

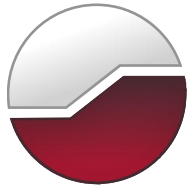


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**Scoped Environmental Impact Statement
Proposed Redevelopment of The
British High Commission Office
100, 140, 240, and 248 Sussex
Drive and 8 Lady Grey Drive
Ottawa, Ontario**





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Submitted to:

Foreign and Commonwealth Office
c/o Mace Group
155 Moorgate
London, United Kingdom
EC2M 6XB

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Project: 64996.01

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Ltd. (GEMTEC) was retained by Foreign and Commonwealth Office c/o Mace Group to carry out a Scoped Environmental Impact Statement (EIS) for the property addressed as 100, 140, 240 and 248 Sussex Drive and 8 Lady Grey Drive, in the City of Ottawa, Ontario (hereafter referred to as “the subject property”). The general location of the subject property is illustrated on Figure A.1 in Appendix A.

1.1 Purpose

The proponent is seeking to redevelop the grounds of the British High Commission residence. The redevelopment will include the demolition of the existing coach house, the construction of a new British High Commission Office and minor works and landscaping on National Capital Commission (NCC) and National Research Council (NRC) owned lands adjacent to the site.

Based on *Section 4.7 – Environmental Protection* of the City of Ottawa Official Plan (OP; Ottawa, 2012a) an EIS is required showing that the proposed redevelopment will not negatively impact any natural heritage features which may be present within the study area. The study area is defined as the development area and the adjacent lands encompassing an area of 120 m beyond the development area. The subject project and the extents of the study area are illustrated on Figure A.2, in Appendix A.

1.2 Objective

The 2014 Provincial Policy Statement (MMAH, 2014) issued under Section 3 of the Planning Act states that “development and site alteration shall not be permitted in: habitats of species at risk, significant wetlands, significant woodlands and significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features of their ecological functions.” Similarly, the 2014 Provincial Policy Statement dictates that ‘development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.”

The objective of the work presented herein is twofold; 1) to identify and evaluate the significance of any natural heritage features, as defined in the Provincial Policy Statement (MMAH, 2014), on the subject property and within the broader study area and; 2) to assess the potential impacts from the proposed development on any natural heritage features 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 EIS presented herein has been completed in accordance with the following federal, provincial and municipal policies and guidelines:

- Provincial Policy Statement (MMAH, 2014);
- Endangered Species Act (Ontario, 2007);

- Species at Risk Act (Canada, 2002)
- Conservation Authorities Act (Ontario, 1990);
- Natural Heritage Reference Manual (OMNR, 2010);
- City of Ottawa Official Plan (Ottawa, 2012a); and
- City of Ottawa EIS Guidelines (Ottawa, 2012b)

1.3 Physical Setting

The subject property is located at 100, 140, 240 and 248 Sussex Drive and 8 Lady Grey Drive, in the City of Ottawa. The subject property is bound to the south by the Macdonald-Cartier Bridge. To the north, the site is bound by properties on 100 Sussex Drive. To the east, the site is bound by Sussex Drive and by the Ottawa River to the west.

1.3.1 Land Use Context

The subject property is located within the City of Ottawa's Mature Neighbourhoods Overlay. The City of Ottawa zoning by-law for the property is parks and open spaces. A portion of the west property, boundary is identified as floodplain for the Ottawa River.

2.0 METHODOLOGY

2.1 Desktop Review

A desktop information gathering exercise was completed to aid in the scoping of field investigations and to gather information relating to natural heritage features, which may be present on the subject project or within 1 km of the subject property. An additional component of the desktop review was to assess the potential presence of SAR to occur on the subject property or within the study boundary based on a review of publicly accessible occurrence records and a review of SAR habitat requirements and range maps.

Following changes to the MNRF natural heritage information request process, as of 2019, the MNRF is no longer providing responses to these requests. As such, an information request was not submitted for this project. In lieu of a request response, the Natural Heritage Information Request Guide (OMNRF, 2018) was consulted and the data resources listed below were reviewed for relevant natural heritage feature and SAR data relating to the site.

Information regarding the potential presence of natural heritage features and 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, 2012a)
- 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)
- Atlas of Mammals of Ontario (Dobbyn, 1994);
- Ontario Herpetofaunal Atlas (Oldham and Weller, 2000);
- Ontario Ordonata Atlas (OMNR, 2005); and
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015).

2.2 Field Investigations

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

The site investigation was conducted on September 11, 2019 from 11:00 to 13:30. Weather conditions at the time of the site investigation were as follows: 20°C, Beaufort wind 3, no precipitation and mostly cloudy sky.

Photographs of site features taken during field investigations are provided in Appendix B.

2.2.1 Ecological Land Classification

Given the highly landscaped nature of the subject property, application of the Ecological Land Classification System for Southern Ontario (Lee et al, 2008) was not appropriate. During the site investigation dominant tree species were documented on-site, as well as documenting adjacent riparian vegetation along the Ottawa River.

2.2.2 Tree Inventory

A tree inventory was conducted by CSW to identify all trees with a Diameter at Breast Height (DBH) over 10 cm within the proposed development area. Information including the location of the tree, DBH, species, condition, and general notes on growth and tree quality were all recorded. A copy of the tree conservation report conducted by CSW is provided in Appendix D.

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 development 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, 2015); and
- Significant Wildlife Habitat Mitigation Support Tool (OMNRF, 2014b).

3.0 EXISTING ENVIRONMENT

3.1 Ecoregion

The site is situated Ecoregion 6E-11 (Lake Simcoe-Rideau), which extends from Lake Huron in the west to the Ottawa River in the east. 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, which the subject property is located, is underlain by glaciomarine deposits as a result of 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 topography of the site slopes gently from east to west towards the Ottawa River, from a topographical high of 88 mASL to a topographical low of 50 mASL. At the western edge of the property, the topography drops steeply from 50 mASL to a topographical low of 43 mASL along the Ottawa River.

A single topographical landform, as mapped by Chapman and Putman (1984) is described on the subject property, limestone plains within the Ottawa Valley Clay plains physiographic region.

The Ontario Geological Survey (OGS, 2019) identifies a single surficial soil unit on the subject property, Paleozoic bedrock. A bedrock escarpment is mapped along the northwest and southwest property boundaries.

Bedrock at the site is composed of limestone, dolostone, shale, arkose, and sandstone of the Ottawa Group, Simcoe Group and Shadow Lake Formation.

3.3 Surface Water, Groundwater and Fish Habitat

Surface water on the subject property consists of a series of vernal pools to the west of the proposed development area. No watercourses or permanent waterbodies were identified on-site during the desktop review or during the any of the site investigations.

A fisheries assessment was not conducted as part of this EIS, however it is assumed that the Ottawa River provides fish habitat for a variety of fish species.

Groundwater investigations were not completed in support of this EIS.

3.4 Vegetation Communities

As discussed in Section 2.2.1, the application of the Ecological Land Classification System is not appropriate given the landscaped nature of the property. Vegetation on-site consisted of heavily landscaped gardens and manicured lawn. Tree species on-site were documented during the site investigation by GEMTEC and by CSW during the tree inventory.

During the tree inventory conducted by CSW, trees on-site were identified within the area of the proposed development on privately owned grounds of the British High Commission Office, as well as on adjacently owned NCC property to the south.

Within the British High Commission grounds, tree species on-site along the northeast property boundary included silver maple (*Acer saccharinum*), little leaf linden (*Tilia cordata*), northern catalpa (*Catalpa speciosa*), Colorado spruce (*Picea pungens*), white spruce (*Picea glauca*), scots pine (*Pinus sylvestris*), red pine (*Pinus resinosa*), sugar maple (*Acer saccharum*), smoke bush (*Continus* sp.) and Norway maple (*Acer patanoides*). Within the central portion of the property included red maple (*Acer rubrum*), white pine (*Pinus strobus*) and sugar maple. Tree species on-site along the southwest property boundary included katsura tree (*Cercidiphyllum japonicum*), black cedar (*Thuja occidentalis 'nigra'*), white pine, red oak (*Quercus rubra*), paper birch (*Betula papyrifera*), little leaf linden, and white spruce. Tree species along the southern property boundary, adjacent to the existing coach house include white spruce, Japanese lilac tree (*Syringa reticula*), crabapple (*Malus rosaceae*), Colorado spruce, and red maple. The herbaceous layer on-site was comprised of horticultural flowers and herbaceous plants.

On the adjacent NCC property to the south, tree species include Manitoba maple (*Acer negundo*), amur maple (*Acer ginnala*), black cedar, Norway maple, common lilac (*Syringa vulgaris*), and red oak.

Adjacent to the site, along the Ottawa River, vegetation consisted of a deciduous woodland community comprised of red maple, green ash (*Fraxinus pensylvannica*), honey locust (*Gleditsia triacanthos*), staghorn sumac (*Rhus typhina*), cedar, red oak and little leaf linden.

3.5 Wildlife

Wildlife observed on-site and within the study area during the field investigation included typical urban species including, northern cardinal, American tree sparrow, American crow, grey squirrel and chipmunk. Ring-billed gulls and turkey vultures were also observed soaring over the property and adjacent Ottawa River.

4.0 NATURAL HERITAGE FEATURES

Natural heritage features are defined in the PPS as “features and areas, including *significant wetlands, significant coastal wetlands, fish habitat, significant woodlands south and east of the Canadian Shield, significant valleylands south and east of the Canadian shield, significant habitats of endangered species and threatened species, significant wildlife habitat and significant areas of natural and scientific interest*, which are important for their environmental and social values as a legacy of the natural landscape of an area”.

4.1 Significant Wetlands

As described in the Natural Heritage Reference Manual (OMNR, 2010), wetlands mean “lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface.” While *significant* in regards to wetlands means “an area identified as provincially significant by the Ontario Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time.”

No provincially significant wetlands were identified during the desktop review, nor were they identified during the site investigations. As no PSW's have been identified on-site or within 120 m for the site, PSW are not present within the study area and are not discussed or evaluated further in this EIS.

4.2 Significant Woodlands

Significant woodlands are defined in the natural heritage reference manual (OMNR, 2010) as “an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history.”

At the local scale, significant woodlands are defined and designated by the local planning authority. Generally, most planning authorities have defined significant woodlands as any woodland that contains any of the four criteria listed in Section 7.2 of the natural heritage reference manual (OMNR, 2010), including: woodland size, ecological functions, uncommon characteristics and economic and social functional values. Furthermore, the City of Ottawa provides a supplementary document *Significant Woodland: Guidelines for Identification, Evaluation, and Impact Assessment* (Ottawa, undated a) to evaluate woodlands and ensure compliance with the city's policies.

As outlined in *Significant Woodlands: Guidelines for Identification, Evaluation and Impact Assessment* (Ottawa, undated b), all urban area woodlands are to be considered significant if they are greater than 40 years old and greater than 0.8 ha in size.

Based on the criteria of the City of Ottawa urban woodlands significant woodlands are not present on-site as they do not meet the minimum age or size (< 0.8 ha) requirement for urban area woodlands.

4.3 Significant Valleylands

Valleylands are defined in the natural heritage reference manual (OMNR, 2010) as 'a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of time'. The identification and evaluation of significant valleys lands in Ontario is based on the recommended criteria from the MNRF and is the responsibility of local planning authorities.

In Southern Ontario, conservation authorities have identified valleylands as part of their regulation mapping (i.e., floodplain mapping); however, where valleys lands have not been defined, their physical boundaries are generally determined as the 'top-of-bank' or 'top-of-slope' associated with a watercourse. For less well-defined valleys, the physical boundary may be defined by riparian vegetation, flooding hazard limits, ordinary high water marks or the width of the stream meander belt (OMNR, 2010).

Table C.1 in Appendix C, presents the screening rationale for significant valleylands applied in this EIS and a brief rationale as to why they are or are not covered further in this EIS.

As discussed in Section 1.3, the City of Ottawa and RVCA have identified portions of the western property boundary as floodplain for the Ottawa River. Following review of Table C.1 in Appendix C, significant valleylands are present on-site due to their surface water functions and landform prominence. Significant valleylands are illustrated on Figure A.3 in relation to other site features. Impacts to significant valleylands are discussed in Section 6.

4.4 Significant Areas of Natural and Scientific Interest

The MNRF identifies two types of areas of natural and scientific interest (ANSI) in Ontario: life sciences ANSIs which typically represent significant segments of Ontario's biodiversity and natural landscapes, while earth science ANSIs typically represent significant examples of bedrock, fossils or landforms in Ontario (OMNR, 2010).

No significant areas of natural and scientific interest were discovered on-site during the desktop review or during any of the site investigations. As such significant areas of natural and scientific interest are not discussed further in this EIS.

4.5 Significant Wildlife Habitat

The natural heritage reference manual (OMNR, 2010), in combination with the significant wildlife habitat technical guide (MNRF, 2000) and the significant wildlife habitat ecoregion criterion schedules (OMNRF, 2015) were used to identify and evaluated potential significant wildlife

habitat on-site. Significant wildlife habitat is broadly categorized as habitats of seasonal concentration of animals, rare vegetation communities, specialized habitats for wildlife, habitats of species of conservation concern and animal movement corridors.

The natural heritage reference manual (OMNR, 2010), in combination with the significant wildlife habitat technical guide (OMNR, 2000) and the significant wildlife habitat ecoregion criterion schedules (OMNRF, 2015) were used to identify and evaluate potential significant wildlife habitat on-site. The significant wildlife habitat is broadly categorized as habitats of seasonal concentration of animals, rare vegetation communities, specialized habitats for wildlife, habitats of species of conservation concern and animal movement corridors. Table C.2, C.3, C.4, C.5, and C.6 in Appendix C, provide the screening rationale for each category of significant wildlife habitat, respectively.

4.5.1 Habitats of Seasonal Concentrations of Animals

Seasonal concentration areas are habitats where large numbers of species congregate at one particular time of the year. The significant wildlife habitat technical guides (OMNR, 2000) and significant wildlife habitat ecoregion criterion schedules (OMNRF, 2015) identify 12 types of seasonal concentration habitats that may be considered significant wildlife habitat. These 12 types of seasonal habitat are presented in Table C.2 in Appendix C, including a brief description of the rationale as to why they are or are not assessed further in this EIS.

