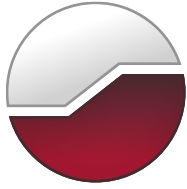




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**Environmental Impact Statement
Proposed Plan of Subdivision
3400 & 3428 Woodroffe Avenue
Geographic Township of Nepean
City of Ottawa, Ontario**



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Submitted to:

Borrello Development
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Geographic Township of Nepean
City of Ottawa, Ontario**

April 11, 2022
Project: 101737.001

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EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Borrello Development to complete a scoped Environmental Impact Statement (EIS) for the properties located at 3400 and 3428 Woodroffe Avenue, in the Geographic Township of Nepean, City of Ottawa, Ontario. This scoped EIS has been completed in support of a proposed plan of subdivision to develop the two adjoining properties of 2.3 hectares (ha) total into a 30-lot residential subdivision. In accordance with City of Ottawa correspondence, this EIS has been scoped to only assess the presence or absence of Species at Risk and their habitat.

In support of this scoped EIS, a desktop review and a single field investigation was completed to identify the presence or absence of species at risk (SAR) and their habitat on-site. The field investigation was completed on March 29, 2022. The focus of the site investigations was to describe, in general, the natural and physical setting of the subject property with a focus on confirming the presence or absence of potential SAR or their habitat as identified in the desktop review.

Following completion of the desktop review and the site investigation, the following SAR were identified as having a potential to occur on-site: eastern small-foot myotis, little brown myotis, tri-colored bat, and butternut. No butternut trees were observed on-site or adjacent to site during the site investigation. No SAR species were identified during the site investigation. No candidate snag or bat maternity roost habitat was identified on-site.

Based on the results of the desktop screening, field investigation and impact analysis, there is a low potential for SAR or their habitat to occur on-site. Furthermore, the proposed development is not anticipated to have significant impacts to SAR or their habitat provided that mitigation measures recommended in Section 7 are implemented as proposed.

Should any SAR be discovered throughout the course of any development on-site, operations should stop and the species at risk biologist with the local MECP district should be contacted immediately for further direction. Furthermore, to ensure compliance with applicable legislation, all best management practices and adherence to vegetation clearing for birds and bats, outlined in Section 7 should be followed to ensure no negative impacts occur to natural heritage features on-site.

The proposed plan of subdivision complies with the natural heritage policies of the Provincial Policy Statement and the City of Ottawa Official Plan. No negative impacts to species at risk or their habitat are anticipated as a result of the proposed development as long as all mitigation measures in Section 7 are enacted and best management practices followed.

1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Borrello Development to complete a scoped Environmental Impact Statement (EIS) for the properties located on Part of Lot 12, Concession 2, Geographic Township of Nepean, City of Ottawa, Ontario, municipally addressed as 3400 and 3428 Woodroffe Avenue, Ottawa, Ontario (hereafter referred to as “the subject property”). The location of the subject property is illustrated on Figure A.1 in Appendix A.

1.1 Purpose

The proponent is seeking to develop a 30-lot subdivision on two adjoining properties of approximately 1.36 ha and 0.94 ha in size, municipally addressed as 3400 and 3428 Woodroffe Avenue, respectively.

Based on *Section 5.6.4.1 – Protect the Natural Heritage System and Natural Heritage Features* of the City of Ottawa Official Plan (Ottawa, 2021) an EIS is required showing that the proposed development will not negatively impact any potential natural heritage features, which may be present within the study area. The study area is defined as the property boundary and the adjacent lands encompassing an area of 120 m beyond the property boundary. The subject properties and the extents of the study area are illustrated on Figure A.2 in Appendix A.

Based on correspondence between the proponent and City of Ottawa planning staff, this EIS has been scoped to focus only on the presence or absence of potential significant Species at Risk (SAR) habitat and/or specimens.

1.2 Objective

The 2020 Provincial Policy Statement (PPS) (MMAH, 2020) issued under Section 3 of the Planning Act states that “development and site alteration shall not be permitted in: significant wetlands in Ecoregions 5E, 6E and 7E.” Furthermore, the 2020 Provincial Policy Statement dictates “development and site alteration shall not be permitted in: significant wetlands in the Canadian Shield north of Ecoregion 5E, 6E and 7E, significant woodlands in 6E and 7E, significant valleylands in 6E and 7E, significant wildlife habitat and significant areas of natural and scientific interest unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.” Similarly, the PPS dictates that “development and site alteration shall not be permitted in” fish habitat or habitat of endangered or threatened species “except in accordance with provincial and federal requirements.”

As outlined above this EIS has been scoped to only consider the presence or absence of SAR or their habitat on-site. No other Natural Heritage Features were identified by the City of Ottawa staff, during the desktop review, or field investigation, for this property.

As such, the objective of the work presented herein is twofold; 1) to identify and evaluate the significance of any SAR or their habitat, as defined in the Provincial Policy Statement (MMAH, 2020), on the subject property and within the broader study area and; 2) to assess the potential impacts from the proposed plan of subdivision on any SAR specimens or SAR habitat identified and to recommend appropriate and defensible mitigation measures to ensure the long-term protection of any natural heritage features identified.

To meet these objectives, the scoped EIS presented herein has been completed in accordance with the following provincial and municipal regulations, policies and guidelines:

- Provincial Policy Statement (MMAH, 2020);
- Endangered Species Act (Ontario, 2007);
- Conservation Authorities Act (Ontario, 1990);
- Natural Heritage Reference Manual (OMNR, 2010);
- City of Ottawa Official Plan (Ottawa, 2021); and
- City of Ottawa EIS Guidelines (Ottawa, 2012)

1.3 Physical Setting

The subject property is located on Part of Lot 12, Concession 2, Geographic Township of Nepean, City of Ottawa, Ontario, and is municipally addressed as 3400 and 3428 Woodroffe Avenue, Ottawa, Ontario. The subject property is currently vacant and consists predominantly of heavily disturbed, constructed wasteland vegetation with a mixed hedgerow inclusion.

