation is created, it replaces general habitat protection. Refer to O.Reg 242/08 for full details regarding regulated habitat.

[7] Refer to the individual species' federal recovery strategy for a full description of the critical habitat (http://www.sararegistry.gc.ca/sar/recovery/recovery_e.cfm)

[+]Species Codes derived from the following sources: Birds – 53rd AOU Supplement (2012); Amphibians – Marsh Monitoring Program (Bird Studies Canada 2003); Fish – Golder; Reptiles – Golder.

'—' No status

*NHIC (Natural Heritage Information Centre); OBBA (Ontario Breeding Bird Atlas); ORAA (Ontario Reptiles and Amphibian Atlas); OOA (Ontario Odonata Atlas); BCI (Bat Conservation International); eBird (Audubon Society eBird Web Application)

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