Following review of Table C.2 in Appendix C, the following two *candidate* habitats of seasonal concentrations of animals have been identified on-site or within the study area; colonially-nesting bird breeding habitat (bank and cliff) and reptile hibernaculum.

4.5.1.1 Colonially-Nesting Breeding Bird Habitat (Bank and Cliff)

Breeding bird surveys were outside of the scope of work for this EIS however, the cliff and talus slope habitat along the Ottawa River may provide *candidate* colonial nesting bird habitat (bank and cliff) SWH. Bank and cliff habitat provides breeding and nesting habitat for cliff swallow and northern rough-winged swallow. Identified colonies can be very important to local populations (OMNRF, 2015).

Impacts to *candidate* colonial nesting bird habitat (bank and cliff) SWH are discussed in Section 6.

4.5.1.2 Reptile Hibernaculum

Reptile hibernaculum surveys were outside of the scope of work for this EIS however, the cliff and talus slope habitat along the Ottawa River may provide *candidate* reptile hibernaculum SWH. These sites provide overwintering habitat for a variety of reptiles including eastern gartersnake, northern watersnake, northern red-bellied snake and northern ring-necked snake.

Hibernaculum habitat may be found in any ecosite and may be directly related to talus, rock barren, crevice, cave and alvar habitats.

Impacts to *candidate* reptile hibernaculum SWH are discussed in Section 6.

4.5.2 Rare Vegetation Communities

Rare vegetation communities in the province are described generally as those with an S1 to S3 ranking by the NHIC, and typically include communities such as sand barrens, alvars, old growth forests, savannahs and tallgrass prairies. These communities are presented in Table C.3 in Appendix C, including a brief description of the rationale as to why they are or are not assessed further in this EIS.

Following review of Table C.3 in Appendix C, the following rare vegetation community has been identified on-site and within the broader study area, cliff and talus slopes.

4.5.2.1 Cliff and Talus Slope

Due to the presence of near vertical bedrock greater than 3 metres and the presence of rock rubble at the base, *candidate* cliff and talus slope SWH occurs adjacent to the property, along the Ottawa River. An ELC survey confirming the vegetation community along the Ottawa River was not feasible due to limited access, as such cliff and talus slope habitat was not confirmed.

Impacts to *candidate* cliff and talus slope SWH are discussed in Section 6.

4.5.3 Specialized Habitats for Wildlife

Specialized wildlife habitats are microhabitats that provide a critical resource to some groups of wildlife. The significant wildlife habitat technical guide (OMNR, 2000), defines eight specialized habitats that may constitute significant wildlife habitat, these eight types of specialized wildlife habitats are evaluated in Table C.4 in Appendix C.

Following review of Table C.4 in Appendix C, no specialized habitats for wildlife have been identified on-site or within the broader study area. As such, specialized habitats for wildlife are not discussed or evaluated further in this EIS.

4.5.4 Habitats of Species of Conservation Concern

Provincial rankings are used by the Natural Heritage Information Centre to set protection priorities for rare species, similar to those described in Section 4.5.2 above for vegetation communities. Provincial rankings (S-ranks), are not legal designations such as those used to define the various protection statuses of species at risk, they are only intended to consider factors within the political boundaries of Ontario that might influence a particular species abundance, distribution or population trend.

Based on the guidance provided in the Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015), when a plant or animal element occurrence is recorded for any species with an S-rank of S1 (extremely rare), S2 (very rare), S3 (rare to uncommon) or SH (historically present), the corresponding vegetation ecosite is considered to provide *candidate* habitat for species of conservation concern and further consideration within the EIS is warranted.

The Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015), provides five general habitat types known to support a wide range of species of conservation concern in Ontario. The five general habitat types for Ecoregion 6E-11 are provided in Table C.5 in Appendix C, including a brief rationale as to why they are or are not considered further in this EIS.

Following review of Table C.5 in Appendix C, no habitats of species of conservation concern have been identified on-site or within the study area. As such habitats of species of conservation concern are not discussed or evaluated further in this EIS.

4.5.5 Animal Movement Corridors

Animal movement corridors are elongated areas used by wildlife to move from one habitat to another and allow for the seasonal migration of animals (OMNRF, 2015). The Significant Wildlife Habitat Ecoregion Criterion Schedules for Ecoregion 6E-11 (OMNRF, 2015), identifies two types of animal movement corridors: amphibian movement corridors and deer movement corridors. As per guidance presented in MNRF, 2015, animal movement corridors should only be identified as significant wildlife habitat when a *confirmed or candidate* significant wildlife habitat has been identified by the MNRF district office or by the regional planning authority.

No animal movement corridors have been identified by the MNRF, furthermore, no animal movement corridors were identified during the desktop review, during the site investigations or following review of Table C.6 in Appendix C. As such, animal movement corridors are not evaluated or discussed further in this EIS.

4.6 Fish Habitat

The protection of fish and fish habitat is a federal responsibility and is administered by the Department of Fisheries and Oceans Canada (DFO). Fish habitat as defined in the Fisheries Act (Canada, 1985) means, “spawning grounds and nursery, rearing food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.”

When development is unable to avoid or mitigate serious harm to fish from typical project impacts such as temperature change, sedimentation, infilling, reduction of nutrient and food supply, etc., an authorization under the Fisheries Act is required for the project to proceed.

As discussed in Section 3.3, surface water on-site consists of the adjacent Ottawa River, which is assumed to provide fish habitat for a variety of fish species. Following review of the DFO SAR mapping (DFO, 2019), no critical habitat has been identified on-site or adjacent to site.

Impacts to fish habitat within the study area are discussed in Section 6.2.

4.7 Species at Risk

The probability of occurrence for species at risk 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 site specific surveys conducted as part of this EIS, outlined in Section 2.2.

Table C.7 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 (ESA; Ontario, 2007), their protection status under the federal Species at Risk Act (SARA; Canada, 2002), 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 6.3.

5.0 PROPOSED PROJECT

The proponent is seeking to redevelop the grounds of the British High Commission Office. The redevelopment will include the demolition of the existing coach house, the construction of a new British High Commission Office and minor works and landscaping on National Capital Commission (NCC) and National Research Council (NRC) owned lands adjacent to the site.

Development for the project will include: tree clearing and vegetation grubbing, fill placement and elevation grading, excavation and pouring of foundations, the construction of an approximately 19,500 square foot building on municipal services and general landscape activities.

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 natural environment from the proposed development outlined in Section 5 include: vegetation removal, disturbance of the natural soil mantle, increased noise generation, increased human disturbance, increase storm water generation and increased nutrient loading to adjacent surface water features.

6.1 Significant Valleylands

According to the Provincial Policy Statement (MMAH, 2014), “development and site alteration shall not be permitted in significant valleylands south and east of the Canadian Shield unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological function.

As discussed in Section 4.3, significant valleylands are present on-site and adjacent to site, and correlate with the floodplain mapping from the City of Ottawa and the RVCA. As discussed in Section 5, development is proposed to occur on the southeast portion of the property, where the existing coach house is located. The valleyland was identified as significant due to its surface water functions (Ottawa River) and landform prominence (Ottawa River floodplain). No negative impacts are anticipated to occur to these attributes as a result of the proposed development. Development is not proposed within the floodplain of the Ottawa River, or along the slope of the valleyland.

The existing chain-link fence that runs the property boundary and top of slope is sufficient to protect the integrity of the significant valleyland on-site and will also prohibit construction encroachment and vegetation removal during construction. Significant valleylands and the existing chain-link fence are illustrated on Figure A.3. As no negative impacts are anticipated to occur to the significant valleyland, no mitigation measures are provided for the protection of significant valleylands in Section 7 and they are not discussed further in this EIS.

6.2 Significant Wildlife Habitat

The potential presence of significant wildlife habitat on-site and within the study area was evaluated in Section 4.5, as a result of this assessment three types of significant wildlife habitat were determined to be present on-site or within the study area: *candidate* cliff and talus slope, *candidate* colonially-nesting bird breeding habitat (banks and cliffs), and *candidate* reptile hibernaculum.

Potential impacts to significant wildlife habitat on-site are discussed in greater detail in the following subsections.

6.2.1 Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)

Candidate colonially-nesting bird breeding habitat (bank and cliff) on-site is restricted to significant valleyland slopes and cliff slopes along the Ottawa River to the north and west of the subject property. Development is not proposed within the significant valleyland, along the slope of the valleyland or within the *candidate* cliff and talus habitat on-site, as such no negative impacts are anticipated to occur to *candidate* colonial-nesting bird breeding habitat (bank and cliff).

The existing chain-link fence that runs along the property boundary and top of slope is sufficient to protect the integrity of the *candidate* colonial nesting bird breeding habitat (bank and cliff), and prohibit construction encroachment and vegetation removal within the candidate habitat. As no negative impacts are anticipated to occur to *candidate* colonial nesting bird breeding habitat (bank and cliff) SWH, no mitigation measures are provided for the protection of *candidate* colonial nesting bird breeding habitat (bank and cliff) SWH, in Section 7 and it is not discussed further in this EIS.

6.2.2 Reptile Hibernaculum

Candidate reptile hibernaculum on-site is restricted to significant valleyland slopes and talus slope habitat along the Ottawa River to the north and west of the subject property. Development is not proposed within the significant valleyland, along the slope of the valleyland or within the *candidate* cliff and talus habitat on-site, as such no negative impacts are anticipated to occur to *candidate* reptile hibernaculum.

The existing chain-link fence that runs along the property boundary and top of slope is sufficient to protect the integrity of the *candidate* reptile hibernaculum, and prohibit construction encroachment and vegetation removal within the candidate habitat. As no negative impacts are anticipated to occur to the *candidate* reptile hibernaculum SWH, no mitigation measures are provided for the protection of *candidate* reptile hibernaculum SWH in Section 7 and it is not discussed further in this EIS.

6.2.3 Cliff and Talus Slope

Candidate cliff and talus slope SWH on-site is restricted to significant valleyland slopes and talus habitat along the Ottawa River to the north and west of the subject property. Development is not proposed within the significant valleyland, along the slope of the valleyland or within the *candidate* cliff and talus slope habitat on-site, as such no negative impacts are anticipated to occur to *candidate* cliff and talus slope SWH.

The existing chain-link fence that runs along the property boundary and top of slope is sufficient to protect the integrity of the *candidate* cliff and talus slope SWH, and prohibit construction

encroachment and vegetation removal within the candidate habitat. As no negative impacts are anticipated to occur to the *candidate* cliff and talus slope SWH, no mitigation measures are provided for the protection of *candidate* cliff and talus slope SWH in Section 7 and it is not discussed further in this EIS.

6.3 Fish Habitat

According to the Provincial Policy Statement (MMAH, 2014), “development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements”. Fish habitat as defined in the Fisheries Act (Canada, 1985) means “the death of fish or any *permanent alteration* to, or destruction of, fish habitat”. When development is unable to avoid or mitigate serious harm to fish from typical project impacts such as temperature regime alteration, sedimentation, infilling, reduction of nutrients or food supply, an authorization under Subsection 35 (2) of the Fisheries Act is required for the project to proceed.

As no in-water work is anticipated as part of the proposed project, potential impacts to fish habitat are anticipated to be indirect in nature. Potential indirect impacts to water quality and fish habitat from the redevelopment of the British High Commissioners Office may include increased overland flow and concomitant sediment transport caused by an increase in impervious surfaces, increased nutrient loading through both overland pathways resulting from landscaping practices.

Mitigation measures intended to protect fish habitat on-site are presented in Section 7.

6.4 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.

6.4.1 Bank Swallow

Bank swallow (*Riparia riparia*) are small-sized, insectivorous bird with a slender body. The head, mantle, rump and wing converts are a grey brown with contrasting darker brown regimes and white underparts. The white underparts are separated by a well-defined brown upper breast band (COSEWIC, 2013a).

In Ontario, breeding bird survey data collected since 1981 have demonstrated a decline in bank swallow populations of 6.6% per year. While most abundant throughout the Carolinian region, the bank swallow has breeding range through the entire province with gaps on the Shield and Hudson Bay Lowlands (Cadman et al., 2007). In Ontario, bank swallows occur most commonly in the Lower Great Lakes and St. Lawrence valley regions (COSEWIC, 2013a).

Bank swallow nest colonially in banks along shorelines and in artificial sites such as sand and gravel pits. Long-term colonies are associated with long, tall banks with regular erosion that maintains the vertical face. Following fledging, young move away from the nesting colony with their parents and roost communally, typically on telephone and hydroline (Cadman et al., 2007).

Breeding bird surveys were outside of the scope of this EIS. The valleylands along the Ottawa River may support nesting bank swallow. While preferred field foraging habitat is not present within the study area, the adjacent Ottawa River may provide suitable foraging habitat. Bank swallow were not observed on-site or adjacent to site during the site investigation. Furthermore, nesting habitat within the study area is confined to the valleyland slopes along the Ottawa River. As such, impacts to bank swallow will be indirect in nature and primarily involve encroachment and disturbance during construction. However, given that bank swallow habitat is constrained to the valleyland and banks of the Ottawa River, the existing fence line is sufficient to prevent development encroachment and disturbance during construction, as well as preventing alteration to the shoreline and potential habitat.

Furthermore, following construction, impacts to bank swallow are not anticipated given that there will be no changes in land-use or activities on-site, as a result of the redevelopment.

As no negative impacts to bank swallow are anticipated as a result of the proposed development, no mitigation measures are provided in Section 7 in relation to bank swallow and they are not discussed or evaluated further in this EIS.

6.4.2 Chimney Swift

Chimney swift (*Chaetura pelagica*) is a small-sized, insectivorous bird with a slender body, long, narrow, pointed wings, and short spiny tail. When folded the wings extend beyond the tail. Chimney swifts have a dark brown plumage, except for the throat, which is paler (COSEWIC, 2007).