The subject property is bound to the east by Woodroffe Avenue and to the west by the rear yards of properties fronting Newland Drive. To the north the site is bound by 3376 Woodroffe Avenue and the rear yards of properties fronting Marjan Crescent. The property is bound by 9 Newland Drive and 3436 Woodroffe Avenue to the south.

1.3.1 Land Use Context

The subject property is situated within a larger residential area. The existing land use designation from the City of Ottawa Official Plan *Schedule B6 Suburban (Southwest) Transect* is neighbourhood. The City of Ottawa zoning by-law is residential zone (R1VV[636]).

2.0 METHODOLOGY

2.1 Desktop Review

A desktop information gathering exercise was completed to aid in the scoping of the field investigation and to assess the potential presence of species at risk (SAR) to occur on the subject property or within the study area based on a review of publicly accessible occurrence records and a review of SAR habitat requirements and range maps.

Information regarding the potential presence of SAR within the vicinity of the site was obtained from the following sources:

- Make a Map: Natural Heritage Areas (OMNRF, 2014a)
- Land Information Ontario (OMNRF, 2011);
- City of Ottawa Official Plan (City of Ottawa, 2021);
- City of Ottawa GeoPortal (Geo Ottawa, Undated);
- Ontario Geological Survey (OGS, 2019);
- Fisheries and Oceans Canada SAR Maps (DFO, 2019);
- Natural Heritage Information Centre Biodiversity Explorer (OMNRF, 2013);
- Breeding Bird Atlas of Ontario (Cadman et al., 2007)
- Ontario Herpetofaunal Atlas (Oldham and Weller, 2000);
- Wildlife Values Area (OMNRF, 2020a);
- Wildlife Values Site (OMNRF, 2020b);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019); and
- Rideau Valley Conservation Authority (RVCA) GeoPortal (undated).

2.2 Field Investigation

A single field investigation was undertaken to describe in general, the natural and physical setting of the subject property with a focus on identifying any potential SAR or their habitat that may exist at the subject property.

The field investigation was completed on March 29, 2022 from 14:30 to 16:00. Conditions during the site investigation were as follows: - 2°C, 10% cloud cover, Beaufort 3, and no precipitation. Photographs of site features taken during field investigations are provided in Appendix B.

2.2.1 Ecological Land Classification & SAR Screening Survey

Vegetation communities on the subject property were delineated during the desktop review stage of this EIS using publicly available air photos and confirmed in the field on March 29, 2022, following the Ecological Land Classification System for Southern Ontario (Lee et al., 2008). Vegetation communities were confirmed in the field by employing the random meander

methodology while documenting dominant vegetation species within the various vegetation community forms.

Vegetation communities on-site were also assessed for feasibility to provide suitable habitat for species at risk and their regulated habitat.

2.3 Data Analysis

An evaluation of the significance of natural heritage features, the sensitivity of identified flora and fauna and the potential impacts posed by the proposed subdivision was undertaken through an analysis of desktop and field investigation data using the approaches and criteria outlined in the following documents:

- Natural Heritage Reference Manual (OMNR, 2010);
- Significant Wildlife Habitat Technical Guide (OMNR, 2000);
- Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015a); and
- Significant Wildlife Habitat Mitigation Support Tool (OMNRF, 2014b).

3.0 EXISTING ENVIRONMENT

3.1 Ecoregion

The site is situated Ecoregion 6E (Lake Simcoe-Rideau), which extends from Lake Huron in the west to the Ottawa River in the east. The Ecodistrict is 6E-12 (Kemptonville). The climate of Ecoregion 6E is categorized as humid, high to moderate temperate ecoclimate with a mean annual temperature range between 4.9°C to 7.8°C with annual precipitation ranging between 759 mm to 1,087 mm (Crins et al., 2009).

The eastern portion of the Ecoregion, where the subject property is located, is underlain by glaciomarine deposits resulting from the brief post-glacial incursion of salt water from the Champlain Sea along the St. Lawrence Valley. This Ecoregion falls with Rowe's (1972) Great Lakes-St. Lawrence Forest Region, including its Huron-Ontario and Upper St. Lawrence sections and a small part of the Middle Ottawa Forest section (Crins et al., 2009).

3.2 Landforms, Soils and Bedrock Geology

The microtopography of the site has been modified by anthropogenic processes. The centre of the property has a topographical high of 107 mASL. The elevation slopes down in all directions from the centre of the adjoining properties to a topographical low of 102 mASL.

One topographical landform, as mapped by Chapman and Putnam (1984), is described on the subject properties; clay plains of the Ottawa Valley Clay Plains.

The Ontario Geological Survey (OGS, 2019) identifies one surficial soil unit on the subject properties; till containing stone-poor, sandy silt to silty sand-textured till on Paleozoic terrain.

The Ontario Geological Survey (OGS, 2019) identifies two bedrock formations on the site, the northeastern portion of the site is dominated by dolostone and sandstone of the Beekmantown Group while the southwestern portion of the site is dominated by limestone, dolostone, shale, arkose, sandstone of the Ottawa Group, Simcoe Group and Shadow Lake Formation.

3.3 Surface Water, Groundwater and Fish Habitat

Surface water features on-site are limited to a single roadside ditch fronting Woodroffe Avenue. The roadside ditch was observed to be dry during the field investigation.

No other surface water features such as watercourses, waterbodies or wetlands were identified on-site or within the study area during the desktop review or field investigation.

Due to a lack of permanent surface water features on-site, fish habitat is not present on-site.

Groundwater investigations were not completed in support of this EIS.

3.4 Vegetation Communities

Vegetation communities on-site were confirmed by GEMTEC in 2022, following protocols utilized in the Southern Ontario Ecological Land Classification System (Lee et al., 2008). Vegetation at the site is minimal and dominated by anthropogenic processes. The site is predominantly comprised of a heavily disturbed, constructed ecosite (ELC Code CV) with a mixed hedgerow inclusion along the west and south property boundary.

The constructed area on-site was dominated by herbaceous vegetation typical of wastelands and heavily disturbed areas. Tree species were primarily confined to the mixed hedgerow.

Herbaceous vegetation on-site consisted of common mullein (*Verbascum thapsus*), wild carrot (*Daucus carota*), and goldenrod species (*Solidago sp.*).

Tree species within the mixed hedgerow inclusion consisted of black cherry (*Prunus serotina*), eastern white cedar (*Thuja occidentalis*), eastern white pine (*Pinus strobus*), Manitoba maple (*Acer negundo*), red maple (*Acer rubrum*), red pine (*Pinus resinosa*), scots pine (*Pinus sylvestris*), and poplar species (*Populus sp.*).

3.5 Wildlife

Wildlife observed on-site and within the study area during the field investigation are summarized in Table C.1 in Appendix C.

4.0 NATURAL HERITAGE FEATURES

As outlined above, per correspondence with the City of Ottawa planning staff, this EIS has been scoped to only consider the potential for SAR and their regulated habitat to occur on-site.

No other Natural Heritage Features including Provincially Significant Wetlands, Local Wetlands, Significant Woodlands, Significant Valleylands, Areas of Natural or Scientific Interest (ANSI), fish habitat, or significant wildlife habitat have been identified on-site during the desktop review or the field investigation and they are not discussed further in this EIS.

Species at Risk

The probability of occurrence for SAR to occur on-site and within the broader study area was determined through the desktop review stage of this EIS, as described in Section 2.1, and through the field investigation conducted as part of this EIS, outlined in Section 2.2.

Table C.2 in Appendix C, provides a summary of all species at risk which were determined to have the potential to occur on-site or within the broader study area, their protection status under the provincial Endangered Species Act (Ontario, 2007), their regional distribution, their probability of occurrence and a brief rationale of that probability. Impacts to endangered or threatened SAR determined to have a moderate or high potential to occur on-site or within the broader study area are discussed further in the Section 6.2.

5.0 PROPOSED PROJECT

The proposed project assessed for potential impacts to the species at risk or their habitat determined to be present within the broader study area is a plan of subdivision application for 3400 and 3428 Woodroffe Avenue, Geographic Township of Nepean, Ottawa, Ontario.

The proposed plan of subdivision includes the creation of a residential cul-de-sac providing access to 23 of the 30 proposed residential lots. The remaining seven lots will front to Woodroffe Avenue. The proposed development will occupy the entirety of the two properties. The proposed plan of subdivision is provided on Figure A.2 in Appendix A.

Future components of the proposed project considered in the impact assessment presented in Section 6 include vegetation grubbing, fill placement and elevation grading, laneway construction, excavation and pouring of foundations, construction of single-family dwellings, and general landscaping activities.

The timeline for the proposed project, from lot creation to completion of residential construction, is currently unknown. For the purpose of assessing impacts to natural heritage features, it is assumed in this EIS that the creation of individual residential lots will happen in the near term and will not result in any physical alterations to the natural environment of the site and the broader study area. Future construction of single family residential homes on each of the subdivision lots is assumed to occur over a several year period and that the construction of any one residential home will be completed such that the duration of any potential impacts on the natural environment during construction will be approximately six months.

6.0 IMPACT ASSESSMENT

Potential impacts to natural heritage features on-site and within the broader study area are assessed for direct, indirect and cumulative effects based on the proposed project outlined in Section 5. Natural heritage features identified in Section 4 of this report as present or likely to be present are discussed in the subsections below.

Potential effects to the environment of the site from the proposed development outlined in Section 5 include: a minor loss of disturbed habitat, a minor increase in impervious surface, minor increase in stormwater generation, short-term increases in sedimentation and/or erosion and increased noise generation.

6.1 Species at Risk

As outlined in the Endangered Species Act (Ontario, 2007), only species listed as threatened or endangered and their general habitat receive automatic protection. When a species-specific recovery strategy is developed, a specific habitat regulation will be established, which eventually replaces the automatic habitat protection. Species of special concern and their habitat do not receive protection under the ESA.

Potential impacts associated with the proposed project to threatened or endangered species identified as having a moderate or high potential to occur on-site in Section 4.7, are discussed on a species-by-species basis in the subsections below.

Aquatic and semi-aquatic SAR listed on the NHIC database for the area surrounding the property are not discussed in detail in the following subsections as there is no suitable habitat for them on-site.

6.1.1 Eastern Small-footed Myotis

Eastern small-footed myotis (*Myotis leibii*) is the smallest (typically 3-5 g), insectivorous bat found in Ontario. The fur of an eastern small-footed myotis is golden-brown in colour, with a distinct black mask across the face. The eastern small-footed myotis is very similar in appearance to the little brown myotis, and is distinguishable by their small foot and keeled calcar (Fraser, MacKenzie & Davy, 2007).

The eastern small-footed myotis is found throughout eastern North America. In Ontario the species has been observed in the areas south of Lake Superior across to the Ontario-Quebec border (Humphrey, 2017).

Eastern small-footed myotis overwinter primarily in caves and abandoned mines with low humidity and temperatures and stable microclimates (Humphrey, 2017). In comparison to other Ontario bat species, they are able to tolerate much colder temperatures, drier conditions and draftier locations for hibernating (Humphrey, 2017). During the spring and summer months, they utilize a

variety of habitats for roosting, including under rocks or rock outcrops, in buildings, under bridges, or in caves, mines or hollow trees (Ontario, 2021a).

Given the availability of habitat and buildings within the surrounding study area, there is a moderate potential for eastern small-footed myotis to occur on the property, primarily for foraging. No suitable woodlands on-site are present to support maternity roost habitat and no candidate snag trees were observed on-site during the site investigation. Impacts to eastern small-footed myotis are primarily associated with the loss of potential open forage habitat, encroachment and increased wildlife-human interaction. Mitigation measures intended to protect eastern small-footed myotis from impacts of the proposed development are discussed in Section 7.

6.1.2 Little Brown Myotis

Little brown myotis (*Myotis lucifugus*) is a small (typically 4-11 g), insectivorous bat. The fur of a little brown myotis is bi-coloured; fur is a glossy brown with a darker coloured base. The tragus of the little brown myotis is long and thin, with a rounded tip (Fraser, MacKenzie & Davy, 2007).