In Ontario, breeding bird survey data from 1968 to 2005 has demonstrated a decline in chimney swift populations of 8.9%. The breeding range of the chimney swift is restricted to eastern North America. In Canada it breeds in the Maritimes, southern Quebec, southern Ontario, southern Manitoba and east-central Saskatchewan. In Ontario, the highest densities occur near shorelines of the Great Lakes, including the Golden Horseshoe, the north shore of Lake Erie and near Sault Ste. Marie. Lower densities of chimney swifts occur in the southern part of the

Algonquin, Haliburton, and Madawaska Highlands, as well as in the Rainy River area (Cadman et al. 2007).

Chimney swifts nest and roost in chimneys, typically one pair nests per chimney. Chimney swifts have also been documented to nest on walls, rafters, or gables of buildings (Cadman et al. 2007). Foraging usually occurs near water, where insects are abundant. In the northern breeding range, chimney swifts look for sites with a relatively constant ambient temperature. (COSEWIC, 2007a).

Breeding Bird Surveys were outside of the scope of this EIS. While the coach house on-site, does not provide suitable nesting habitat due to inserts for gas furnace exhaust, many buildings in the area may provide suitable open brick chimney's that may support nesting and roosting chimney swift. Potentially suitable foraging habitat occurs over the adjacent Ottawa River. Chimney swift were not observed on-site or within the broader study area during the site investigation. As suitable foraging habitat (i.e. the Ottawa River) is not anticipated to be impacted by the proposed redevelopment and give that the proposed development will not result in a change of the land use or activities occurring on-site, impacts to chimney swift during and following construction are not anticipated. As such no mitigation measures are provided in Section 7 for the protection of chimney swift and they are not discussed or evaluated further in this EIS.

6.4.3 Red Knot *rufa* subspecies

The red knot (*Calidris canutus rufa*) is a medium-sized shorebird with a long bill, smallish head, long tapered wings, and longish legs (COSEWIC, 2007). During breeding, plumage is distinct, the face, neck, breast and much of the underparts are a rufous chestnut red, upperparts are typically dark brown or black with rufous and grey (COSEWIC, 2007). The *rufa* subspecies shows a lighter red breast than the red knot *roseaari* and *islandica* subsepecies (Ontario, 2019c). During winter, plumage is plainer with white underparts and pale grey back (COSEWIC, 2007).

Red knot *rufa* breeds within the central Canadian Arctic. The red knot *rufa* subspecies only occurs in Ontario during migration, where it can be found feeding or resting on beaches (Ontario, 2019c). In Ottawa, the red knot *rufa* subspecies occurs as a migrant only, and has been observed resting along the shores and area lagoons of the Ottawa River.

Red knot *rufa* subspecies habitat within the study area is limited to the shoreline of the Ottawa River. No in-water work, or shoreline work is proposed as part of this development. As such, impacts to red knot *rufa* subspecies will be indirect in nature and primarily involve encroachment and disturbance during construction. However, given that red knot *rufa* subspecies habitat is constrained to the shorelines of the Ottawa River, the existing fence line is sufficient to prevent development encroachment and disturbance during construction, as well as preventing alteration to the shoreline and vegetation.

Furthermore, following construction, impacts to red knot *rufa* subspecies are not anticipated given that there will be no changes in land-use or activities on-site, as a result of the redevelopment.

As no negative impacts to red knot *rufa* subspecies are anticipated as a results of the proposed development, no mitigation measures are provided in Section 7 in relation to red knot *rufa* subspecies and they are not discussed or evaluated further in this EIS.

6.4.4 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, 2019a).

Although the forest habitat on-site does not meet the requirements to support bat maternity colonies, given the availability of habitat and buildings on-site and within the study area, there is a potential for eastern small-footed Myotis to occur on the property, primarily for foraging or non-maternal roosting. Impacts to eastern small-footed Myotis are primarily associated with, habitat loss, 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.

6.4.5 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, 2019b).

Little Brown Myotis overwinter in caves and abandoned mines, they require highly humid conditions and temperatures that remain above the freezing mark (Ontario, 2019b). 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 clearcuts are not typically utilized for foraging (COSEWIC, 2013b).

Although the forest habitat on-site does not meet the requirements to support bat maternity colonies, given the availability of habitat and buildings on-site and within the study area, there is a potential for little brown Myotis to occur on the property, primarily for foraging or non-maternal roosting. Impacts to little brown Myotis are primarily associated with, habitat loss, 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.

6.4.6 Tri-colored Bat

Tri-colored bat (*Perimyotis subflavus*) 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 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).

Although the woodlands on-site do not meet minimum snag density requirements to support bat maternity colony habitat, given the availability of habitat on-site there is a potential for tri-colored bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts to tri-colored bat are primarily associated with habitat loss of marginal roadside forest 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.

6.4.7 American Eel

American eel (*Anguilla rostrata*) is an elongated, cylindrical fish and is the only freshwater eel in North America. The mouth is filled with little teeth, the lower jaw extends past the upper jaw, and a single gill opening is located just before the pectoral fin. The American eel grows to a maximum size of 1 m and lacks any pelvic fins. The long dorsal and anal fins are continuous with the tail fin. Immature eels range in colour from yellow to green to olive-brown. Eels reaching maturity are silvery and sexually mature eels have a metallic brown or black back (Holm, Mandrak & Burrige, 2009).

The American eel uses both freshwater and marine habitats throughout its life. Sexually mature eels migrate from freshwater habitats to marine habitats, spawning occurs in the Sargasso Sea, south of Bermuda. Young larval stages remain in salt water until they undergo metamorphosis, after which juveniles begin migrations to fresh water habitats where they remain until reaching sexual maturity. American eels are widespread in Eastern Canada, and preferred habitat in the freshwaters of Canada includes lakes, rivers and all waters extending from the high-water mark down to at least 10 m depth. Growing eels frequently use a variety of substrate (rock, sand, mud), woody debris and submerged vegetation to provide protection and cover, particularly during daylight hours. In fresh water environments, the generation time for American Eels can be as high as 22 years (Holm, Mandrak & Burrige, 2009).

A fisheries assessment was not completed as part of this EIS, however American eels are found throughout the Ottawa River catchment and the NHIC data occurrence records indicate that American eels have been observed within 1 km of the site.

American eel habitat within the study area is limited to the Ottawa River. No in-water work is proposed as part of this development. As such impacts to American eel will be indirect in nature and primarily involves impacts to water quality from run-off and sediment transport, as well as impacts to fish habitat discussed in Section 6.2.

Mitigation measures to protect American eel and its habitat are discussed in Section 7 below.

6.4.8 Lake Sturgeon

The lake sturgeon (*Acipenser fulvescens*) is the largest and longest-lived freshwater fish of Ontario. It is distinguished by its elongated, triangular snout with four barbels on the ventral surface. The mouth is on the bottom of the head, behind the barbels. The head is covered with bony plates and 5 rows of bony scutes are found along the body. The tail is asymmetric and upturned. Adults are grey or olive-brown coloured on the back, sides and fins with a white belly (Holm, Mandrak & Burrige, 2009).

Lake sturgeon habitat within the study area is limited to the Ottawa River. No in-water work is proposed as part of this development. As such impacts to lake sturgeon will be indirect in

nature and primarily involves impacts to water quality from run-off and sediment transport, as well as impacts to fish habitat discussed in Section 6.2.

Mitigation measures to protect lake sturgeon and its habitat are discussed in Section 7 below.

6.4.9 Hickorynut

Hickorynut (*Obovaria olivaria*) is a medium-sized freshwater mussel that is typically less than 7.5 cm long (COSEWIC, 2011). It is primarily distinguished from other mussels due to its small, nearly oval shell, and unique hinge features on the shell (COSEWIC, 2011).

Hickorynut lives in medium to large sized rivers with sandy substrates in relatively deep water (generally depths exceeding 2-3 m), with a moderate to strong current (COSEWIC, 2011). In Canada the species is distributed throughout the Great Lakes and St. Lawrence drainage system (COSEWIC, 2011).

Hickorynut habitat within the study area is limited to the Ottawa River. No in-water work is proposed as part of this development. As such impacts to hickorynut will be indirect in nature and primarily involves impacts to water quality from run-off and sediment transport, as well as impacts to fish habitat discussed in Section 6.2.

6.5 Cumulative Impacts

Potential cumulative impacts associated with the proposed project may include an increase in storm water generation, increases in nutrient loading to adjacent aquatic features and the loss of landscaped, horticultural tree habitat, primarily for avian species typical of urban environments.

Cumulative impacts to the natural environment at the site due to increased human presence are expected to be negligible given the nature of the redevelopment and the surrounding land use; heavily developed general mixed use land within a larger urban area.

There are no anticipated impacts on the integrity or ecological function of the significant valleyland as the proposed residential development is not likely to impact surface water functions or landform prominence.

Cumulative impacts such as those listed above can be mitigated by implementing the proposed setbacks and recommended mitigation measures outlined in Section 7 below.

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 Fish habitat

No negative impacts on fish habitat are anticipated as a result of this project if all mitigation measures recommended below are enacted and best management practices followed. Fish habitat will be protected through the maintenance of the vegetated buffer that occurs along the significant valleyland. The existing chain-link fencing will prohibit any alterations to the valleyland vegetation and watercourse shoreline and provide protection from negative impacts due to the proposed redevelopment.

General mitigation measures recommended for the protection of water quality and fish habitat include:

- When native soil is exposed, sediment and erosion control work in the form of heavy-duty sediment fencing shall be placed along the down gradient edge of any construction envelopes adjacent to waterbodies or the top of slope of the valleyland.
- The development plan should include infiltration trenches or rain gardens designed to promote infiltration and limit overland flow. Downspouts should be directed towards these features.

7.2 Species at Risk

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

The proposed redevelopment of the property is not anticipated to impact the woodland habitat present along the valleyland adjacent to site. Impacts to potential SAR bats on the property are primarily associated with anthropogenic structure and tree roosting. To protect roosting and foraging bats, building demolition and tree removal should take place outside of the active season (typically May 1 to September 1), when bats are more likely to be using summer habitat. If demolition or vegetation clearing must be conducted during the spring and summer timing window than a roost survey should be conducted by a qualified professional.

7.2.2 American Eel, Lake Sturgeon & Hickorynut

Mitigation measures presented above for the protection of fish habitat are sufficient to provide protection to American eel and lake sturgeon from negative impacts due to the proposed redevelopment.

7.3 Wildlife

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

- Vegetation removal should occur outside the key breeding bird period (typically April 15 to August 15) as identified by Environment Canada for the protection of migratory birds and to avoid contravention of the Migratory Bird Convention Act. If vegetation clearing activities must take place during the aforementioned timing window then a nest survey shall be conducted by a qualified professional.
- 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.
- Should any species at risk be discovered throughout the course of the proposed works, the species at risk biologist with the local MECP district should be contacted immediately and operations modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by the MECP.

7.4 Best Practice Measures for Mitigation of Cumulative Impacts

The following best practice measures are provided for the mitigation of cumulative impacts resulting from general construction and development activities;

- To protect trees identified to be retained during construction, the Critical Root Zone (CRZ) should be identified and fenced. The CRZ is defined as 10 cm from the base of the tree for every centimetre in diameter of the tree trunk measured at breast height.
- Tree removal should follow all of the regulations from the City of Ottawa outlined in 'Tree Conservation – Urban' (By-law No. 2009-200). All necessary permits for vegetation removal must be obtained from the city.
- Maintain as much permeable surface as possible in future development plans to minimize the generation of stormwater runoff.
- Silt fencing should be installed along all setbacks to provide visual demarcation of the setbacks and to prevent machinery encroachment and sediment transport.
- Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized.
- 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 red oak.

8.0 CONCLUSIONS

The proposed project supported by this EIS is the redevelopment of the British High Commission Office.

Based on the results of the impact analysis, impacts to the natural environment are anticipated to be negligible. Provided that mitigation measures recommended in Section 7 are implemented as proposed, no significant residual negative impacts are anticipated from the proposed future development.

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 natural heritage features identified on-site, including significant valleylands and species at risk 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 Foreign and Commonwealth Office and is intended for the exclusive use of Foreign and Commonwealth Office. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and Foreign and Commonwealth Office. 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,