In Canada, little brown myotis' occur throughout all of the provinces and territories (except Nunavut), with its range extending south through the majority of the United States as well. In Ontario, the little brown myotis is widespread in southern Ontario and has been found as far north as Moose Factory and Favourable Lake (Ontario, 2021b).

Little brown myotis overwinter in caves and abandoned mines, they require highly humid conditions and temperatures that remain above the freezing mark (Ontario, 2021b). During the summer months, maternity colonies are often located in buildings or large-diameter trees. Little brown myotis roost in trees and buildings. Foraging occurs over water and along waterways, forest edges and in gaps in the forest. Open fields and clear-cuts are not typically utilized for foraging (COSEWIC, 2013).

Given the availability of habitat and buildings within the surrounding study area, there is a moderate potential for little brown myotis to occur on the property, primarily for foraging. No suitable woodlands on-site are present to support maternity roost habitat and no candidate snag trees were observed on-site during the site investigation. Impacts to little brown myotis are primarily associated with the loss of potential open forage habitat, encroachment and increased wildlife-human interaction. Mitigation measures intended to protect little brown myotis from impacts of the proposed development are discussed in Section 7.

6.1.3 Tri-colored Bat

Tri-colored bat (*Perimyotis subflavos*) is a small (typically 5-7 g), insectivorous bat. The fur is uniformly coloured on the ventral and dorsal sides, however when parted fur shows three distinct colour bands. The base of the hair is blackish, with a blonde middle and brownish tip. The snout of the tri-coloured bat is also distinct, with swollen bulbous glands present (Fraser, MacKenzie & Davy, 2007).

In Canada, the tri-colored bat has only been recorded in southern parts of Nova Scotia, New Brunswick, Quebec and central Ontario. In Ontario it occurs primarily from the southern edge of Lake Superior across to the Ontario-Quebec border and south (COSEWIC, 2013).

Tri-colored bat overwinter in in caves or mines, and have very rigid habitat requirements; they typically roosting the deepest parts where temperatures are the least variable, and have the strongest correlation with humidity levels and warmer temperatures (COSEWIC, 2013). In the spring and summer, tri-colored bat utilize trees, rock crevices and buildings for maternity colonies. Foraging is mainly done over watercourses and streamside vegetation (COSEWIC, 2013).

Given the availability of habitat and buildings within the surrounding study area, there is a potential for tri-colored bat to occur on the property, primarily for foraging. No suitable woodlands on-site are present to support maternity roost habitat and no candidate snag trees were observed on-site during the site investigation. Impacts to tri-colored bat are primarily associated with the loss of potential open forage habitat, , encroachment and increased wildlife-human interaction. Mitigation measures intended to protect tri-colored bat from impacts of the proposed development are discussed in Section 7.

6.1.4 Butternut

Butternut (*Juglans cinerea*) is a relatively short lived, medium-sized tree that can reach heights of up to 30 m. It is easily distinguished by its compound leaves, made up of 11 to 17 leaflets, arranged in a feather-like patten. Each leaflet is 9 to 15 centimetres in length. The bark is grey and smooth on young trees, becoming more ridged with age. Butternut is a member of the walnut family and produces edible nuts in the fall.

The Canadian range for Butternut extends through southern Ontario into southern Quebec, and New Brunswick (COSEWIC, 2003). Butternut is a shade intolerant tree that is commonly found in riparian habitats, and sites in a regenerative state. Butternut can also be found on rich, moist, well-drained gravels, favouring those of limestone origin. Common associates of Butternut trees include: basswood, black cherry, beech, black walnut, elm, hickory, oak, red maple, sugar maple, yellow poplar, white ash and yellow birch.

No butternut trees were observed on-site or adjacent to site during the site investigation. As such the project is not anticipated to negatively impact buttnerut or their habitat and butternut are not discussed further in this EIS.

7.0 RECOMMENDED AVOIDANCE AND MITIGATION MEASURES

The following avoidance and mitigation measures have been recommended by GEMTEC in order to minimize or eliminate potential environmental impacts identified in Section 6.

7.1 Species at Risk

7.1.1 Eastern Small-footed Myotis, Little Brown Myotis & Tri-colored Bat

To protect roosting and foraging bats, tree and vegetation removal where required should take place outside of the spring and summer active season (typically May 1 to September 1, October 15 if swarming is observed), when bats are more likely to be using forest habitat. If vegetation clearing must be conducted during the spring and summer timing window then a roost and acoustic survey should be conducted by a qualified professional prior to any vegetation removal.

7.2 Wildlife

The following avoidance and mitigation measures are provided in effort to minimize impacts to on-site and off-site wildlife:

- To protect wildlife during construction, construction should be completed in accordance with the best practices outlined in Protocols for Wildlife Protection During Construction, from the City of Ottawa (Ottawa, 2015).
- Vegetation removal should occur outside of April 1 to September 1 to avoid the key breeding bird period and bat summer active season. The timing windows provides protection of migratory birds, roosting bats and avoids contravention of the Migratory Bird Convention Act and Endangered Species Act. If vegetation clearing activities must take place during the aforementioned timing window then a nest and/or roost and acoustic survey shall be conducted by a qualified professional prior to vegetation removal.
- Installation of silt fence barriers around the entire construction envelope to prohibit the emigration of wildlife into the construction area, silt fencing should be checked daily and following each precipitation event.
- Cover all stockpiled material with a geotextile to prevent turtles from nesting in the material between May 1 and August 1 of any year.
- Perform daily pre-work sweeps of the construction area to ensure no species at risk are present and to remove any wildlife from inside the construction area.
- In effort to offset the effect of vegetation clearing, consideration should be given to landscape planting with native tree species indicative of the Great Lakes – St. Lawrence Forest Region, such as white cedar, white spruce, red maple, and bur oak.
- Should any species at risk be discovered throughout the course of the proposed works, the species at risk biologist with the local MECP district shall be contacted immediately and operations ceased to avoid any negative impacts to species at risk or their habitat until further direction is provided by the MECP. Operations may not resume until instructed by the MECP.

8.0 CONCLUSIONS

The proposed project supported by this scoped EIS is a 30-lot subdivision on two adjoining properties for a combined area of 2.3 ha.