Taylor Warrington, B.Sc.
Biologist



Drew Paulusse, B.Sc.
Senior Biologist

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APPENDIX A

Report Figures




Legend

- Subject Property
- Proposed Development
- Minor Work Zone
- Study Area

Scale

1:2,500

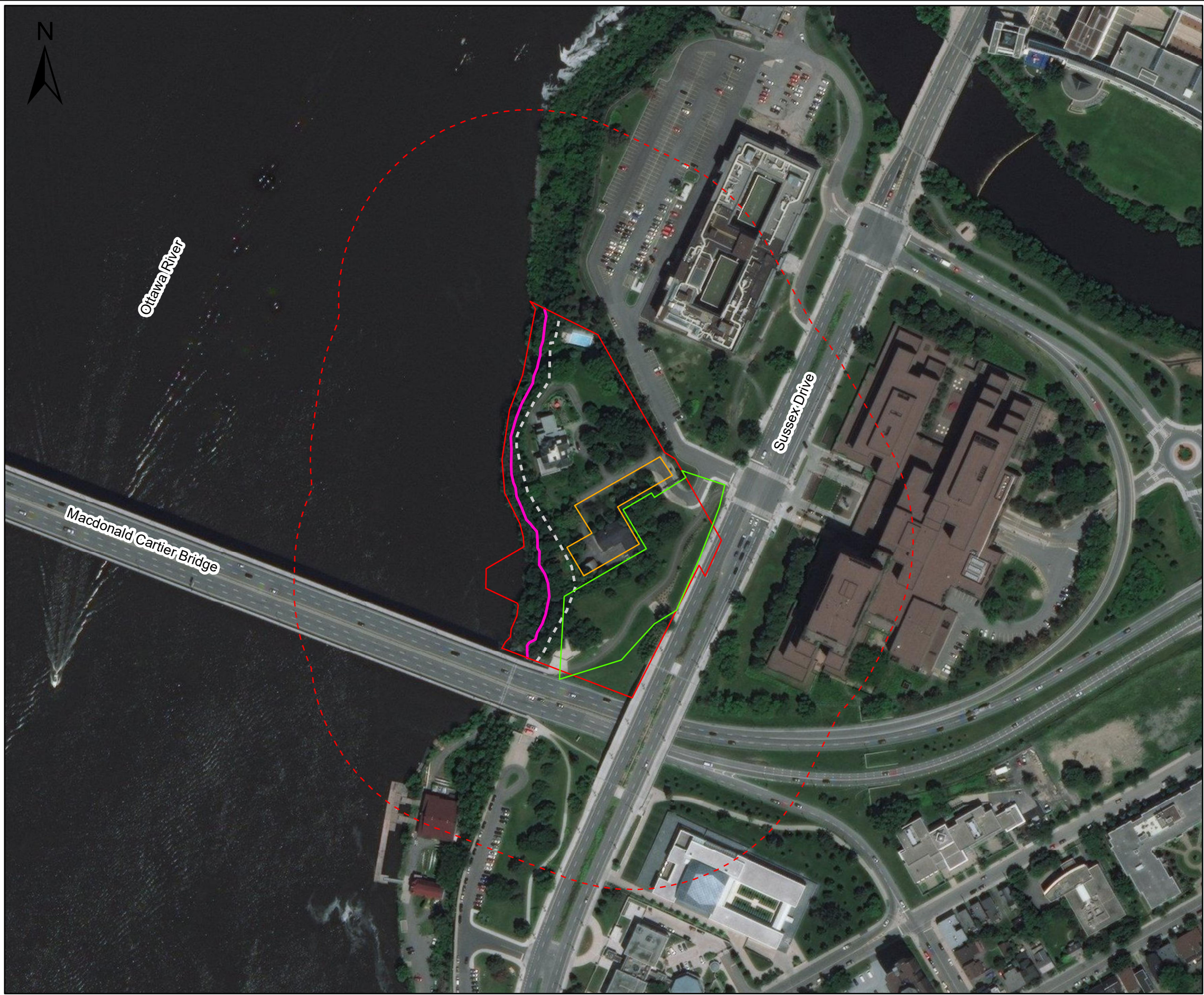
0 10 20 40 60 80 100 120 140 Meters



GEMTEC
CONSULTING ENGINEERS
AND SCIENTISTS

32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca


Client:		Foreign and Commonwealth Office		Project:		64996.01	
Location		British High Commission Office 140 Sussex Drive Ottawa, Ontario					
Drwn By:		Chkd By:		Site Layout			
TW		DP					
Date: September 2019				Rev.		Figure: A.2	
© Queen's Printer for Ontario				0			



Legend

- Property Boundary
- Proposed Development
- Minor Work Zone
- Study Area
- Significant Valleyland
- Existing Fence Line

Scale
1:2,500
0 10 20 40 60 80 100 120 140 Meters



GEMTEC
CONSULTING ENGINEERS
AND SCIENTISTS

32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

Client: Foreign and Commonwealth Office		Project: 64996.01	
Location: British High Commission Office 140 Sussex Drive Ottawa, Ontario			
Drwn By: TW	Chkd By: DP	Natural Heritage Features	
Date: October 2019		Rev. 0	Figure: A.3
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APPENDIX B

Site Photographs



Site Photograph 1 – Existing Coach House to be Demolished



Site Photograph 2 – Existing Coach House to be Demolished



Site Photograph 3 – Capped Chimney on Existing Coach House



Site Photograph 4 – Existing Coach House to be Demolished



Site Photograph 5 – Vegetation on the Grounds of the British High Commission



Site Photograph 6 – Vegetation on the Grounds of the British High Commission



Site Photograph 7 – Vegetation on the Grounds of the British High Commission



Site Photograph 8 – British High Commission Office



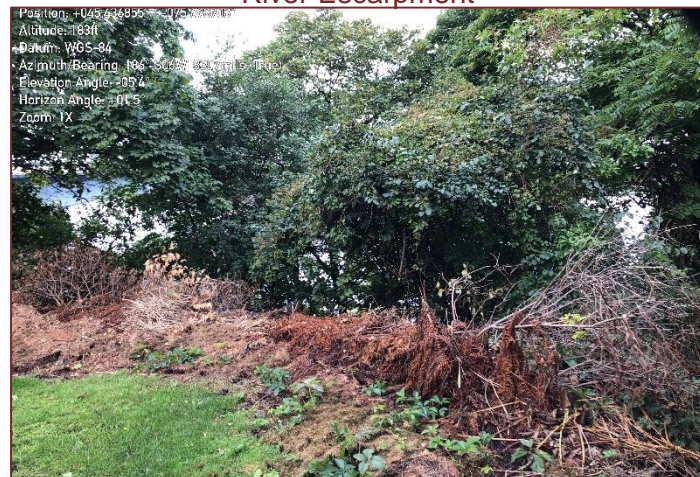
Site Photograph 9 – Vegetation on the Grounds of the British High Commission and along Ottawa River Escarpment



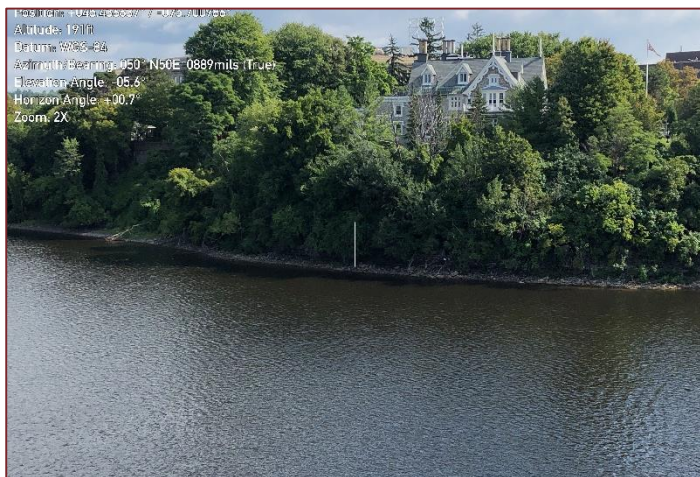
Site Photograph 10 – Vegetation on the Grounds of the British High Commission and along Ottawa River Escarpment



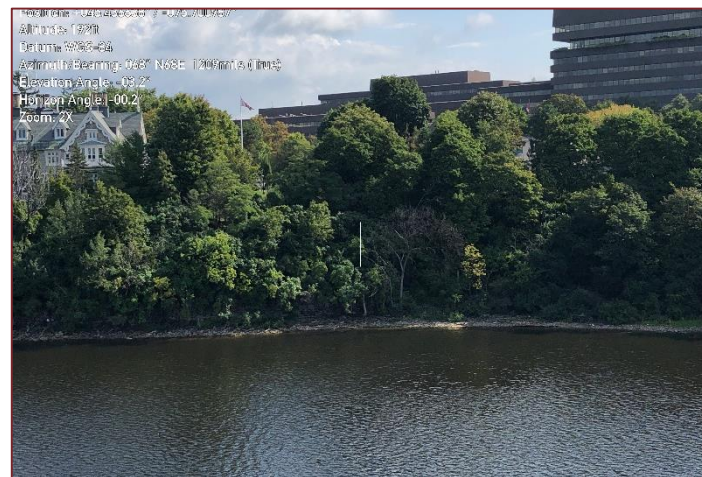
Site Photograph 11 – Vegetation along the Ottawa River Escarpment



Site Photograph 12 – Vegetation along the Ottawa River Escarpment



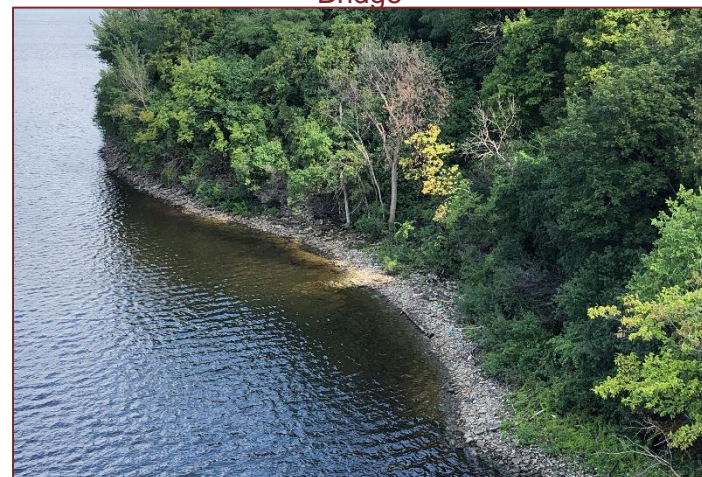
Site Photograph 13 – British High Commission Office and Ottawa River from MacDonald-Cartier Bridge



Site Photograph 14 – British High Commission Office and Ottawa River from MacDonald-Cartier Bridge



Site Photograph 15 – British High Commission Office and Ottawa River from MacDonald-Cartier Bridge



Site Photograph – Ottawa River Shoreline from MacDonald-Cartier Bridge



APPENDIX C

Report Summary Tables

TABLE C.1
SCREENING RATIONALE FOR SIGNIFICANT VALLEYLANDS

Valleyland Criteria	Further Considered in EIS	Rationale
Landform-Related Functions and Attributes		
a) Surface Water Functions	Yes	The Ottawa River is an area of water conveyance from catchment areas of 50 ha or greater.
b) Groundwater Functions	No	No areas of groundwater infiltration or release were identified on-site.
c) Landform Prominence	Yes	The City of Ottawa and the RVCA has identified the western portion of the property as a floodplain for the adjacent Ottawa River.
d) Distinctive Geomorphic Landforms	No	No distinctive landforms (oxbows, bottomlands, terraces, deltas, exposed soil strata or eroding slopes) were identified on-site.
Ecological Functions		
a) Degree of Naturalness	No	Off-site the valleyland is prominently residential/urban areas with minimal natural vegetation cover throughout the area.
b) Community and Species Diversity	No	Community and species diversity on-site is low and well represented within the greater landscape.
c) Unique Communities and Species	No	No seasonally important habitats, rare communities or habitat of rare species on-site.
d) Habitat Value	No	On-site habitat does not provide important habitat to sustain native aquatic and terrestrial species diversity.
e) Linkage Function	No	Surrounding land is highly urbanized, natural vegetation does not meet a minimum width of 100 m.
Restored Ecological Functions		
a) Restoration Potential and Value	No	Ottawa River Valleyland have been heavily altered within the area.

TABLE C.2
SCREENING RATIONALE FOR HABITATS OF SEASONAL CONCENTRATION AREAS

Wildlife Habitat	Further Considered in EIS	Rationale
Winter Deer Yard	No	No significant stands of mast producing trees, no large coniferous forest stands on-site to provide protection and cover from winter elements.
Colonial Bird Nesting Habitat	Yes	The cliff and talus habitat along the Ottawa River may provide suitable habitat for bank and cliff colonial nesting breeding bird habitat. The site does not provide suitable ground or tree/shrub colonial nesting bird breeding habitat.
Waterfowl Stopover and Staging Areas	No	No suitable habitat located on-site to support waterfowl stopover and staging areas.
Shorebird Migratory Stopover Area	No	Shorebird stopover sites are typically well-known and have a long history of use. The site does not contain suitable shoreline habitat for shorebird foraging.
Raptor Wintering Area	No	The site does not contain the appropriate combination of forest and upland habitat that may provide suitable hawk and owl wintering habitat.
Bat Hibernacula	No	Cave and crevice habitat is not present on-site or within the study area.
Bat Maternity Colonies	No	Woodlands on-site do not meet minimum snag density (>10 snags/hectare) requirement to be considered SWH for bat maternity colonies.
Turtle Wintering Area	No	The Goodwood Marsh PSW on-site may provide suitable water depth and appropriate substrate to protect overwintering turtles from the winter elements.
Reptile Hibernaculum	Yes	The cliff and talus habitat along the Ottawa River may provide suitable reptile hibernaculum.
Migratory Butterfly Stopover Area	No	The site is not located within 5 km of Lake Ontario and therefore does not meet the defining criteria.
Landbird Migratory Stopover Area	No	The site is not located within 5 km of Lake Ontario and therefore does not meet the defining criteria.

TABLE C.3
SCREENING RATIONALE FOR RARE VEGETATION COMMUNITIES

Wildlife Habitat	Further Considered in EIS	Rationale
Cliffs and Talus Slopes	Yes	Cliff and talus slope habitat is present along the north and west property boundaries, bordering the Ottawa River.
Sand Barren	No	No sand barren habitat occurs on-site or within the broader study area.
Alvar	No	No alvar habitat occurs on-site or within the broader study area.
Old Growth Forest	No	No old growth forest habitat occurs on-site or within the broader study area.
Savannah	No	No savannah habitat occurs on-site or within the broader study area.
Tallgrass Prairie	No	No tallgrass prairie habitat occurs on-site or within the broader study area.
Other Rare Vegetation Communities	No	No other rare vegetation communities occur on-site or within the broader study area.

TABLE C.4
SCREENING RATIONALE FOR SPECIALIZED WILDLIFE HABITATS

Wildlife Habitat	Further Considered in EIS	Rationale
Waterfowl Nesting Area	No	the site lacks suitable upland habitat adjacent to wetlands necessary to support waterfowl nesting.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No	While the Ottawa River could support suitable foraging habitat for Bald Eagle and Osprey, the surrounding area lacks suitable forest habitat adjacent to the River to support nesting habitat for Bald Eagle and Osprey.
Woodland Nesting Raptor Habitat	No	The site lacks suitable forest communities and do not meet defining size criteria (>30 ha with >10 ha interior habitat) to support nesting raptor habitat.
Turtle Nesting Habitat	No	Vegetation and soil on-site does not provide suitable nesting habitat for turtles, furthermore, the slope from the Ottawa River edge is too steep for turtles to navigate.
Seeps and Springs	No	No seeps or springs were identified on-site during the preliminary site investigation.
Woodland Amphibian Breeding Habitat	No	No suitable ponds or wetlands adjacent to woodlands to support woodland amphibian breeding habitat.
Wetland Amphibian Breeding Habitat	No	No suitable wetland habitat has been identified on-site to support wetland amphibian breeding habitat.
Woodland Area-Sensitive Bird Breeding Habitat	No	Forest communities on-site are not of adequate size to support woodland area-sensitive bird breeding habitat.