Based on the results of the desktop screening, field investigation and impact analysis, there is a low potential for SAR or their habitat to occur on-site. Furthermore, the proposed development is not anticipated to have significant impacts to SAR or their habitat provided that mitigation measures recommended in Section 7 are implemented as proposed.

Following review of the information pertaining to the natural heritage features of the site, the following general conclusions are provided by GEMTEC in regards to the Environmental Impact Statement.

- No significant negative impacts to SAR or their habitat from future residential development are anticipated.
- The proposed project complies with the natural heritage policies of the Provincial Policy Statement.
- The proposed development complies with the natural heritage policies of the City of Ottawa Official Plan.

9.0 LIMITATION OF LIABILITY

This report and the work referred to within it have been undertaken by GEMTEC Consulting Engineers and Scientists Ltd (GEMTEC), and prepared for Borrello Development and is intended for the exclusive use of Borrello Development. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC, Borrello Development. Nothing in this report is intended to provide a legal opinion.

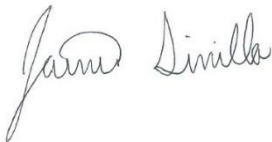
The investigation undertaken by GEMTEC with respect to this report and any conclusions or recommendations made in this report reflect the best judgements of GEMTEC based on the site conditions observed during the investigations undertaken at the date(s) identified in the report and on the information available at the time the report was prepared.

This report has been prepared for the application noted and it is based, in part, on visual observations made at the site, all as described in the report. Unless otherwise stated, the findings contained in this report cannot be extrapolated or extended to previous or future site conditions, or portions of the site that were unavailable for direct investigation

Should new information become available during future work or other studies, GEMTEC should be requested to review the information and, if necessary, re-assess the conclusions presented herein.

We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report, please do not hesitate to contact our office.

Sincerely,



Jaime Dimillo, B.Sc
Junior Biologist



Taylor Warrington, B.Sc.
Biologist

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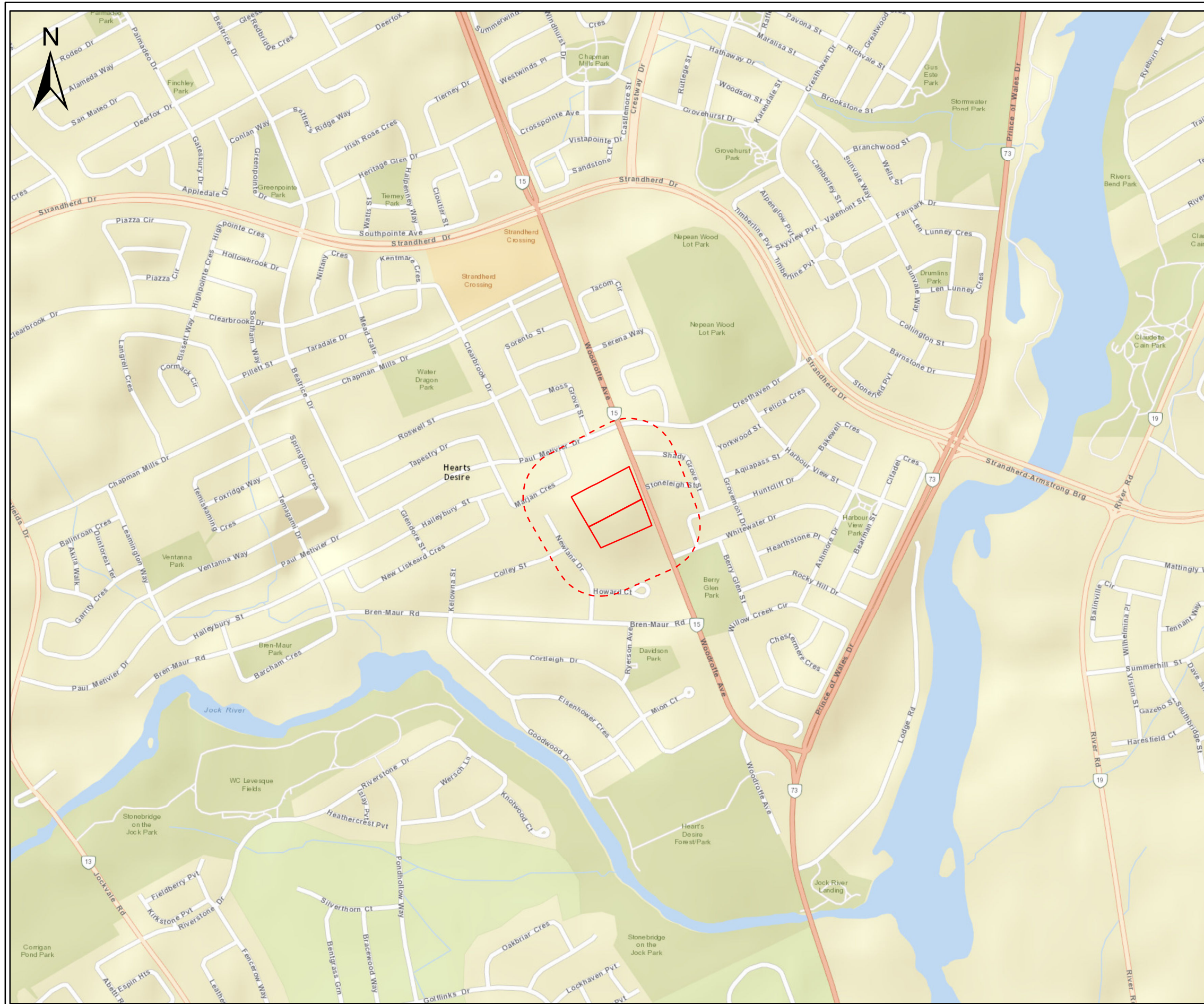


APPENDIX A

Report Figures

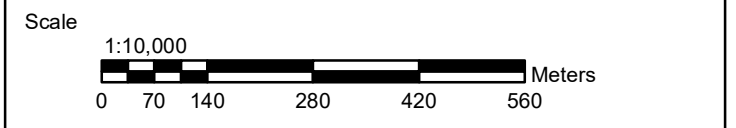
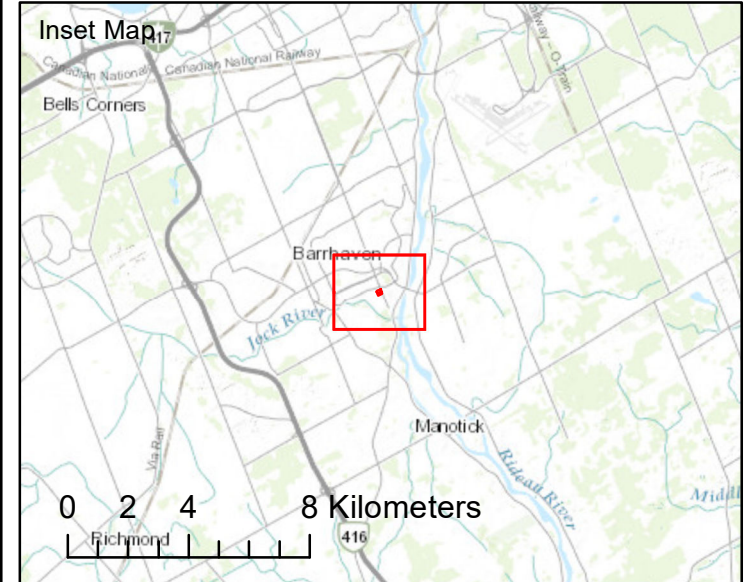
Figure A.1 – Site Location

Figure A.2 – Site Layout



Legend

- Property Boundary
- Study Area



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Client: Borrello Development	Project: 101737.001
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Location
**3400 & 3428 Woodroffe Avenue
Ottawa, Ontario**

Drwn By: JD	Chkd By: TW	Site Location
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Date: April 2022	Rev. 0	Figure A.1
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 Coordinate System: NAD 1983 UTM Zone 18N
 Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
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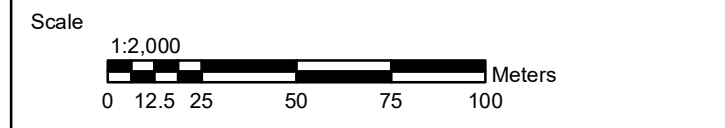


Legend

- Property Boundary
- Study Area

Proposed Development

- Lot
- Road



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Location	3400 & 3428 Woodroffe Avenue Ottawa, Ontario
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Drwn By: JD	Chkd By: TW	Site Layout
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Date: April 2022	Rev.	Figure A.2
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APPENDIX B

Site Photographs



Site Photograph 1: Constructed Disturbed Area
On-Site Facing West Towards Hedgerow



Site Photograph 2: Ground Cover of Constructed
Disturbed Area



Site Photograph 3: Facing South Towards
Hedgerow



Site Photograph 4: Pile of Debris Adjacent
Hedgerow



APPENDIX C

Report Summary Tables

**TABLE C.1
SUMMARY OF WILDLIFE OBSERVED ON-SITE AND ADJACENT TO SITE**

Common Name	Scientific Name	S-Rank	Evidence
Avian Species			
American crow	<i>Corvus brachyrhynchos</i>	S5B	Heard calling
American robin	<i>Turdus migratorius</i>	S5B	Heard calling
Blue jay	<i>Cyanocitta cristata</i>	S5	Heard calling
Downy woodpecker	<i>Picoides pubescens</i>	S5	Heard calling
Herring Gull	<i>Larus argentatus</i>	S5B	Heard calling
House finch	<i>Haemorhous mexicanus</i>	SNA	Heard calling
Song sparrow	<i>Melospiza melodia</i>	S5B	Heard calling
Mammalian Species			
Eastern Chipmunk	<i>Tamias striatus</i>	S5	Observed foraging
Eastern Gray Squirrel	<i>Melospiza melodia</i>	S5	Observed foraging

Notes:

Subnational Conservation Status Ranks:

S1 - Critically Imperilled, at very high risk of extirpation, very few populations or occurrences or very steep population decline

S2 - Imperilled, at high risk of extirpation, few populations or occurrences or steep population decline

S3 - Vulnerable, at moderate risk of extirpation, relatively few populations or occurrences, recent and widespread population decline

S4 - Apparently Secure, at a family low risk of extirpation, many populations or occurrences, some concern for local population decline

S5 - Secure, at very low or no risk of extirpation, abundant populations or occurrences, little to no concern for population decline

Qualifiers:

S#B - Conservation status refers to the breeding population of the species

S#N - Conservation status refers to the non-breeding population of the species

S#M - Migrant species, conservation status refers to the aggregating transient population of the species

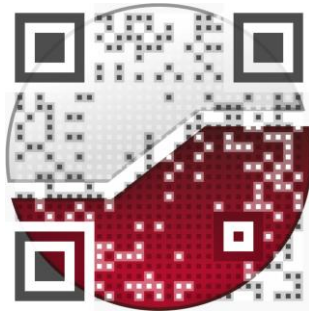
**TABLE C.2
SCREENING RATIONALE FOR POTENTIAL SPEICES AT RISK ON-SITE OR WITHIN STUDY AREA**