TABLE C.5
SCREENING RATIONALE FOR SPECIALIZED WILDLIFE HABITATS

General Habitats of Species of Conservation Concern	Further Considered in EIS	Rationale
Marsh Breeding Bird Habitat	No	No suitable wetlands have been identified on-site or adjacent to site to support marsh breeding bird habitat.
Open Country Breeding Bird Habitat	No	Due to recent (< 5 years) agricultural disturbance, the meadow habitat on-site does not meet defining use criteria for open country breeding bird habitat.
Shrub/Early Successional Breeding Bird Habitat	No	Candidate early successional breeding bird habitat typically includes fallow fields transitioning to early successional forest habitats that are > 10 ha but have not been actively used for farming. The cultural thickets on-site are not considered SWH due to recent (< 5 years) agricultural disturbances.
Terrestrial Crayfish Habitat	No	Terrestrial crayfish are only found within southwestern Ontario (MNRF, 2012).
Special Concern and Rare Wildlife Species	No	Observation data from the NHIC does not indicate any rare or special concern wildlife species have been observed on-site or within the broader study area. No special concern species or rare wildlife were observed during the site investigations.

TABLE C.6
SCREENING RATIONALE FOR ANIMAL MOVEMENT CORRIDORS

Animal Movement Corridor	Further Considered in EIS	Rationale
Amphibian Movement Corridor	No	Amphibian movement corridors must be determined when amphibian breeding habitat is confirmed as SWH for wetland amphibian breeding habitat. Wetland amphibian breeding habitat is not present on-site. As such there are no amphibian movement corridors are not present.
Deer Movement Corridor	No	No deer wintering habitat has been identified on-site, and deer movement corridors have not been identified on county official plans.

TABLE C.7
SCREENING RATIONALE FOR POTENTIAL SPEICES AT RISK ON-SITE OR WITHIN STUDY AREA

Species	ESA Status	SARA Status	Regional Distribution	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Avian						
Bald Eagle	Special Concern	Not Currently Listed	Confirmed nest at Shirley's bay since 2012.	Nest in mature forests near open water	Low	Site lacks suitable forest habitat adjacent to open water and foraging area to support Bald Eagle activity
Bank Swallow	Threatened	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.	Moderate	Potentially suitable nesting habitat located along the Ottawa River valleyland. Preferred foraging field habitat is not located on-site.
Barn Swallow	Threatened	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	Potentially suitable nesting habitat/structures located within study area however, preferred foraging habitat is not present on-site. Barn swallow are less common in highly urban areas.
Bobolink	Threatened	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, low tolerance for woody vegetation.	Low	No suitable tall grass habitat on-site or adjacent to site to support Bobolink. Bobolink detected during site investigations on adjacent lands
Canada Warbler	Special Concern	Threatened	1 confirmed, 2 probable, 6 possible nests during recent OBBA. No critical habitat identified in Ottawa region.	Prefers wet forests with dense shrub layers.	Low	Preferred forest habitat is not present on-site.
Cerulean Warbler	Threatened	Endangered	No nests reported during recent OBBA. SARO and SARA range maps both include parts of Ottawa.	Prefers mature deciduous forests.	Low	Preferred forest habitat is not present on-site.
Chimney Swift	Threatened	Threatened	3 confirmed, 2 probable and 11 possible nests in recent OBBA. No critical habitat identified in Ottawa.	Nests in traditional-style open brick chimneys.	Moderate	No suitable on-site nesting structures however surrounding buildings may provide suitable open-brick chimneys for nesting and subject property may provide suitable foraging habitat. Species was not detected foraging on-site or adjacent to site during the site investigation. Species was not observed to be nesting on-site during the site investigation.
Common Nighthawk	Special Concern	Threatened	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 gravel rooftops.	Low	Suitable habitat does not occur on-site.
Eastern Meadowlark	Threatened	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	No suitable tall grass habitat on-site or adjacent to site to support Bobolink. Bobolink detected during site investigations on adjacent lands
Eastern Whip-poor-will	Threatened	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.
Eastern Wood-Pewee	Special Concern	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 occurs on-site or within study area.
Golden Eagle	Endangered	Not Currently Listed	Migrant only in the Ottawa area.	Nests on remote, bedrock cliffs overlooking large burns, lakes or tundra.	Low	Suitable nesting habitat does not occur on-site.
Golden-winged Warbler	Special Concern	Threatened	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	Site is unlikely to provide suitable habitat for golden-winged warblers due to the lack of successional scrub habitat.
Grasshopper Sparrow	Special Concern	Special Concern	4 confirmed, 5 probable, 2 possible nests in recent OBBA	Area-sensitive grassland species, nests on ground	Low	No suitable grassland habitat to support grasshopper sparrow nesting on-site.
Evening Grosbeak	Special Concern	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	No suitable woodland habitat occurs on-site or within study area.
Henslow's Sparrow	Endangered	Endangered	No nests in recent OBBA	Prefers open, moist tallgrass fields.	Low	No suitable grassland habitat to support Henslow's sparrow nesting on-site.
Loggerhead Shrike	Endangered	Endangered	1 possible nest in recent OBBA. Critical habitat in Montague Township, however no confirmed nests from MNRF since 2002, and the MNRF do not consider Ottawa to include any significant habitat	Prefers grazed pastures with short grass and scattered shrubs, especially hawthorn.	Low	Preferred pasture habitat and shrub vegetation does not occur on-site.
Olive-sided Flycatcher	Special Concern	Threatened	1 probable, 1 possible nest in recent OBBA.	Forest edge species, forages in open areas from high vantage points in trees.	Low	No suitable forest habitat or open foraging habitat available on-site.
Peregrine Falcon	Special Concern	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 anthropogenic structures such as tall buildings, bridges and smokestacks	Moderate	While the site lacks suitable nesting structure for peregrine falcon, it may support foraging habitat for Peregrine Falcon confirmed to be nesting in the downtown area.
Red Knot	Endangered	Endangered	Migrant only, Ottawa River shores, area lagoons, etc.	Nests in the far north, shorelines and lagoons of the Ottawa River	Moderate	No suitable habitat on-site, the adjacent Ottawa River may provide suitable habitat for migratory Red Knot.
Red-headed Woodpecker	Special Concern	Threatened	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 woodland habitat occurs on-site or within study area.
Rusty Blackbird	Special Concern	Special Concern	No nests in recent OBBA, primarily observed during migration	Wet wooded or shrubby areas (nests at edges of Boreal wetlands)	Low	No suitable woodland or shrubby habitat occurs on-site or within study area.
Short-eared Owl	Special Concern	Special Concern	1 confirmed, 2 probable, 2 possible nests in recent OBBA.	Ground nester, prefers open habitats: fields and marshes	Low	No suitable open field or open marsh habitat on-site.
Wood Thrush	Special Concern	Threatened	5 possible, 15 probable, and 16 confirmed nests in recent OBBA for Ottawa area.	Prefers deciduous or mixed woodlands.	Low	No suitable woodland habitat occurs on-site or within study area.
Mammalian						
Eastern small-footed Myotis	Endangered	Not Currently Listed	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. Available habitat on-site does not meet bat maternity colony requirements however the site and surrounding area may provide foraging and non-maternal roost habitat.

TABLE C.7
SCREENING RATIONALE FOR POTENTIAL SPEICES AT RISK ON-SITE OR WITHIN STUDY AREA

Little Brown Myotis	Endangered	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. Available habitat on-site does not meet bat maternity colony requirements however the site and surrounding area may provide foraging and non-maternal roost habitat.
Northern myotis (Northern Long-eared Bat)	Endangered	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 towards roosting in Boreal forest habitat, which is not present on-site. Preference for anthropogenic structures is low.
Tri-colored Bat	Endangered	Endangered	Provincially Uncommon, only 26 documented occurrences in Ontario from pre-1980 to present (MNRF, 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. Available habitat on-site does not meet bat maternity colony requirements however the site and surrounding area may provide foraging and non-maternal roost habitat.
Amphibian						
Western Chorus Frog	Not Listed	Threatened	Scattered throughout the western half of the city. Critical habitat identified in several atlas squares in western Ottawa.	Requires vernal pools for breeding.	Low	No vernal pooling habitat present on-site or within study area to provide breeding habitat for Western Chorus Frogs.
Reptilian						
Blanding's Turtle	Threatened	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 city. Critical habitat present in Ottawa.	Inhabits quiet lakes, stream and wetland with abundant emergent vegetation. Frequently occurs in adjacent upland forests.	Low	No historic occurrence data for species on NHIC database on-site. No critical habitat has been identified on-site.
Eastern Musk Turtle	Special Concern	Special Concern	Scattered occurrence throughout Ottawa region.	Secretive wetland species, highly aquatic.	Low	No historic data for species on NHIC, ORAA data observation data for surrounding area (>10 km). Suitable habitat for Eastern Musk Turtle (i.e. wetlands) has not been identified on-site.
Northern Map Turtle	Special Concern	Special Concern	Various locations throughout Ottawa and region, including Ottawa River, Rideau River (Burrit's Rapids) and South Nation River	Highly aquatic, found only in lakes and large rivers.	Moderate	No historic data for species on NHIC, ORAA data includes observations within the surrounding area (<10 km). Suitable habitat for Northern Map Turtle present in adjacent Ottawa River.
Snapping Turtle	Special Concern	Special Concern	Widespread and abundant throughout Ottawa and surrounding region.	Highly aquatic species, found in a variety of permanent ponds, lakes, marshes and rivers.	Low	No historic occurrence data for species on NHIC. No critical habitat has been identified on-site.
Spiny Softshell Turtle	Endangered	Threatened	Few historical records along Ottawa River, outside of Ottawa. No critical habitat identified in Ottawa.	Highly aquatic species, found in shallow, slow-moving areas over sandy substrates.	Low	Observation records are dated and species is believed to be extirpated from eastern Ontario.
Fish						
American Eel	Endangered	Not Currently Listed	Variety of rivers in Ottawa region, including Ottawa, Mississippi, Carp (including poole Creek), South Nation and Rideau Rivers (including Rideau Canal).	Primarily nocturnal, hides in soft substrates or submerged vegetation during the day.	Moderate	Suitable habitat does not occur on-site, adjacent Ottawa River may provide suitable American Eel habitat. Species was identified as occurring in the area on the DFO SAR maps.
Chanel Darter	Special Concern	Special Concern	Ottawa River	Prefers areas with moderate current over sandy or rocky substrate.	Moderate	Suitable habitat does not occur on-site, adjacent Ottawa River may provide suitable Chanel Darter habitat. Species was identified as occurring in the area on the DFO SAR maps.
Lake Sturgeon	Endangered	Not Currently Listed	Ottawa River	Found in large lakes and rivers, forages in cool water, 4-9 m deep over soft substrates. Spawns in shallower, fast-flowing areas over rocks or gravel.	Moderate	Suitable habitat does not occur on-site, adjacent Ottawa River may provide suitable Lake Sturgeon habitat. Species was identified as occurring in the area on the DFO SAR maps.
Northern Brook Lamprey	Special Concern	Special Concern	Ottawa River	Prefers shallow areas with war water. Larvae burrow into soft substrate.	Moderate	Suitable habitat does not occur on-site, adjacent Ottawa River may provide suitable Northern Brook Lamprey habitat. Species was identified as occurring in the area on the DFO SAR maps.
River Redhorse	Special Concern	Special Concern	Ottawa and Mississippi Rivers. Unconfirmed reports in Rideau River.	Prefers fast-flowing, clear rivers over rocky substrate.	Moderate	Suitable habitat does not occur on-site, adjacent Ottawa River may provide suitable River Redhorse habitat. Species was identified as occurring in the area on the DFO SAR maps.
Silver Lamprey	Special Concern	Special Concern	Ottawa River, and mouths of tributaries from Rideau Canal east	Larvae prefer soft substrates for burrowing.	Moderate	Suitable habitat does not occur on-site, adjacent Ottawa River may provide suitable Silver Lamprey habitat. Species was identified as occurring in the area on the DFO SAR maps.
Molluscs						
Hickorynut	Endangered	Endangered	Ottawa River	Lives in sandy bottomed large rivers, in deep (> 2 m) flowing water.	Moderate	Suitable habitat does not occur on-site, adjacent Ottawa River may provide suitable Hickorynut habitat. Species was identified as occurring in the area on the DFO SAR maps.
Plants						
Butternut	Endangered	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.	Low	Majority of the site is open canopy, and in a regenerative state. No butternut were observed on-site during the site investigations.
Lichens						
Black-foam Lichen	Data Deficient	Threatened	Historic occurrences only. No known recent occurrences.	Grows on the trunks of mature deciduous trees where high humidity is supplied by nearby wetlands, lakes or streams. The most common host is red maple, but may also occur on white ash, sugar maple, red oak, and very occasionally on other species.	Low	Species believed to be extirpated from the Ottawa area.