Species	ESA Status	Regional Distribution	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Avian					
Bald Eagle	Special Concern	Confirmed nest at Shirley's bay since 2012.	Nest in mature forests near open water.	Low	Site lacks suitable forest habitat adjacent to suitable open water and foraging area to support Bald Eagle activity.
Bank Swallow	Threatened	12 confirmed, 2 probable and 8 possible nests in recent OBBA.	Colonial nester, burrows in eroding silt, to sand banks, sand pit walls, etc.	Low	Site lacks suitable habitat of sand banks, sand pit walls to support bank swallow. Species was not observed during the field investigation or through any online databases.
Barn Swallow	Threatened	33 confirmed, 2 probable, and 3 possible nests in recent OBBA.	Nests in barns and other semi-open structures. Forages over open fields and meadows.	Low	No suitable nesting habitat or structures located on-site. Potentially suitable nesting habitat/structures located within study area. Species was not observed during the field investigation or through any online databases.
Bobolink	Threatened	Widespread in the Ottawa region, confirmed and probable nests found in 39 or 40 local atlas squares during recent OBBA.	Nests in dense tall grass fields and meadows of at least 5 ha, low tolerance for woody vegetation.	Low	Although the species was indicated to be present within 1 km of the site on NHIC, the site is barren and lacks suitable grassland habitat to support bobolink or their life processes. Species was not observed during the field investigation.
Canada Warbler	Special Concern	1 confirmed, 2 probable, 6 possible nests during recent OBBA. No critical habitat identified in region.	Prefers wet forests with dense shrub layers	Low	Preferred wet forest habitat is not present on-site.
Cerulean Warbler	Threatened	No nests reported during recent OBBA. SARO and SARA range maps include part of Ottawa.	Prefers mature deciduous forest habitat.	Low	Preferred mature deciduous forest habitat is not present on-site or within study area.
Chimney Swift	Threatened	3 confirmed, 2 probable, and 11 possible nests in recent OBBA.	Nests in traditional-style open brick chimneys.	Low	Suitable nesting structures are not present on-site or within the broader study area. Species was not observed during the field investigation or through any online databases.
Common Nighthawk	Special Concern	6 probable, 5 possible nests reported in recent OBBA. No critical habitat identified in Ottawa region.	Nests in a variety of open sites: beaches, fields and grave rooftops.	Low	Species known to nest in gravel and rocky areas such as quarries, gravel pits and bedrock outcrops. Species was not observed during the field investigation or through any online databases.
Eastern Meadowlark	Threatened	Sporadic occurrences in Ottawa region, more common in rural areas with pasture or fallow fields.	Nests and forages in dense tall grass fields and meadows, higher tolerance to woody vegetation.	Low	Although the species was indicated to be present within 1 km of the site on NHIC, the site is barren and lacks suitable grassland habitat to support eastern meadowlark or their life processes. Species was not observed during the field investigation.
Eastern Whip-poor-will	Threatened	Primary breeding range located east, west and south of the Precambrian shield. 7 probable and 10 possible nests in recent OBBA. Critical habitat tentatively identified in 4 squares in western Ottawa.	Nests on the ground in open deciduous or mixed woodlands with little underbrush, and bedrock outcrops.	Low	No suitable woodland habitat occurs on-site or within study area. Species was not observed during the field investigation or through any online databases.
Eastern Wood-Pewee	Special Concern	4 possible, 15 probable and 19 confirmed nests in recent OBBA for Ottawa area	Woodland species, often found near clearings and edge habitat.	Low	No suitable woodland habitat on-site to support Eastern Wood-Pewee. Species was not observed during the field investigation or through any online databases.
Golden Eagle	Endangered	Migrant only in Ottawa area.	Nests on remote, bedrock cliffs, overlooking large burns, lakes or tundras	Low	Suitable nesting habitat is not present on-site.
Golden-winged Warbler	Special Concern	1 confirmed, 1 probable nest in recent OBBA. Critical habitat identified in Quebec, northwest of Ottawa.	Ground nesting, edge species. Breeds in successional scrub habitats surrounded by forests.	Low	Preferred scrub habitat is not present on-site or within the study area.
Evening Grosbeak	Special Concern	5 confirmed, 6 probable, 8 possible nests in recent OBBA.	Nests in trees or large shrubs, preference to large coniferous forests, will use deciduous. Overwinters in Ottawa.	Low	Suitable habitat does not occur on-site.
Henslow's Sparrow	Endangered	No nests in recent OBBA.	Prefers open, moist, tallgrass fields.	Low	The site is barren and lacks suitable grassland habitat to support Henslow's Sparrow. Species was not observed during the field investigation or through any online databases.
Loggerhead shrike	Endangered	1 possible nest in recent OBBA. Critical habitat in Montague Township, however no confirmed nests from MNRF since 2002.	Prefers grazed pastures with short grass and scattered shrubs, especially hawthorn.	Low	Preferred pasture habitat and shrub vegetation does not occur on-site. Species was not observed during the field investigation or through any online databases.
Olive-sided Flycatcher	Special Concern	1 probable, 1 possible nest in recent OBBA.	Forest edge species, forages in open areas from high vantage points in trees.	Low	Preferred habitat for olive-sided flycatcher is not present on-site or within the study area. Species was not observed during the field investigation or through any online databases.
Peregrine Falcon	Special Concern	1 confirmed nest in recent OBBA and second nest established in 2011 in the Ottawa downtown.	Nests on cliffs near water and on more anthropogenic structures such as tall buildings, bridges, and smokestacks.	Low	Site lacks suitable nesting structure for peregrine falcon. Species was not observed during the field investigation or through any online databases.
Red Knot	Endangered	Migrant only in region, found along Ottawa River shorelines, and area lagoons,	Nests in the far north, migrant along the shorelines and lagoons of the Ottawa River.	Low	Site does not provide suitable habitat for migrant red knot.
Red-headed Woodpecker	Endangered	1 confirmed, 1 probable and 1 possible during recent OBBA. Nesting pair reported from village of Constance Bay in recent years.	Prefers open deciduous woodlands.	Low	No suitable woodlands on-site or within the study area to support red-headed woodpecker. Species was not observed during the field investigation or through any online databases.
Rusty Blackbird	Special Concern	No nests in recent OBBA. Primarily observed during migration only.	Wet wooded or shrubby areas (nests at edges of Boreal wetlands)	Low	Suitable habitat does not occur on-site.
Short-eared Owl	Special Concern	1 confirmed, 2 probable, 2 possible nests in recent OBBA.	Ground nester, prefers open habitats, fields and marshes.	Low	The site is barren and likely unsuitable habitat to support nesting short-eared owl. Species was not observed during the field investigation or through any online databases.
Wood Thrush	Special Concern	5 possible, 15 probable, and 16 confirmed nests in recent OBBA for Ottawa area.	Prefers deciduous or mixed woodlands.	Low	No suitable habitat on-site to support wood thrush. Hedgerows on-site do not provide adequate size or quality habitat to support wood thrush. Species was not observed during the field investigation or through any online databases.
Mammalian					
Eastern small-footed Myotis	Endangered	Rare throughout its range. Historical records in downtown Ottawa.	Roosts in rock crevices, barns and sheds. Overwinters in abandoned mines. Summer habitats are poorly understood in Ontario, elsewhere prefers to roost in open, sunny rocky habitat and occasionally in buildings (Humphrey, 2017).	Moderate	Potentially suitable anthropogenic structures adjacent to site. Potential summer habitat present within study area.
Little Brown Myotis	Endangered	Various sites in central and western parts of the Ottawa area. No critical habitat (hibernacula) identified in Ottawa to date.	Maternal colonies known to use buildings, may also roost in trees during summer. Affinity towards anthropogenic structures for summer roosting habitat and exhibit high site fidelity (Environment Canada, 2015).	Moderate	Potentially suitable anthropogenic structures adjacent to site. Potential summer habitat present within study area.

**TABLE C.2
SCREENING RATIONALE FOR POTENTIAL SPEICES AT RISK ON-SITE OR WITHIN STUDY AREA**

Species	ESA Status	Regional Distribution	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Northern myotis (Northern Long-eared Bat)	Endangered	Historical records in downtown Ottawa, more recently in sites to east (Orleans, Clarence-Rockland). No critical habitat (hibernacula) identified in Ottawa to date. Ottawa and region is at southern most limit of range.	Occurs throughout eastern North America in associated with Boreal forests. Roosts mainly in trees, occasionally anthropogenic structures during summer (Environment Canada, 2015). Overwinters in caves and abandoned mines.	Low	Species affinity is for Boreal forests and species rarely roosts in anthropogenic structures.
Tri-colored Bat	Endangered	Provincially Uncommon, only 26 documented occurrences in Ontario from pre-1980 to present (MNR, 2016). Unknown distribution in Ottawa; historical records from sites in urban Ottawa and Lanark County.	Roosts in trees, rock crevices and occasionally buildings during summer. Overwinters in caves and mines.	Moderate	Potentially suitable anthropogenic structures adjacent to site. Potential summer habitat present within study area.
Reptilian					
Blanding's Turtle	Threatened	Provincial range extends from Manitoulin Island south and east. Scattered occurrence records in central Ontario. Scattered throughout Ottawa and National Capital Region, with numerous sites in western half of region. Critical habitat present in Ottawa.	Inhabits quiet lakes, streams and wetlands with abundant emergent vegetation. Frequently occurs in adjacent upland forests.	Low	NHIC observations indicated species has been observed within 2km of the site, however the site and surrounding study area do not provide suitable wetland habitat to support Blanding's turtle or their habitat.
Snapping Turtle	Special Concern	Widespread and abundant in Ottawa and surrounding region.	Highly aquatic species, found in a wide variety of wetlands, water bodies and watercourses.	Low	No historic occurrence data for species on NHIC database for the site. No critical habitat has been identified on-site. The site does provide potentially suitable aquatic habitat for snapping turtle.
Plants					
American Ginseng	Endangered	Critical habitat broadly identified in the Ottawa area. Specific locations are confidential.	Rich, moist, relatively mature deciduous forests.	Low	Suitable habitat does not occur on-site.
Butternut	Endangered	Range is confined to eastern and southern Ontario. Widespread in Ottawa and region.	Inhabits a wide range of habitats including upland and lowland deciduous and mixed forests.	Moderate	Majority of the site is open and in a regenerative state. NHIC indicated historical prevalence of Butternut within 1 km of subject property. No butternuts were observed on-site during the field investigation.
Lichens					
Pale-bellied Frost Lichen	Endangered	Historical records in downtown area (extirpated locally). No critical or regulated habitat identified in Ottawa.	Grows on the bark of hardwood trees such as white ash, black walnut, American elm and ironwood. Can also be found growing on fence posts and boulders.	Low	Species believed to be extirpated from the Ottawa area.
Insects					
Bogbean Buckmoth	Endangered	Richmond Fen	Preferred food plant is bog bean, present in a variety of wetlands including bogs, swamps and fens.	Low	Preferred wetland habitat is not present on-site.
Gypsy Cuckoo Bumble Bee	Endangered	Historic occurrences only. Range in Ontario uncertain.	Inhabits a wide range of habitats: open meadows, agricultural and urban areas, boreal forests and woodlands.	Low	Currently the only known population is in Pinery Provincial Park
Monarch Butterfly	Special Concern	Widespread in the region	Caterpillars require milkweed plants confined to meadow and open areas. Adult butterflies use more diverse habitat with a variety of wildflowers	Moderate	Potentially suitable foraging habitat for monarch butterflies occurs on-site.
Mottled Duskywing	Endangered	Constance Bay area, Burnt Lands Alvar	Larval food plant (New Jersey Tea) found in sandy areas and alvars.	Low	Sandy areas and alvars not present in the study area.
Nine-spotted Lady Beetle	Endangered	Historically present but no reports in Ontario since mid-1990s	Habitat generalist	Low	No recent occurrence reports in the area, thought to be locally extirpated.
Rusty-patched Bumble Bee	Endangered	Historic records in Ottawa and Gatineau	Habitat generalist	Low	Currently the only known population occurs in Pinery Provincial Park.
Traverse Lady Beetle	Endangered	Unknown in Ottawa region. No southern Ontario records since 1985	Habitat generalist	Low	No new records of traverse lady beetle in Ontario, species thought to be absent in former habitats.
West Virginia White Butterfly	Special Concern	Unknown. No NESS or NHIC records. SARO range map includes Ottawa.	Requires mature moist deciduous woods with larval host plant toothwort.	Low	Necessary vegetation and toothwort plant not present on-site or within study area.
Yellow-banded Bumble Bee	Special Concern	Unknown. Historic occurrences and a few recent occurrences in Eastern Ontario/Western Quebec region.	Habitat generalist; mixed woodlands, variety of open habitat	Moderate	Potentially suitable foraging habitat for yellow-banded bumble bee occurs on-site.

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