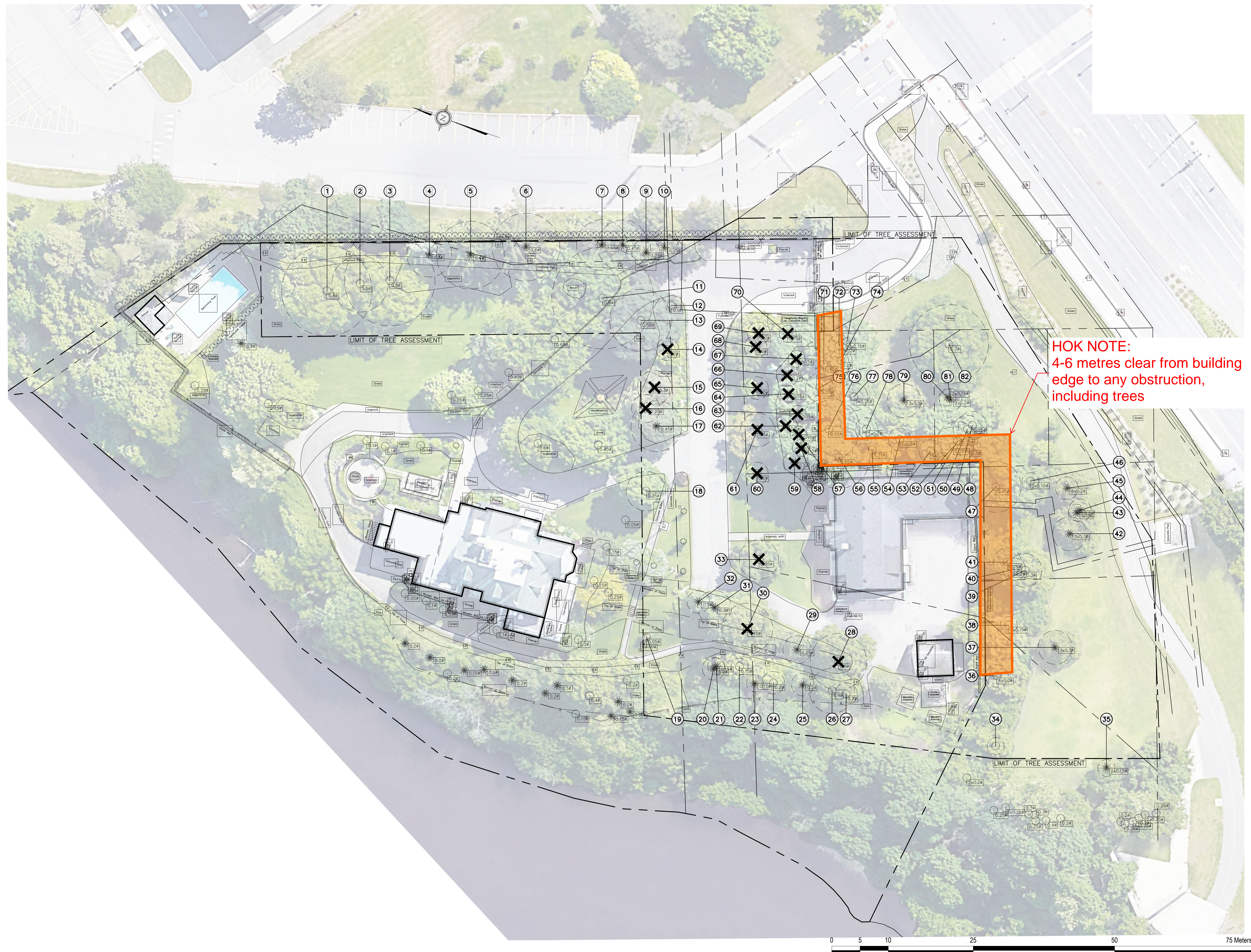
TABLE C.7
SCREENING RATIONALE FOR POTENTIAL SPEICES AT RISK ON-SITE OR WITHIN STUDY AREA

Pale-bellied Frost Lichen	Endangered	Endangered	Historical records in downtown , however locally extirpated. No critical or regulated habitat identified in Ottawa	Historical records in downtown area (extirpated locally). No critical or regulated habitat identified in Ottawa.	Low	Species believed to be extirpated from the Ottawa area.
Insects						
Bogbean Buckmoth	Endangered	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	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	Special Concern	Widespread in the Ottawa area	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 vegetation available for Monarch on-site.
Mottled Duskywing	Endangered	Not Currently Listed	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	Not Currently Listed	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	Endangered	Historic records in Ottawa and Gatineau	Habitat generalist	Low	Currently the only known population is in Pinery Provincial Park
Traverse Lady Beetle	Endangered	Special Concern	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	Not Currently Listed	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	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 vegetation available for Yellow-banded Bumble Bee on-site.



APPENDIX D

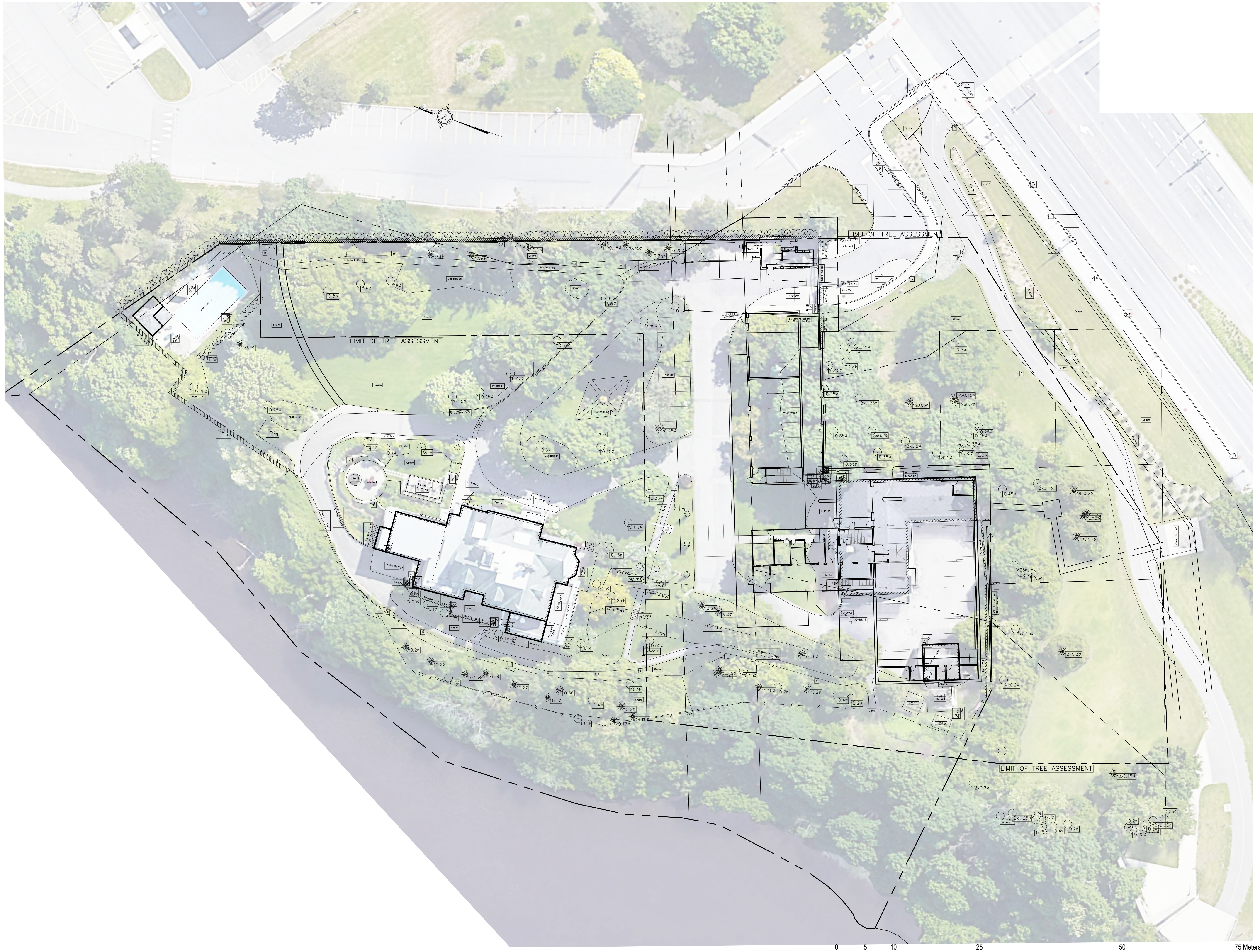
CSW Tree Conservation Report



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Project Number: 2042-01	Sheet Number: TCR 01
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Key Plan

LEGEND:

BUILDING/STRUCTURE

HARD/IMPERMEABLE SURFACE

PROPOSED DECIDUOUS TREE

PROPOSED CONIFEROUS TREE

TREE PROTECTION

No.

1

DRAFT

Revision

08 AUG, 2019

Date

North:

Stamp:

CSW

Landscape Architecture

Urban Design

Site Planning

Recreation and Park Planning

Project Management

319 McRae Avenue, Suite 502, Ottawa, Ontario, K1Z 0B9

Tel: (613) 729-4536

1. All measurements in millimeters unless specified otherwise. Do not scale drawing. All drawings to be read in conjunction with written specifications.

2. Copyright reserved. This drawing is the exclusive property of CSW Landscape Architects Ltd. and shall not be used without the consent thereof.

3. This Drawing may not be used for construction until signed by the landscape architect. It is the responsibility of the contractor to:

- check and verify all dimensions on site;
- report all errors and/or omissions to the landscape architect;
- comply with all pertinent codes and by-laws;
- check and verify locations of all underground services with all local utilities prior to any digging.

Project:

BRITISH

HIGH COMMISSION

OTTAWA., ONTARIO

Drawing:

TREE CONSERVATION

REPORT

Scale:

1:300

Date:

2019 07 11

Design By:

SM

Drawn By:

JA

Project Number:

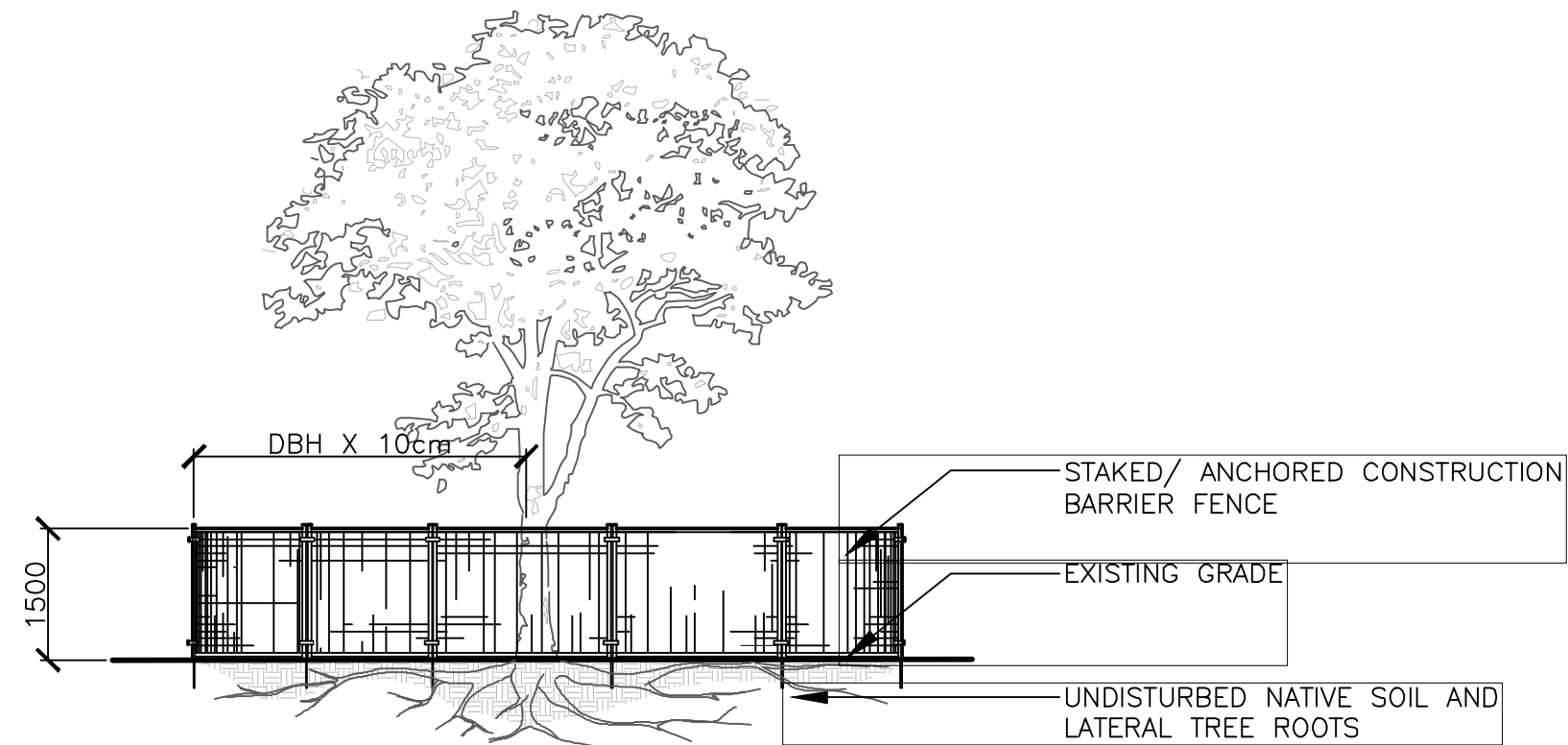
2042-01

Sheet Number:

TCR 02

Tree #	Botanical Name	Common Name	Caliper (cm)	Condition	High Quality Tree	Rare Tree	Comments	Disposition
1	Acer saccharinum	Silver Maple	80	Good	YES	NO	Privately owned, Symmetrical canopy, Single stem, Co-dominant leaders: 4 @ ~2m above grade	
2	Tilia cordata	Little Leaf Linden	50	Good	NO	NO	Privately owned, Asymmetrical canopy, Single stem, Co-dominant leaders: 2 @ ~2m above grade	
3	Catalpa speciosa	Northern Catalpa	80	Moderate	NO	NO	Privately owned, Aerial bracing, Asymmetrical canopy, Die-back ~5%, Minor pruning, Multi stem: 2, Heart rot @ trunk & crotches, Leaning	
4	Picea pungens	Colorado Spruce	40	Moderate	NO	NO	Privately owned, Symmetrical canopy, Die-back ~20%, Pruned @ lower limbs, Single stem	
5	Picea glauca	White Spruce	60	Good	NO	NO	Privately owned, Symmetrical canopy, Die-back ~10%, Single stem	
6	Picea glauca	White Spruce	60	Good	NO	NO	Privately owned, Symmetrical canopy, Single stem	
7	Pinus sylvestris	Scots Pine	45	Good	NO	NO	Privately owned, Symmetrical canopy, Minor pruning, Single stem	
8	Pinus sylvestris	Scots Pine	45	Good	NO	NO	Privately owned, Symmetrical canopy, Minor pruning, Single stem	
9	Pinus resinosa	Red pine	25	Good	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~5%, Pruned @ north side, Single stem	
10	Picea glauca	White Spruce	25	Good	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~20%, Single stem	
11	Acer saccarum	Sugar Maple	80	Moderate	NO	NO	Privately owned, Symmetrical canopy, Pruned, Single stem, Heart rot @ crotches & cavities	
12	Cotinus sp.	Smoke Bush	10	Good	NO	NO	Privately owned, Asymmetrical canopy, Pruned, Single stem	
13	Acer platanoides	Norway Maple	51	Good	NO	NO	Privately owned, Symmetrical canopy, Minor pruning, Single stem	
14	Acer rubrum	Red Maple	20	Good	NO	NO	Privately owned, Asymmetrical canopy, Single stem	REMOVE
15	Pinus strobus	White Pine	30	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~50%, Pruned @ lower limbs, Single stem	REMOVE
16	Pinus strobus	White Pine	25	Moderate	NO	NO	Privately owned, Symmetrical canopy, Die-back ~50%, Pruned @ lower limbs, Single stem	REMOVE
17	Pinus strobus	White Pine	45	Good	NO	NO	Privately owned, Symmetrical canopy, Die-back ~20%, Minor pruning, Single stem, Co-dominant leaders: 2 @ ~3m above grade, Christmas lights.	
18	Acer saccarum	Sugar Maple	35	Good	NO	NO	Privately owned, Symmetrical canopy, Single stem	
19	Cercidiphyllum japonicum	Katsura tree	5	Good	NO	NO	Privately owned, Symmetrical canopy, Single stem	
20	Thuja occidentalis 'nigra'	Black Cedar	20	Good	NO	NO	Privately owned, Symmetrical canipny, Single stem	
21	Thuja occidentalis 'nigra'	Black Cedar	15	Good	NO	NO	Privately owned, Symmetrical canopy, Single stem	
22				Dead	NO	NO		
23	Pinus strobus	White pine	15	Good	NO	NO	Privately owned, Asymmetrical canopy, Single stem	
24	Quercus rubra	Red Oak	20	Moderate	NO	NO	Privately owned, Symmetrical canopy, single stem	
25	Pinus strobus	White pine	20	Good	NO	NO	Privately owned, symmetrical canopy, Single stem	
26	Betula papyrifera	Paper Birch	40	Good	NO	NO	Privately owned, Symmetrical canopy, Multi stem: 3	
27	Quercus rubra	Red Oak	20	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~20%, Single stem	
28	Tilia cordata	Little Leaf Linden	50	Good	NO	NO	Privately owned, Symmetrical canopy, Minor pruning, Single stem	REMOVE
29	Pinus resinosa	Red pine	25	Good	NO	NO	Privately owned, Symmetrical canopy,	
30	Tilia cordata	Little Leaf Linden	45	Good	NO	NO	Privately owned, Symmetrical canopy, Pruned, Single stem	REMOVE
31	Picea glauca	White Spruce	30	Good	NO	NO	Privately owned, Symmetrical canopy, Single stem	
32	Picea glauca	White Spruce	20	Good	NO	NO	Privately owned, Symmetrical canopy,	
33	Malus rosaceae	Crabapple	35	Good	NO	NO	Privately owned, Symmetrical canopy, single stem	
34	Acer negundo	Manitoba Maple	20	Moderate	NO	NO	NCC owned, Symmetrical canopy, Single stem	
35					NO	NO	Outside area of anticipated impact	
36	Acer ginnala	Amur Maple	4 @ 20	Good	NO	NO	NCC owned, Symmetrical canopy, Multi stem: 4	
37	Thuja occidentalis 'nigra'	Black Cedar	3 @ 30	Moderate	NO	NO	NCC owned, Symmetrical canopy, Multi stem: 3, Mixed with vine & buckthorn	
38	Acer negundo	Manitoba Maple	30	Moderate	NO	NO	NCC owned, Symmetrical canopy, single stem	
39	Acer negundo	Manitoba Maple	30	Moderate	NO	NO	NCC owned, Symmetrical canopy, Single stem	
40	Acer platanoides	Norway Maple	20	Good	NO	NO	NCC owned, Symmetrical canopy, single stem	
41	Acer negundo	Manitoba maple	25	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
42	Thuja occidentalis 'nigra'	Black Cedar	3 @ 30	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Multi stem: 3, Overgrown with Manitoba maple, Lilac, Mulberry, and Buckthorn	
43	Thuja occidentalis 'nigra'	Black Cedar	15	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Multi stem: 3, Overgrown with Manitoba maple, Lilac, Mulberry, and Buckthorn	
44	Thuja occidentalis 'nigra'	Black Cedar	20	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Multi stem: 3, Overgrown with Manitoba maple, Lilac, Mulberry, and Buckthorn	
45	Acer ginnala	Amur Maple	6 @ 20	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Die-back ~25%, Multi stem: 6, Bark rot @ trunk & limbs, Leaning	
46	Acer negundo	Manitoba Maple	3 @ 15	Moderate	NO	NO	NCC owned, Symmetrical canopy, Multi stem: 3	
47	Acer platanoides	Norway Maple	45	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
48	Acer platanoides	Norway Maple	20	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
49	Acer platanoides	Norway Maple	20	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
50	Acer platanoides	Norway Maple	20	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
51	Acer platanoides	Norway Maple	35	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
52	Acer platanoides	Norway Maple	35	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
53	Syringa vulgaris	Common Lilac	4 @ 20	Moderate	NO	NO	NCC owned	
54	Syringa vulgaris	Common Lilac	3 @ 20	Moderate	NO	NO	NCC owned	
55	Acer negundo	Manitoba Maple	35	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Die-back ~20%, Single stem, Bark rot @ trunk & root floor	
56	Acer platanoides	Norway Maple	55	Good	NO	NO	NCC owned, Symmetrical canopy, Minor pruning, Single stem, Co-dominant leaders: 2 @ ~8m above grade	
57	Picea glauca	White Spruce	15	Moderate	NO	NO	Privately owned, Symmetrical canopy,	REMOVE
58	Picea glauca	White Spruce	15	Moderate	NO	NO	Privately owned, Symmetrical canopy,	REMOVE
59	Picea glauca	White Spruce	20	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~3%, Single stem	REMOVE
60	Syringa reticulata	Japanese Lilac Tree	20	Good	NO	NO	Privately owned, Symmetrical canopy, Single stem	REMOVE
61	Malus rosaceae	Crabapple	30	Poor	NO	NO	Privately owned, Asymmetrical canopy, Single stem, Heart rot @ trunk & cavities	REMOVE
62	Picea glauca	White Spruce	20	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~20%, Single stem, Hazard Tree	REMOVE
63	Picea glauca	White Spruce	15	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~20%, Single stem, Hazard Tree	REMOVE
64	Picea glauca	White Spruce	15	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~20%, Single stem, Hazard Tree	REMOVE
65	Syringa reticulata	Japanese Lilac Tree	20	Good	NO	NO	Privately owned, Symmetrical canopy, Single stem	REMOVE

Tree #	Botanical Name	Common Name	Caliper (cm)	Condition	High Quality Tree	Rare Tree	Comments	Disposition
66	Picea pungens	Colorado Spruce	20	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~20%, Single stem	REMOVE
67	Picea glauca	White Spruce	15	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~15%, Single stem	REMOVE
68	Malus rosaceae	Crabapple	35	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~10%, Pruned, Single stem	REMOVE
69	Acer rubrum	Red Maple	20	Good	NO	NO	Privately owned, Asymmetrical canopy, Single stem	REMOVE
70	Acer rubrum	Red Maple	15	Moderate	NO	NO	Privately owned, Asymmetrical canopy, Die-back ~20%, Single stem, Bark rot @ trunk, Commemorative tree with plaque at base	REMOVE
71	Acer platanoides	Norway Maple	45	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
72	Acer platanoides	Norway Maple	2 @ 20	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Multi stem: 2, Leaning	
73	Syringa vulgaris	Lilac	3 @ 15	Moderate	NO	NO	NCC owned	
74	Acer platanoides	Norway Maple	20	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Single stem	
75	Acer platanoides	Norway Maple	25	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Single stem, Leaning	
76	Acer platanoides	Norway Maple	55	Good	NO	NO	NCC owned, Symmetrical canopy, Poor branch angle, Single stem, Co-dominant leaders: 3 @ ~3m above grade, Aerial bracing recommended	
77	Syringa vulgaris	Common Lilac	2 @ 25	Good	NO	NO	NCC owned	
78	Syringa vulgaris	Common Lilac	3 @ 20	Moderate	NO	NO	NCC owned	
79	Thuja occidentalis 'nigra'	Black Cedar	3 @ 30	Good	NO	NO	NCC owned, Symmetrical canopy, Single stem	
80	Thuja occidentalis 'nigra'	Black Cedar	2 @ 15	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Multi stem: 2, Leaning	
81	Thuja occidentalis 'nigra'	Black Cedar	2 @ 20	Moderate	NO	NO	NCC owned, Asymmetrical canopy, Multi stem: 2, Leaning	
82	Quercus rubra	Red Oak	70	Good	YES	NO	NCC owned, Symmetrical canopy, Die-back ~ 10%, Single stem	



NOTES:

THE FOLLOWING PROTECTION MEASURES MUST BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF CONSTRUCTION ON SITE.

1. UNDER THE GUIDANCE OF AN ARBORIST, ERECT A FENCE AT THE CRITICAL ROOT ZONE(CRZ) OF TREES WHERE THE CRZ IS ESTABLISHED AS BEING 10 CENTIMETERS FROM THE TRUNK FOR EVERY CENTIMETER OF TRUNK DIAMETER AT BREAST HEIGHT. THE CRZ IS CALCULATED AS DBH X 10cm.
2. DO NOT PLACE ANY MATERIAL OR EQUIPMENT WITHIN THE CRZ OF THE TREE
3. DO NOT ATTACH ANY SIGNS NOTICES OR POSTERS TO ANY TREE
4. DO NOT RAISE OR LOWER THE GRADE WITHIN THE CRZ WITHOUT APPROVAL
5. TUNNEL OR BORE WHEN DIGGING WITHIN THE CRZ OF A TREE
6. DO NOT DAMAGE THE ROOT SYSTEM, TRUNK, OR BRANCHES OR ANY TREE
7. ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARDS ANY TREE CANOPY

TREE PROTECTION

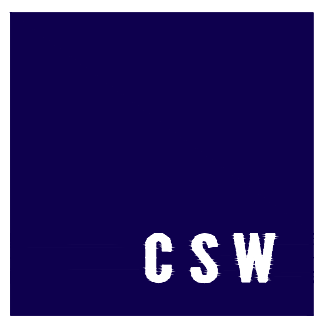
NTS

Key Plan

1	DRAFT	08 AUG, 2019
No.	Revision	Date

North:

Stamp:



Landscape Architecture
Urban Design
Site Planning
Recreation and Park Planning
Project Management

319 McRae Avenue, Suite 502, Ottawa, Ontario, K1Z 0B9
Tel: (613) 729-4536

1. All measurements in millimeters unless specified otherwise.
Do not scale drawing. All drawings to be read in conjunction with written specifications.
2. Copyright reserved. This drawing is the exclusive property of CSW Landscape Architects Ltd. and shall not be used without the consent thereof.
3. This Drawing may not be used for construction until signed by the landscape architect. It is the responsibility of the contractor to:
 - check and verify all dimensions on site;
 - report all errors and/or omissions to the landscape architect;
 - comply with all pertinent codes and by-laws;
 - check and verify locations of all underground services with all local utilities prior to any digging.

Project:

**BRITISH
HIGH COMMISSION**

OTTAWA., ONTARIO

Drawing:

**TREE CONSERVATION
REPORT**

Scale:
[AS NOTED]

Date:
[2019 07 11]

Design By:
[SM]

Drawn By:
[JA]

Project Number:
[2042-01]

Sheet Number:
TCR 03

XXXX-XXXX-XXXX



APPENDIX E

CVs for Key Personnel

Drew Paulusse, B.Sc.

Senior Biologist / Manager of Environmental Services

Mr. Paulusse has over 12 years of experience in the environmental consulting industry, providing private industry and municipal and federal government clients with cost effective solutions to manage environmental constraints associated with land development proposals and infrastructure projects. Mr. Paulusse's expertise, as it relates to land development proposals and infrastructure projects is field assessment and regulatory permitting associated with species at risk, fish habitat and wetlands.

Education

- B.Sc., Biology, Trent University, 2007
- Environmental Technician, Fleming College, 2004

Professional Experience

2018-date	GEMTEC Consulting Engineers and Scientists Limited <i>Manager of Environmental Services</i>	Ottawa, Ontario
2011-2018	Geofirma Engineering Limited <i>Senior Biologist</i>	Ottawa, Ontario
2007-2011	INTERA Engineering Limited <i>Biologist</i>	Ottawa, Ontario
2007	Canadian Wildlife Service, Environment Canada <i>Wetland Conservation Officer</i>	Burlington, Ontario
2005	Centre for Inland Waters, Environment Canada <i>Junior Marine Technologist</i>	Burlington, Ontario

Professional Affiliations and Technical Training

- Canadian Society of Environmental Biologists
- Ontario Association for Impact Assessment
- MTO/DFO/MNRF Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings. Ministry of Transportation. 2018
- Ontario Wetland Evaluation System Certification Course. Ministry of Natural Resources and Forestry. 2017
- Headwater Drainage Feature Assessment Training Course. Rideau Valley Conservation Authority. 2017





GEMTEC

- Ecological Land Classification System Certification Course. Ministry of Natural Resources and Forestry. 2015
- Ontario Benthic Biomonitoring Network Certification Course. Ministry of Environment, Conservation and Parks. 2011

Project Highlights

- ***DFO Self-Assessment and Preparation of Tender Special Provisions, Osceola Culvert Replacement, County of Renfrew, Ontario (2019):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat and species at risk, and completion of a DFO self-assessment. Work included aquatic habitat assessments, pathway of effects evaluation, culvert design recommendations and reporting.
- ***Biological Inventory, Ontario Power Generation Incorporated, Bath, Ontario (2018):*** Project manager and technical lead responsible for conducting a three-season inventory of avian and amphibian species at the Lennox Provincially Significant Wetland. Work included conducting presence and abundance surveys following the Canadian Wildlife Service marsh monitoring protocol and Bird Studies Canada breeding bird surveys, statistical analysis of species data trends and reporting.
- ***Wetland Management Plan, Ontario Power Generation Incorporated, Bath, Ontario (2018):*** Project manager and technical lead responsible for the development of an adaptive wetland management plan for the Lennox Provincially Significant Wetland. Work included a synthesis of historical data, statistical analysis of data trends, vegetation assessment, air photo interpretation, development of short-term and long-term management objectives and development of a standardized monitoring program.
- ***Environmental Compliance Monitoring, Petrie Island Causeway Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Causeway Rehabilitation Project within the Ottawa River. Work included species at risk surveys, fish salvage, exclusion fence inspection, monitoring of sediment and erosion control measures, turbidity monitoring, regulatory agency consultation and weekly reporting.
- ***Wetland Delineation and Wetland Function Assessment, National Capital Commission, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for the delineation of wetland pockets within the LeBreton Flats Redevelopment Area and the assessment of wetland function for the purpose of evaluating compensation requirements. Work was completed following both the federal and provincial wetland evaluation frameworks.





- ***Environmental Impact Statement, Code Drive Development, Smiths Falls, Ontario (2018):*** Project manager and technical lead responsible for the completion of an Environmental Impact Statement in support of a severance application for the creation of eight residential lots within a significant woodland and adjacent to a large local wetland. Work included targeted surveys for species at risk, breeding amphibians and marsh birds, impact assessment, development of lot-specific mitigation measures and agency consultations.
- ***Tree Conservation Report, Royal LePage Team Realty, Ottawa, Ontario (2018):*** Mr. Paulusse completed an inventory of all trees located on an urban commercial lot for the purpose of identify significant retainable trees and trees in conflict with the proposed site redevelopment. Work included, site inventory, tree removal permit preparation and reporting.
- ***Environmental Compliance Monitoring, Airport Parkway Culvert Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with Ministry of Natural Resources and Conservation Authority permit conditions. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures and weekly reporting.
- ***Tier I and II Natural Environment Report, Crain's Construction, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for completing an inventory of site flora and fauna, completion of species at risk surveys, regulatory agency consultation, impact assessment and reporting.
- ***Species at Risk Assessment, National Capital Commission, Gatineau, Quebec (2018):*** Project manager responsible for the completion of avian species at risk surveys to determine the presence or absence of chimney swift and barn swallows at a contaminated site. Work was undertaken to support an Ecological Risk Assessment.
- ***Fish Habitat Assessment, Various Culvert Replacements, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat at three culvert crossings in rural Ottawa. Work included aquatic habitat assessments, pathway of effects evaluation, culvert design recommendations and reporting.
- ***Environment Effects Evaluation Assessment, Britannia Wall Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for completing a comprehensive tree inventory, wetland boundary delineation, significant wildlife habitat assessment and evaluation of effects associated with the rehabilitation of the Britannia Wall, a 600-metre-long community flood protection structure.
- ***Environmental Compliance Monitoring, Petrie Island Beach Head Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island





Beach Head Rehabilitation Project within the Ottawa River. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures, and reporting.

- ***Provincially Significant Wetland Boundary Evaluation and Mitigation Plan, Town and County Chrysler, Smiths Falls, Ontario (2018):*** Project manager and technical lead responsible for revising the wetland boundary associated with a provincially significant wetland and development of a mitigation plan to enable the redevelopment of an adjacent commercial lot. Work included wetland vegetation delineation, regulatory technical document submissions, agency consultations, mitigation measure development and reporting.
- ***Environmental Impact Statement and Headwater Drainage Feature Assessment, Swank Construction Limited, Morrisburg, Ontario (2017-2018):*** Project manager and technical lead responsible for the completion of an Environmental Impact Statement with Headwater Drainage Feature Assessment for a 100-lot residential subdivision. Work included ecological land classification, breeding bird surveys, impact assessment and a three season assessment of hydrological conditions and their contributions to downstream fish habitat.
- ***Natural Heritage Inventory and Environmental Impact Assessment, Combermere Lodge Limited, Barry's Bay, Ontario (2017-2018):*** Project manager and technical lead responsible for the completion of a Natural Heritage Inventory and Environmental Impact Assessment completed in support of a 54-lot condominium development located in an environmentally sensitive area. Work included wetland boundary delineation, identification of significant wildlife habitat, application of the significant wildlife habitat mitigation support tool, completion of a two-year survey of site flora and fauna, impact assessment and town hall presentations.
- ***Lake Capacity Assessment, Combermere Lodge Limited, Barry's Bay, Ontario (2017-2018):*** Project manager and technical lead responsible for the predictive assessment of septic effluent impacts relating to the operation of a 54-lot condominium development on three adjacent waterbodies. Work included limnological investigations over two seasons, application of the provincial lakeshore capacity model, hydrogeological investigations, mass flux analysis, mitigation measure development and reporting.
- ***Detailed Quantitative Ecological Risk Assessment, National Capital Commission, Gatineau, Quebec (2016 to 2018):*** Project manager and technical lead for the completion of a Detailed Quantitative Ecological Risk Assessment completed for a former landfill property located adjacent to the Ottawa River. Work included aquatic habitat assessment, benthic community characterization, species at risk surveys, terrestrial wildlife surveys and analysis of site-specific aquatic toxicity data.
- ***Environmental Compliance Monitoring, Carp Snow Dump, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for monitoring constructor compliance with a Ministry of Natural Resources overall benefit permit for blanding's turtle associated with the





construction of the Carp Snow Dump. Work included weekly exclusion fence inspection and weekly reporting to the contract administrator.

- ***Fish Habitat Assessment, Little Bark Bay Properties, Barry's Bay, Ontario (2017):*** Project manager and technical lead responsible for the identification and evaluation of significance of fish habitat within and adjacent to a proposed plan of subdivision. Work included aquatic habitat assessments, pathway of effects evaluation, application of the Department of Fisheries and Oceans self-assessment process and reporting.
- ***Species at Risk and Migratory Bird Screening Assessment, City of Ottawa, New Edinburg Park Redevelopment Project, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the completion of a species at risk and migratory bird screening assessment to assist in bid tender package preparation for the re-development of New Edinburg Park. Work included a general habitat assessment, a probability of occurrence assessment, follow-up pre-construction surveys and reporting.
- ***Fish Habitat Assessment, Highway 417 Culvert Replacement Project, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat at two culvert crossings Ottawa. Work included aquatic habitat assessments, pathway of effects evaluation, application of the Department of Fisheries and Oceans self-assessment process and reporting.
- ***Fish Habitat and Headwater Drainage Feature Assessment, Private Landowner, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the completion of a two-season hydrological assessment of on-site water courses and assessment of fish habitat. Work completed in support of a permit required to develop an unopened road allowance.
- ***Environmental Impact Statement and Wetland Boundary Assessment, Town and Country RV, Perth, Ontario (2016-2017):*** Project manager and technical lead responsible for delineation of a provincially significant wetland and impact assessment associated with the expansion of an existing commercial enterprise. Work included ecological land classification, identification of significant wildlife habitat, species at risk surveys, wetland vegetation assessment, impact assessment and development of site-specific mitigation measures.
- ***Environmental Impact Statement, Blueberry Creek Veterinary Clinic, Perth, Ontario (2016):*** Project manager and technical lead responsible for delineation of a provincially significant wetland and impact assessment associated with the development of a commercial lot. Work included ecological land classification, identification of significant wildlife habitat, species at risk surveys, wetland vegetation assessment, impact assessment and development of site-specific mitigation measures.



Taylor Warrington, B.Sc.

Junior Biologist

Ms. Warrington has 3 years of experience in the environmental consulting industry, providing private industry and municipal and federal government clients with cost effective solutions to manage environmental constraints associated with land development proposals and infrastructure projects.

Education

- B.Sc., Life Sciences, McMaster University, 2015
- Graduate Certificate, Ecosystem Restoration, Niagara College, 2016

Professional Experience

2019-date	GEMTEC Consulting Engineers and Scientists Limited <i>Junior Biologist</i>	Ottawa, Ontario
2017-2019	Geofirma Engineering Limited <i>Junior Biologist/Scientist</i>	Ottawa, Ontario
2016	Dillon Consulting <i>Junior Field Biologist</i>	Little Current, Ontario
2014	McMaster University <i>Laboratory-Research Assistant; URBAN Project Coordinator</i>	Hamilton, Ontario

Professional Affiliations and Technical Training

- Ontario Reptile and Amphibian Survey Course. Blazing Star Environmental, Natural Resource Solutions Inc., and Ontario Nature. 2018
- Ontario Benthic Biomonitoring Network Certification Course. Ministry of Environment, Conservation and Parks. 2016

Project Highlights

- **Surface Water Impact Assessment, Green Lake Development, Barry's Bay, Ontario (2019):** Biologist responsible for the completion of a surface water impact assessment supporting two residential lot severances. Work included a review of existing data on Green Lake, application of the provincial lakeshore capacity model, mitigation measure development and reporting.
- **Biological Inventory, Ontario Power Generation Incorporated, Bath, Ontario (2018):** Field Biologist responsible for conducting a three-season inventory of avian and amphibian species at the Lennox Provincially Significant Wetland. Work included conducting presence





and abundance surveys following the Canadian Wildlife Service marsh monitoring protocol and Bird Studies Canada breeding bird surveys, statistical analysis of species data trends and reporting.

- ***Environmental Compliance Monitoring, Petrie Island Causeway Rehabilitation Project, Ottawa, Ontario (2018):*** Field biologist responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Causeway Rehabilitation Project within the Ottawa River. Work included species at risk surveys, fish salvage, exclusion fence inspection, monitoring of sediment and erosion control measures, turbidity monitoring, regulatory agency consultation and weekly reporting.
- ***Environmental Impact Statement, Code Drive Development, Smiths Falls, Ontario (2018):*** Field Biologist responsible for the completion of an Environmental Impact Statement in support of a severance application for the creation of eight residential lots within a significant woodland and adjacent to a large local wetland. Work included targeted surveys for species at risk, breeding amphibians and marsh birds, impact assessment, development of lot-specific mitigation measures and agency consultations.
- ***Tier I and II Natural Environment Report, Crain's Construction, Ottawa, Ontario (2018):*** Field biologist responsible for completing an inventory of site flora and fauna, completion of species at risk surveys, regulatory agency consultation, impact assessment and reporting.
- ***Species at Risk Assessment, National Capital Commission, Gatineau, Quebec (2018):*** Field biologist responsible for the completion of avian species at risk surveys to determine the presence or absence of chimney swift and barn swallows at a contaminated site. Work was undertaken to support an Ecological Risk Assessment.
- ***Environment Effects Evaluation Assessment, Britannia Wall Rehabilitation Project, Ottawa, Ontario (2018):*** Field Biologist responsible for completing a comprehensive tree inventory, wetland boundary delineation, significant wildlife habitat assessment and evaluation of effects associated with the rehabilitation of the Britannia Wall, a 600-metre-long community flood protection structure.
- ***Environmental Compliance Monitoring, Petrie Island Beach Head Rehabilitation Project, Ottawa, Ontario (2018):*** Field biologist responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Beach Head Rehabilitation Project within the Ottawa River. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures, and reporting.

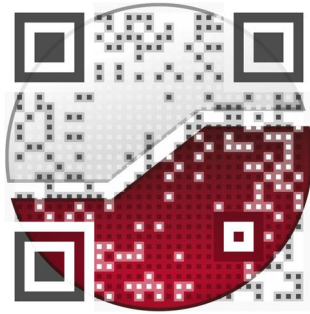




- ***Natural Heritage Inventory and Environmental Impact Assessment, Combermere Lodge Limited, Barry's Bay, Ontario (2017-2018):*** Field biologist responsible for the completion of a Natural Heritage Inventory and Environmental Impact Assessment completed in support of a 54-lot condominium development located in an environmentally sensitive area. Work included wetland boundary delineation, identification of significant wildlife habitat, application of the significant wildlife habitat mitigation support tool, completion of a two-year survey of site flora and fauna, and impact assessments.
- ***Detailed Quantitative Ecological Risk Assessment, National Capital Commission, Gatineau, Quebec (2017 to 2018):*** Field biologist for the completion of a Detailed Quantitative Ecological Risk Assessment completed for a former landfill property located adjacent to the Ottawa River. Work included aquatic habitat assessment, species at risk surveys, and terrestrial wildlife surveys.
- ***Environmental Compliance Monitoring, Carp Snow Dump, Ottawa, Ontario (2017):*** Field biologist responsible for monitoring constructor compliance with a Ministry of Natural Resources overall benefit permit for blanding's turtle associated with the construction of the Carp Snow Dump. Work included weekly exclusion fence inspection and weekly reporting to the contract administrator.
- ***Species at Risk and Migratory Bird Screening Assessment, City of Ottawa, New Edinburg Park Redevelopment Project, Ottawa, Ontario (2017):*** Field biologist responsible for the completion of a species at risk and migratory bird screening assessment to assist in bid tender package preparation for the re-development of New Edinburg Park. Work included a general habitat assessment, a probability of occurrence assessment, follow-up pre-construction surveys and reporting.
- ***Post-Construction Windfarm Monitoring for Wildlife Impacts, Little Current, Ontario (2016):*** Field biologist responsible for the completion of post-construction monitoring of a windfarm for avian and mammalian fatalities. Work included fatality surveys, vegetation surveys, and wildlife scavenger surveys.
- ***Long-term Changes in Ecosystem Health, Frenchman's Bay, Pickering, Ontario (2015):*** Field biologist responsible for evaluating the long-term changes in ecosystem health of Frenchman's Bay. Work included: data review, analysis of data trends, watershed and land-use mapping, digitization of wetland vegetation cover and analysis of changes over time, reporting and symposium presentation.



experience • knowledge • integrity



civil	civil
geotechnical	géotechnique
environmental	environnementale
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité

