# Environmental Impact Statement for 3856, 3866 and 3876 Navan Road, Navan, Ontario

FINAL REPORT

October 10, 2018

Prepared for:

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# Sign-off Sheet

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# 1.0 INTRODUCTION

Stantec Consulting Ltd. (Stantec) was retained by St. George and St. Anthony Coptic Orthodox Church to prepare an Environmental Impact Statement (EIS) in support of a Site Plan Control application for the proposed development area, now referred to as the "Subject Property", shown on **Figure 1, Appendix A** and described below.

This EIS is intended to identify the natural heritage features and functions, on and within 120 metres (m) of the Subject Property boundary, that may pose constraints to development, and to recommend appropriate measures to avoid and mitigate potential impacts and enhance the natural heritage features and associated functions, where possible.

## 1.1 STUDY AREA

The Study Area for this report generally includes the area bounded by Navan Road to the north, residential properties to the west, and rural countryside to the east and south. The Study Area is located at 3856, 3866 and 3876 Navan Road, Concession 11, Lot 7 within the City of Ottawa (**Figure 1, Appendix A**). For the purposes of this report, the Study Area includes the Subject Property and the 120 m area beyond the Subject Property boundary (**Figure 1, Appendix A**).

According to the City of Ottawa's Rural Policy Plan (City of Ottawa, 2003), land use designation within the Subject Property is Rural. According to the consolidated City of Ottawa By-law No. 2008-250, current zoning within the Subject Property is Rural Institutional Zone (City of Ottawa, 2008).

## 1.2 PURPOSE

The City of Ottawa has identified the need for St. George and St. Anthony Coptic Orthodox Church to complete a detailed EIS, including an impact assessment of endangered species, as part of a Site Plan Control application for the 1.5 hectare (ha) Study Area for development of a new church and parking lots.

## 1.3 APPROACH

Background information was reviewed prior to completing the targeted field work, consisting of existing published data and data made available through various public agencies, web-based mapping programs and other environmental reports pertaining to the Study Area.

The background information has been summarized to identify the natural heritage features that may be affected by the proposed site plan control application. The targeted field work was used to confirm and further consider issues raised by review of the background information.

# 2.0 NATURAL HERITAGE AND HAZARD POLICY CONSIDERATIONS

An assessment of the natural heritage features and functions within the Study Area was undertaken to comply with the requirements of the following policy and guideline documents.

## 2.1 PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS) was issued under Section 3 of the *Planning Act* and came into effect on May 22, 1996, and revised in 2005 and 2014 (Ministry of Municipal Affairs and Housing , 2014). Decisions made by Planning Authorities shall be consistent with the policy statements issued under the *Planning Act*, such as the PPS, which includes policies on development and land use patterns, resources and public health and safety. Section 2.1 of the PPS deals with Natural Heritage Features in various ecoregions including Ecoregion 6E, which includes the Subject Property.

According to Section 2.1.4 of the PPS, development and site alteration shall not be permitted in the following features in Ecoregion 6E:

- significant wetlands
- significant coastal wetlands

According to Section 2.1.5 of the PPS, development and site alteration shall not be permitted in the following features in Ecoregion 6E, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions:

- significant woodlands
- significant valleylands
- significant wildlife habitat
- significant areas of natural and scientific interest (ANSIs)

Sections 2.1.6 and 2.1.7 of the PPS state that development and site alteration shall not be permitted in the following features, except in accordance with provincial and federal requirements:

- habitat of endangered or threatened species
- fish habitat

According to Section 2.1.8, development and site alteration are prohibited on lands adjacent to the natural heritage features identified in 2.1.4, 2.1.5, and 2.1.6, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

## 2.2 CITY OF OTTAWA OFFICIAL PLAN

The City of Ottawa Official Plan (Plan) was adopted by Council on in May 2003. Schedules A, B, K, and L of the Plan designate the Natural Heritage System Features and Areas, which generally include features that are protected by the PPS such as significant wetlands and woodlands, and other habitat features (City of Ottawa, 2003).

Section 3.2.1 of the Plan states that development and site alteration shall not be permitted within Significant Wetlands, including Provincially Significant Wetlands (PSW). According to Section 3.2.1, development and site alterations are not be permitted within 120 m of the boundary of a Significant Wetland unless an EIS demonstrates that there will be no negative impacts on the wetland or its ecological function.

Section 3.2.2 of the Plan states that development and site alteration shall not be permitted within Natural Environment Areas (i.e., wetlands, Significant Woodlands, Significant Wildlife Habitat (SWH), ANSIs). According to Section 3.2.2, development and site alterations are not permitted within 120 m of a Natural Environment Area, unless an EIS demonstrates that there will be no negative impacts on the natural features within the area or their ecological functions.

According to Section 4.7.3, development and site alteration is not permitted in fish habitat except in accordance with federal and provincial requirements. Proposed development near or adjacent to water bodies that provide fish habitat must demonstrate that the proposed development will not have a negative impact on fish habitat.

Section 4.7.4 of the Plan states that development and site alteration shall not be permitted in significant habitat of endangered and threatened species. According to Section 4.7.4, development and site alterations are not permitted within 120 m of the boundary of identified significant habitat of endangered and threatened species unless the ecological function of the adjacent lands has been evaluated and an EIS demonstrates that there will be no negative impacts on the significant habitat of endangered and threatened species or on its ecological functions.

## 2.3 SOUTH NATION CONSERVATION AUTHORITY POLICIES

Pursuant to Ontario Regulation 170/06, *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*, prior permission is required from the South Nation Conservation Authority (SNC) for development within a floodplain, valleylands, wetland, or other hazardous land.

Permission is also required from the SNC for alteration to a river, creek, stream or watercourse or interference with the hydrological function of a wetland. Generally, development, interference or other alteration that may negatively impact the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land are not permitted (SNC, 2006).

Alteration to a watercourse within the jurisdiction of the Authority must be in accordance with the policies and guidelines in Section 5.0 of the SNC *Policies Regarding 'Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation' – Ontario Regulation 170/06* and must be to the satisfaction of the Authority.

Development and/or site alteration within the jurisdiction of the Authority and in, on or adjacent to PSWs must be in accordance with the policies and guidelines in Section 4.0 of the SNC *Policies Regarding 'Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation' – Ontario Regulation 170/06* and must be to the satisfaction of the Authority.

Unless the hydrological, hydrogeological, and ecological function of the site and of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on natural features or their ecological functions, such proposals may require the completion of an EIS, and should utilize all opportunities for protection and rehabilitation of the wetland feature.

## 2.4 ENDANGERED SPECIES ACT

The Ontario *Endangered Species Act, 2007* (ESA, 2007) protects habitat and individuals of wildlife species designated as threatened, endangered, or extirpated in Ontario. Provincial species at risk are identified and assessed by the Committee on the Status of Species at Risk in Ontario (COSSARO).

The ESA, 2007 protects species listed by COSSARO as threatened, endangered, or extirpated in Ontario and their habitats by prohibiting anyone from killing, harming, harassing or possessing protected species, as well as prohibiting any damage or destruction to the habitat of the listed species. All listed species are provided with general habitat protection under the ESA, 2007 aimed at protecting areas that species depend on to carry out their life processes, such as reproduction, rearing, hibernation, migration or feeding. Some species have had detailed habitat regulations passed that define specifically the extent and character of protected habitats.

Activities that may impact a protected species or its habitat require the prior issuance of a Permit from the Ministry of Natural Resources and Forestry (MNRF), unless the activities are exempted under Regulation. Ontario Regulation 242/08 identifies activities that are exempt from the permitting requirements of the Act subject to rigorous controls outside the permit process, including registration of the activity and preparation of mitigation. Activities not exempt under O. Reg. 242.08 require a complete permit application process.

## 2.5 FEDERAL PROTECTION OF SPECIES AT RISK, FISH, AND MIGRATORY BIRDS

Federally protected special concern, threatened, or endangered species are listed in Schedule 1 of the *Species at Risk Act* (SARA). SARA applies to federally owned lands and regulated projects, with the exception of fish (those species covered by the *Fisheries Act*) and migratory birds (those species covered by the *Migratory Birds Convention Act, 1994* (MBCA)), which are afforded protection on all lands.

## 2.6 SUMMARY OF POLICY IMPLICATIONS

The policies and guidelines summarized above were used to scope the study methodologies and inform an analysis of the opportunities and constraints for the Study Area.

# 3.0 METHODS FOR DATA COLLECTION

## 3.1 BACKGROUND INFORMATION

The information in this report is based on field investigations completed by Stantec biologists, existing published data, data made available through various public agencies, web-based mapping programs, and online databases, including the following primary data sources:

- City of Ottawa Official Plan (2003) (City of Ottawa, 2003)
- Satellite Imagery (Google Earth Pro Ver. 7.3.2.5491)
- Topographic Maps (MNRF, 2014a)
- Land Information Ontario (LIO) Natural Heritage Mapping Tool (LIO, 2018)
- SNC's Public Geoportal (SNC, 2018)

A list of species at risk, designated under the ESA, 2007 and/or SARA as endangered, threatened, or special concern, with potential to occur within the Study Area was developed by reviewing the following sources:

- Natural Heritage Information Centre (MNRF, 2014)
- Ontario Breeding Bird Atlas (Cadman et. al., 2007)
- Ottawa Bird Count (OBC, 2014)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2018)
- eBird Canada (eBird, 2018)
- Atlas of the Mammals of Ontario (Dobbyn, 1994)
- Ontario Butterfly Atlas Online (Toronto Entomologists' Association, 2015)
- Aquatic Species at Risk Mapping (DFO, 2017)

Some of the sources above provide data on a scale as large as 10 kilometres (km) by 10 km. Results were therefore screened to assess their relevance to the Study Area and species were removed from consideration if no suitable habitat was observed within the Study Area.

Biological field data were evaluated to determine the significance of natural heritage features. Status rankings (S ranks) for plants, vegetation communities and wildlife are based on the number of occurrences in Ontario and have the following meanings:

- **S1**: critically imperiled; often fewer than 5 occurrences
- **S2**: imperiled; often fewer than 20 occurrences
- **S3**: vulnerable; often fewer than 80 occurrences
- **S4**: apparently secure
- **S5**: secure
- **S?**: unranked, or, if following a ranking, rank uncertain (e.g. S3?).

The global, federal and provincial status of wildlife was determined by reviewing species accounts published by the Natural Heritage Information Centre (MNRF, 2014). The provincial status of all plant species is based on Newmaster et al. (1998), with updates from the database of the Natural Heritage Information Centre (MNRF, 2014).

## 3.2 AGENCY CONSULTATION

Information regarding the Study Area was requested from the Kemptville District, MNRF and the SNC on March 7, 2018. Responses were received from MNRF on April 13, 2018 and from SNC on March 8, 2018 (see **Appendix B**) and the information has been incorporated into this EIS.

A Terms of Reference was developed during pre-consultation with the City of Ottawa and SNC on April 27, 2018.

## 3.3 FIELD INVESTIGATIONS

The fieldwork conducted for this study was scoped to support the EIS. Field studies and natural heritage inventories were completed in the Study Area, where property access was available, to confirm and refine the boundaries, characteristics and significance of the natural features that may be affected by the proposed development. A handheld GPS, a GPS camera, field forms, and a field notebook were used to document observations.

**Table 1** below provides a summary of the field investigations undertaken for this project.

### Table 1: Ecological Field Work

| Purpose of Field Work | Date of Field Work | Start/End Time | Weather Conditions | Biologist |
|---|---|---|---|---|
| Breeding bird survey visit #1, visual survey (vegetation, wildlife, species at risk) | June 5, 2018 | 0600 – 0730 | Temperature: 12˚C<br>Wind (Beaufort scale): 0<br>Cloud cover: 90%<br>Precipitation: 0mm<br>Precip. in last 24hrs: 20mm | J. Mansell |
| Aquatic habitat assessment | June 14, 2018 | 0800 – 0900 | Temperature: 13˚C<br>Wind (Beaufort scale): 4<br>Cloud cover: 100%<br>Precipitation: <1mm<br>Precip. in last 24hrs: 10-15mm | J. Mansell |
| Breeding bird survey visit #2 | June 16, 2018 | 0545 – 0620 | Temperature: 12˚C<br>Wind (Beaufort scale): 0<br>Cloud cover: 20%<br>Precipitation: 0mm<br>Precip. in last 24hrs: 2mm | B. Obermayer |
| Breeding bird survey visit #3 | June 27, 2018 | 0615 – 0645 | Temperature: 12˚C<br>Wind (Beaufort scale): 1<br>Cloud cover: 40-60%<br>Precipitation: 0mm<br>Precip. in last 24hrs: 0mm | J. Mansell |

### 3.3.1 Vegetation Survey

Initial characterization of existing vegetation communities was completed by interpreting available aerial imagery. Vegetation was identified and communities were assessed in the field following a meandering transect within the Study Area. Community characterizations (ecosites and vegetation types) were based on the Ontario Ecological Land Classification (ELC) system (Lee et. al., 2001).

### 3.3.2 Species at Risk Survey

The potential for use of the Subject Property by species at risk was determined through assessing habitat potential while conducting the meandering transect vegetation survey. Adjacent lands were visually assessed using binoculars. Targeted surveys were conducted for butternut, vascular plants, breeding birds, and species at risk and were documented by location, if encountered.

### 3.3.3 Breeding Bird Surveys

Three breeding bird surveys were conducted by traversing the Study Area on foot, recording all species of birds that were heard or seen. The highest level of breeding evidence was recorded for each species using the codes in the Ontario Breeding Bird Atlas (Cadman et. al., 2007). Five-minute point counts were repeated on three dates at two locations to document the relative abundance of birds.

### 3.3.4 Aquatic Habitat Assessment

The characterization of fish habitat in the Study Area was based on the presence/absence of key aquatic habitat features. The information was utilized to identify potential fisheries and aquatic habitat constraints associated with the site plan control application.

The habitat survey included the Edward Cleroux Municipal Drain within the Subject Property. The field investigation documented existing habitat conditions and did not include fish community sampling. Information collected consisted of a general description of the watercourse, (i.e., dimensions, bank stability, morphology) and identification of features that typically contribute to fish habitat (i.e., in water and riparian cover, substrate).

### 3.3.5 Wildlife Observations and General Wildlife Habitat Surveys

Wildlife habitat suitability assessments were conducted for ESA protected species that may occur in the area, including species identified in the Natural Heritage Information Centre (NHIC) database and other planning reports. Wildlife habitat suitability was assessed in the field by following a meandering transect within the Study Area.

### 3.3.6 Significant Wildlife Habitat

Field investigations documented candidate SWH features outlined in the *Significant Wildlife Technical Guide* (MNRF, 2000) and the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (MNRF, 2015). There are four general types of SWH: (a) seasonal concentrations, (b) rare or specialized habitat,

(c) habitat for species of conservation concern and (d) animal migration corridors. Observations of candidate SWH were recorded during environmental field investigations.

# 4.0 EXISTING CONDITIONS

This section describes the natural heritage features and functions within Study Area based on a review of existing information, refinement of current conditions based on the field investigations, and consultation with agency staff described in **Section 3.0**.

The Study Area consists of meadow, thicket, woodland, forest, and constructed lands. There are no structures or buildings on the Subject Property.

The Subject Property is located within SNC's jurisdiction (SNC, 2018). According to SNC's Public Geoportal, there are no identified floodplains or PSWs located within the Study Area (SNC, 2018). One watercourse associated with the Edward Cleroux Municipal Drain, was identified within the Study Area, along the northwestern Subject Property boundary.

## 4.1 BACKGROUND DATA

### 4.1.1 Geology and Topography

The Study Area is generally flat with gradual sloping towards the south (MNRF, 2014). It lies within the Ottawa Valley Clay Plains physiographic region (Ontario Geological Survey, 2018).The surficial geology consists primarily of coarse-textured glaciomarine deposits including sand, gravel, minor silt and clay deltaic deposits (**Figure 2, Appendix A**) (Ontario Geological Survey, 2018). Underlying bedrock is Collingwood and Eastview members of the Georgian Bay, Blue Mountain, and Billings formations, consisting of shale, limestone, dolostone, and siltstone (Ontario Geological Survey, 2018).

### 4.1.2 Hydrology

The Edward Cleroux Municipal Drain was identified within the Study Area during consultation with SNC and the MNRF (**Figure 3, Appendix A**). Surface water information provided on geoOttawa suggests that the Edward Cleroux Municipal Drain begins approximately 45 m northwest of the Subject Property and flows along the north Subject Property boundary in the northwestern portion of the Subject Property. According to surface water information provided on geoOttawa (City of Ottawa, 2018), the Edward Cleroux Municipal Drain empties into the headwaters of the Mer Bleue subwatershed.

One unevaluated wetland was identified north of the Subject Property, within the Study Area, during consultation with MNRF, however the portion of this wetland located within the Study Area, appears to have been developed into constructed lands (**Figure 3, Appendix A**).

### 4.1.3 Species at Risk and Provincially Rare Species

Desktop background review resulted in a list of 18 species provincially listed as threatened or endangered that have been previously documented or have potential to occur within the Study Area (**Table 2**).

## Table 2: Provincially Listed Threatened/ Endangered Species with Potential to Occur within the Study Area

| Species | Status | |
|---|---|---|
| | ***Ontario ESA, 2007*** | ***Federal SARA, Schedule 1*** |
| **Plants** | | |
| Butternut (*Juglans cinerea*) [1] | Endangered | Endangered |
| **Insects** | | |
| Rusty-patched bumble bee (*Bombus affinis*) [2] | Endangered | Endangered |
| Gypsy cuckoo bumble bee (*Bombus bohemicus*) [3] | Endangered | Endangered |
| Nine-spotted lady beetle (*Coccinella novemnotata*) [4] | Endangered | Not listed |
| **Reptiles** | | |
| Blanding's turtle (*Emydoidea blandingii*) [1,5] | Threatened | Threatened |
| **Birds** | | |
| Chimney swift (*Chaetura pelagica*) [1,6] | Threatened | Threatened |
| Least bittern (*Ixobrychus exilis*) [6] | Threatened | Threatened |
| Bank swallow (*Riparia riparia*) [6] | Threatened | Threatened |
| Barn swallow (*Hirundo rustica*) [1,6,8] | Threatened | Threatened |
| Henslow's sparrow (*Ammodramus henslowii*) [1,7] | Endangered | Endangered |
| Bobolink (*Dolichonyx oryzivorus*) [1,6,8] | Threatened | Threatened |
| Eastern meadowlark (*Sturnella magna*) [1,6] | Threatened | Threatened |
| **Mammals** | | |
| Eastern small-footed myotis (*Myotis leibii*) [7,9] | Endangered | Not listed |
| Little brown myotis (*Myotis lucifungus*) [1,7,9] | Endangered | Endangered |
| Northern myotis (*Myotis septentrionalis*) [1,7,9] | Endangered | Endangered |
| Tri-colored bat *(Perimyotis subflavus)* [1,9] | Endangered | Endangered |
| Gray fox *(Urocyon cineroargenteus)* [9] | Threatened | Threatened |
| **Sensitive Species** | | |
| Sensitive species[1] | Endangered | N/A |

[1] Response from MNRF on April 13, 2018 (see **Appendix B**)
[2] COSEWIC assessment and status report on the Rusty–patched Bumble Bee in Canada (COSEWIC, 2010)
[3] COSEWIC assessment and status report on the Gypsy Cuckoo Bumble Bee in Canada (COSEWIC, 2014)
[4] COSEWIC assessment and status report on the Nine-spotted Lady Beetle in Canada (COSEWIC, 2016)
[5] Ontario Reptile and Amphibian Atlas (Ontario Nature, 2018)
[6] Ontario Breeding Bird Atlas (Cadman et. al., 2007)
[7] NHIC (MNRF, 2014)
[8] eBird Canada (eBird, 2018)
[9] Atlas of the Mammals of Ontario (Dobbyn, 1994)

The 26 species of conservation concern (S1-S3 ranked species, including provincially designated Special Concern species) in **Table 3** were identified during the background review as being present in the vicinity of the Study Area.

## Table 3: Species of Conservation Concern with Records in the Vicinity of the Study

| Species | S-Rank (S1-S3) | Ontario ESA, 2007 |
|---|---|---|
| **Plants** | | |
| Alder silk moss (*Plagiothecium latebricola*) [1] | S2 | Not listed |
| Woodland pinedrops (*Pterospora andromedea*) [1] | S2 | Not listed |
| Twin-stemmed bladderwort (*Utricularia geminiscapa*) [1] | S3 | Not listed |
| Northern long sedge (*Carex folliculata*) [1] | S3 | Not listed |
| Cattail sedge (*Carex typhina*) [1] | S2 | Not listed |
| Greene's rush (*Juncus greenei*) [1] | S3 | Not listed |
| Southern twayblade (*Neottia bifolia*) [1] | S1 | Not listed |
| Large purple fringed orchid (*Platanthera grandiflora*) [1] | S1 | Not listed |
| **Insects** | | |
| Green-striped darner (*Aeshna verticalis*) [1] | S3 | Not listed |
| Horned clubtail (*Arigomphus cornutus*) [1] | S3 | Not listed |
| Skillet clubtail (*Gomphus ventricosus*) [2] | S1 | Not listed |
| Arrowhead spiketail (*Cordulegaster obliqua*) [1] | S2 | Not listed |
| Forcipate emerald (*Somatochlora forcipata*) [1] | S3 | Not listed |
| Monarch (*Danaus plexippus*) [3] | S4 | Special concern |
| Yellow-banded bumble bee (*Bombus terricola*) [4] | S5 | Special concern |
| **Amphibians** | | |
| Western chorus frog (Great Lakes - Shield) (*Pseudacris triseriata*) [5] | S3 | Not listed |
| **Reptiles** | | |
| Snapping turtle (*Chelydra serpentine*) [5,6,] | S3 | Special concern |
| Eastern musk turtle (*Sternotherus odoratus*),[5] | S3 | Special concern |
| Northern map turtle (*Graptemys geographica*) [5] | S3 | Special concern |
| Eastern milksnake (*Lampropeltis triangulum*),[5] | S3 | Not listed |
| **Birds** | | |
| Common nighthawk (*Chordeiles minor*) [6] | S4 | Special concern |
| Black tern (*Chlidonias niger*) [7] | S3 | Special concern |
| Short-eared owl (*Asio flammeus*) [7,8] | S4 | Special concern |
| Eastern wood-pewee (*Contopus virens*) [7] | S4 | Special concern |
| Wood thrush (*Hylocichla mustelina*) [7] | S4 | Special concern |
| Canada warbler (*Cardellina canadensis*) [7] | S4 | Special concern |

[1] NHIC (MNRF, 2014)
[2] COSEWIC assessment and status report on the Skillet Clubtail in Canada (COSEWIC, 2010)
[3] Ontario Butterfly Atlas Online (Toronto Entomologists' Association, 2015)
[4] COSEWIC assessment and status report on the Yellow-banded bumble bee in Canada (COSEWIC, 2015)
[5] Ontario Reptile and Amphibian Atlas (Ontario Nature, 2018)
[6] Response from MNRF on April 13, 2018 (see **Appendix B**)
[7] Ontario Breeding Bird Atlas (Cadman et. al., 2007)
[8] eBird Canada (eBird, 2018)

### 4.1.4 Significant Natural Areas

A review of the Official Plan (City of Ottawa, 2003) and NHIC and LIO data indicates there are no designated Significant Woodlands, Significant Valleylands, or SWH on or within 5 km of the Subject Property. According to NHIC and LIO data, no PSWs or ANSIs are located within the Subject Property, however the Mer Bleue PSW and Earth Science ANSI are located approximately 600 m south of the Subject Property. The Study Area does contain a former wetland, unevaluated, located north of the Subject Property, (**Figure 3, Appendix A**).

## 4.2 FIELD INVESTIGATIONS

### 4.2.1 Vegetation

The Study Area is predominantly meadow with thickets, woodlands, forests, residential areas, agricultural lands, green lands, transportation, and commercial and institutional lands (**Figure 4, Appendix A**). The Subject Property is predominantly fresh-moist forb meadow ecosite (MEFM4). Fresh-moist deciduous thicket ecosites (THDM5) occur in two patches within the central portions of the Subject Property. A portion of deciduous woodlot (WOD) is located in the northwestern portion of the Subject Property, south of Navan Road.

A deciduous forest (FOD) and annual row crops (OAG) occur to the southwest and southeast of the Subject Property, respectively. Green lands (CGL) and a commercial and institutional (CVC) property associated with a newly built church, occur north of the Subject Property. A transportation corridor (CVI_1) associated with the Navan Road right-of-way also occurs north of the Subject Property.

Single family residential (CVR_3) communities occur to the west and northeast and rural property (CVR_4) occurs to the east of the Subject Property.

The vegetation communities, based on the ELC system for Southern Ontario, are shown on **Figure 4, Appendix A**. The vegetation community types are briefly described in **Table 4** below. Field datacards are provided in **Appendix C**.

**Table 4: Ecological Land Classification Vegetation Types**

| ELC TYPE | Community Description |
|---|---|
| **Meadow (ME)** | |
| **Forb Meadow (MEF)** | |
| Fresh - Moist Forb Meadow Ecosite (MEFM4) | This community occurs throughout most of the Subject Property and is starting to transition with an increase in woody stems of trembling aspen (*Populus tremuloides*), with green ash (*Fraxinus pennsylvanica*) and narrow-leaved meadowsweet (*Spirea alba*) observed. The community is primarily dominated by herbaceous species, predominantly goldenrod species (*Solidago sp.*) with sensitive fern (*Onoclea sensibilis*) and common tansy (*Tanacetum vulgare*) abundantly occurring. Occasional occurrences of Black raspberry (*Rubus occidentalis*), red raspberry (*Rubus idaeus idaeus*), meadow hawkweed (*Hieracium caespitosum*), and reed-canary grass (*Phalaris arundinacea*) were observed in localized clumps throughout the feature. Lesser associates of common milkweed (*Asclepias syriaca*), the non-native invasive purple loosestrife (*Lythrum salicaria*), and wild carrot |

## Table 4: Ecological Land Classification Vegetation Types

| ELC TYPE | Community Description |
|---|---|
| | (*Daucus carota*) occurred evenly in the community. Moss species (*Acrocarpus* sp.) were observed occasionally throughout the community in areas of void of herbaceous vegetation. |
| **Thicket (TH)** | |
| **Deciduous Thicket (THD)** | |
| Fresh - Moist Deciduous Thicket Ecosite (THDM5) | This community, o dominated by trembling aspen, occurs in two distinct patches within the Subject Property. This community is a result of the continual succession of the adjacent MEFM4 community as all of the species observed are found both communities. Young trembling aspen and green ash trees <10m in height form a thicket with willow species (*Salix* sp.) and narrow-leaved meadow-sweet in the understorey. Herbaceous species in this community are the same that are found in MEFM4. |
| **Woodland (WO)** | |
| **Deciduous Woodland (WOD)** | |
| Deciduous Woodland (WOD) | This community occurs in the northwest portion of the Study Area, immediately south of Navan Road, and was dominated by Manitoba maple (*Acer negundo*), showing poor growth patterns (e.g. multiple horizontal stems). Sensitive fern and spotted jewelweed (*Impatiens capensis*) were found to be abundant along the riparian edges of the Edward Cleroux Municipal Drain. |
| **Forest (FO)** | |
| **Deciduous Forest (FOD)** | |
| Deciduous Forest (FOD) | This community occurs in the southern portion of the Study Area, immediately adjacent to the southwest corner of the Subject Property. Species observed along the edge of this community from the Subject Property included white birch (*Betula papyrifera*), trembling aspen and sugar maple (*Acer saccharum*). Staghorn sumac (*Rhus typhina*) dominated the understorey along the edge of the feature. |
| **Agriculture (AG)** | |
| **Open Agriculture (OAG)** | |
| Annual Row Crops (OAGM1) | This community occurs in the southeast portion of the Study Area, adjacent to the Subject Property and was dominated by annual row crops. |
| **Constructed (CV)** | |
| **Green Lands (CGL)** | |
| Green Lands (CGL) | This community occurs in the northeast portion of the Study Area, adjacent to the Subject Property and was dominated by graminoid species. |
| **Transportation and Utilities (CVI)** | |
| Transportation (CVI_1) | This community occurs to the north of the Subject Property and is associated with the Navan Road right-of-way. Vegetation in this community consisted mainly of mowed grass and herbaceous plants. |

**Table 4: Ecological Land Classification Vegetation Types**

| ELC TYPE | Community Description |
|---|---|
| **Residential (CVR)** | |
| Single Family Residential (CVR_3) | This community occurs to the west and northeast of the Subject Property and is associated with single family homes. Vegetation in this community consisted mainly of mowed grass and herbaceous plants. |
| Rural Property (CVR_4) | This community occurs to the east of the Subject Property and is associated with a rural residential property. Vegetation in this community consisted mainly of mowed grass and herbaceous plants. |
| **Commercial and Institutional (CVC)** | |
| Commercial and Institutional (CVC) | This community occurs in the northern portion of the Study Area, adjacent to the Subject Property and is associated with a newly-built church. Vegetation in this community consisted mainly of mowed grass and herbaceous plants. |

### 4.2.2 Species at Risk

The list of potential species at risk identified during a background review (**Table 2**) was assessed based on observations collected during the site visits to determine which species have the potential to occur within the Study Area (**Appendix D**). Ten of these species are considered absent on the basis of suitable habitat not being observed, or survey effort sufficient to determine absence (**Appendix D)**.

No species at risk identified during a background review (**Table 2**) were observed within the Study Area.

### 4.2.3 Breeding Birds

Breeding bird survey station locations are shown on **Figure 5, Appendix A**. A complete list of birds observed during the breeding bird surveys are located in **Appendix E**.

### 4.2.4 Fish and Fish Habitat

The Edward Cleroux Municipal Drain is a Class F intermittent watercourse which flows westerly along the northern Subject Property boundary in the northwestern portion of the Study Area. At the assessment location, riparian vegetation was dominated by reed-canary grass and Manitoba maple.

During the assessment, stream stage was at low flow levels, with an estimated wetted width of approximately 0.75 m and bankfull width of 3.5 m. The channel was completely flat in morphology with a mean depth of 10 cm. Substrate consisted of equivalent portions of silt, muck, and detritus with some sand; in-stream cover was minimal (30%), consisting of small organic debris. Banks were stable with 100% of assessed banks not likely to erode (depositional sediments and shallow slopes). Canopy cover was partly open (80%) with some closed areas (20%). Low flow during dry conditions may act as a migratory obstruction to fish passage. No critical habitat for fish or fish species were observed in the Edward Cleroux Municipal Drain within the Study Area.

### 4.2.5 Wildlife Habitat

No reptile species were observed during field surveys. No candidate overwintering habitat for reptiles was observed within the Study Area. The Study Area does provide habitat for migratory birds. Although no active bat roosting sites were observed within the Study Area, large diameter trees within the adjacent FOD community could potentially provide habitat for bats.

## 4.3 SIGNIFICANT WILDLIFE HABITAT

The Wildlife Habitat Assessment table in **Appendix F** provides an assessment for each of the Candidate Wildlife Habitat features listed in the SWH Criteria Schedules for Ecoregion 6E (MNRF, 2015), including an assessment for habitat availability for the 26 species of conservation concern listed in **Table 3.**

A summary of each type of SWH is provided in **Sections 4.3.1 to 4.3.4**.

### 4.3.1 Seasonal Concentration Areas

Seasonal concentration areas are those sites where large numbers of a species gather together at one time of the year, or where several species congregate. Such areas include, but are not limited to, deer yards, snake and bat hibernacula, waterfowl staging and molting areas, raptor roosts, bird nesting colonies, shorebird staging areas, and passerine migration concentrations. Only the best examples of these concentration areas are usually designated as SWH. Areas that support a species at risk, or areas where a large proportion of the population may be lost if the habitat is destroyed, are examples of seasonal concentration areas which should be designated as significant (MNRF, 2015).

**Bat Maternity Colonies**: According to the SWH Criteria Schedules for Ecoregion 6E (MNRF, 2015), bat maternity colonies are characterized by mature deciduous or mixed forest stands with greater than 10 large diameter (>25 cm) trees per hectare located within deciduous forest (FOD), mixed forest (FOM), SWD, and mixed swamp (SWM) communities. The area of the FOD is outside the Subject Property and was not accessed to determine the number of candidate wildlife trees. Candidate significant wildlife habitat for bat maternity colonies may occur within the Study Area.

No other candidate habitat for seasonal concentration areas was observed within the Study Area.

### 4.3.2 Rare or Specialized Habitat

Rare habitats are those with vegetation communities that are considered rare in the province. It is assumed that these habitats are at risk and that they are also likely to support additional wildlife species that are considered significant. Field investigations indicated that the ELC communities within the Study Area are all considered common in Ontario (S5). Therefore, no rare habitats exist within the Study Area.

Specialized habitats are microhabitats that are critical to some wildlife species. The SWH Criteria Schedules for Ecoregion 6E (MNRF, 2015) identifies a number of habitats that could be considered specialized habitats. No candidate rare or specialized habitat was observed within the Study Area.

### 4.3.3 Habitat for Species of Conservation Concern

Field investigations screened the Study Area for the presence or absence of area sensitive breeding birds and species of conservation concern within the Study Area. Results are summarized below.

**Special Concern and Rare Wildlife Species:** No special concern or rare plant or wildlife species were observed during the field investigations. Potentially suitable habitat for the following special concern and rare species was observed within the Study Area:

- large purple fringed orchid (S1, not listed)
- monarch (S5, special concern
- yellow-banded bumble bee (S5, special concern)
- eastern milksnake (S3, not listed)
- eastern wood-pewee (S4, special concern)
- wood thrush (S4, special concern)

### 4.3.4 Animal Movement Corridors

Migration corridors are areas that are regularly used by wildlife to move to one habitat from another. This is usually in response to different seasonal habitat requirements. The SWH Criteria Schedules for Ecoregion 6E (MNRF, 2015) speak specifically to amphibian movement corridors. These corridors are only considered when significant amphibian breeding habitat is identified for eastern newt, blue-spotted salamander, spotted salamander, gray treefrog, spring peeper, western chorus frog or wood frog. Amphibian movement corridors should be at least 200 m wide and consist of native vegetation, roadless area, no gaps such as fields, waterways or bodies.

No significant amphibian breeding habitat was observed within the Study Area, therefore there are no animal movement corridors within the Study Area.

# 5.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The current application includes details of development in the Subject Property which includes two driveways, two parking lots, a church, a service building, and a septic field that will be used as a playing yard (**Appendix G**).

The detailed components of the design (e.g., stormwater, landscaping design details) are currently unknown. The design will include paved areas around the buildings with landscaped portions and stormwater management to minimize impacts to municipal drainage structures and to handle increased surface water run-off resulting from an increase in impermeable surfaces. Stormwater management is expected to involve a dry pond and possible underground storage. Quality control of stormwater runoff will be required to achieve 80% total suspended solids removal as per the criteria established by the SNC. Stormwater will be discharged to the Edward Cleroux Municipal Drain.

Construction activities are assumed to include vegetation removal and grading. It is assumed that connections to electrical and communications services will be undertaken using existing services. It is expected that there will be a connection to the municipal water supply, storage for fire protection and a septic system for wastewater management. Additionally, it is expected that standard construction materials (e.g., steel, wood, metal, concrete, asphalt) will be used and that during construction, all applicable safety codes with reference to public health, fire protection, and structural sufficiency will be followed.

# 6.0 IMPACT ASSESSMENT

The environmental effects identified as being of potential concern as a result of the proposed development are identified and discussed in this section. Potential direct and indirect impacts, as well long-term impacts have been considered separately.

The impact assessment and recommendations for mitigation were developed in consideration of the policies that pertain to the significant natural heritage features identified for the Subject Property.

## 6.1 DIRECT IMPACTS

Direct impacts are discussed below, including loss to vegetation cover and wildlife habitat as a result of the proposed plan.

### 6.1.1 Vegetation cover

Tree and vegetation removal will occur within the Subject Property to facilitate construction of the proposed development (**Appendix G**), within three ELC communities: fresh-moist forb meadow ecosite (MEFM4), fresh-moist deciduous thicket ecosites (THDM5), and deciduous woodlot (WOD).

### 6.1.2 Species at Risk

The project has the potential to impact three species at risk (i.e., little brown myotis, northern myotis, tri-colored bat). Potential roosting habitat may occur in large diameter trees in the adjacent FOD within the Study Area. No work will occur in the FOD, therefore, direct impacts to little brown myotis, northern myotis, and tri-colored bat are not anticipated.

### 6.1.3 Significant Wildlife Habitat

The MEFM4 and WOD communities within the Subject Property may provide suitable habitat for large purple fringed orchid. Potential suitable habitat for eastern wood pewee was observed in the WOD and adjacent FOD communities and potential suitable habitat for wood thrush may occur in the adjacent FOD within the Study Area. Survey effort for large purple fringed orchid, eastern wood pewee, and wood thrush is sufficient to determine absence of these species, therefore direct impacts to suitable habitat for large purple fringed orchid, eastern wood pewee, and wood thrush are not anticipated.

Potential general habitat (e.g. feeding, sunning) for eastern milksnake was observed in the MEFM4 and adjacent CGL communities within the Study Area; no potential snake hibernacula features were observed within the Study Area. Potential habitat for yellow-banded bumble bee was observed in all communities within the Study Area.

Common milkweed observed in the MEFM4 and THDM5 communities located within the Subject Property, could provide habitat for monarch larvae.

Although work will not occur in the CGL, work will be occurring in the MEFM4, THDM5, and WOD communities and impacts to suitable habitat for monarch, yellow-banded bumble bee, and eastern milksnake are possible.

### 6.1.4 Migratory Birds

The MBCA protects migratory birds and their nests from damage and disruption while they are active, including nests in vegetation and on structures. Site alteration activities within the Subject Property have the potential to disturb breeding birds and damage nests of protected species. Measures to avoid contravention of the MBCA during vegetation clearing and construction are provided in **Section 6.6**.

### 6.1.5 Surface Water and Fish Habitat

Potential fish habitat was observed in the Edward Cleroux Municipal Drain, however, no setback requirements were identified by the Drainage Superintendent. All stormwater runoff from the proposed parking areas, located adjacent to the drain, will be collected and treated prior to discharge to the drain, therefore no direct impacts to fish habitat are anticipated as a result of the proposed development.

## 6.2 INDIRECT IMPACTS

Potential indirect effects may occur as a result of activities including sensory disturbance to species at risk (i.e., SAR bats). However, there is existing sensory disturbance in the area and the incremental increase in disturbance as a result of site activities would be infrequent and low in magnitude and are not expected to be significant.

Potential impacts that are relevant to the proposed project are the following:

- Disturbance and damage of vegetation along the edge of the natural areas. During construction, heavy machinery may damage trees and shrubs within affected areas. This impact can be prevented by clearly delineating work areas in the field.
- Dust deposition on vegetation. This can be mitigated by the use of dust suppressants to reduce or eliminate dust generation, if necessary.
- Fill and sediment deposition. Fill and sediment runoff from the active construction area may enter natural areas. This impact can be prevented with the installation of sediment control fencing around the perimeter of areas where ground disturbance is planned.

## 6.3 LONG-TERM DEVELOPMENT IMPACTS

Potential long-term impacts to natural areas could result from permanent loss of potential suitable habitat for eastern milksnake and yellow-banded bumble bee and permanent loss of vegetation within the MEFM4, THDM5, and WOD communities. Vegetation to be removed consists of species not listed under ESA, 2007 or SARA and will be restricted to approximately 1.4 ha. Limiting vegetation removal to within the boundary of the proposed development is required to minimize impacts on these features.

Potential long-term impacts to natural areas could result from changes in peak discharge levels and temperature regimes in the Edward Cleroux Municipal Drain. Stormwater management controls are required to minimize impacts on these features.

## 6.4 MITIGATION

Due diligence for the natural heritage features within the Study Area should include general mitigation measures to reduce or eliminate potential negative effects. These general mitigation measures should be applied to the design and construction activities of the proposed development.

### 6.4.1 Protection of Natural Areas

The following strategies are recommended to protect areas of natural vegetation that will be retained through development of the proposed plan:

- A tree protection plan should be prepared and work areas should be clearly delineated / demarcated to avoid encroachment and incidental damage to native trees and areas of natural vegetation to be retained.
- Educate workers on the requirements for and importance of avoiding entrance to the demarcated area.
- Inspectors should ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation.
- In the event of accidental damage to trees, or unexpected vegetation removal, vegetation should be replaced / restored with native species
- Maintenance activities, vehicle refueling or washing, as well as the storage of chemical and construction equipment should be located >30 m from natural areas and watercourses.
- In the event of an accidental spill, the Ministry of Environment, Conservation and Parks Spills Action Centre should be contacted, and emergency spill procedures implemented immediately.
- Implementation of a clean equipment protocol is recommended for all equipment used on site to avoid the introduction and spread of invasive species.
- Install, monitor and maintain proper muffling and maintenance of machinery and equipment.

### 6.4.2 Species at Risk

The most current species at risk information available for the 3856, 3866 and 3876 Navan Road proposed development has been reviewed and reported in this EIS (**Table 2; Appendix D**); however, because federal and provincial lists of species at risk are periodically updated to reflect changes in species status and occurrence data for these species is also subject to change, this information should be reviewed immediately prior to the commencement of on-site activities to confirm that any newly listed species at risk are adequately addressed.

Prior to any site alterations, the following mitigation measures are recommended:

- Implement a worker awareness program for construction staff that includes species at risk identification and habitat characteristics.
- Conduct a daily pre-construction search of the work area to identify presence of species at risk.
- If threatened or endangered species are seen in or near the work area, stop work immediately.
  - Take photographs if possible, but do not interact with the animal

- Contact MNRF

### 6.4.3 Significant Wildlife Habitat

Potential suitable habitat for monarch, yellow-banded bumble bee and eastern milksnake may be present within the Study Area, specifically within the MEFM4, THDM5 communities as well as the WOD communities for yellow-banded bumble bee and eastern milksnake. General mitigation measures can be applied in order to mitigate effects to these species' habitat from the site development. The following mitigation measures are recommended:

- Vegetation removal should be minimized to only what is required for the proposed works.
- Exposed soils should be revegetated as soon as possible using a seed mix composed of native species, native trees and shrubs which are appropriate for the site conditions.
- Re-vegetation should consist of vegetation native to the area including various species of milkweed.

### 6.4.4 Wildlife Management

Wildlife is present within the Study Area. To avoid adverse effects to wildlife, the following mitigation measures are recommended:

- Prior to commencing any site alterations, visually inspect the work area for wildlife presence.
- Site clearing activities (e.g., vegetation removal) should begin in the northern portion of the Study Area and move south; this will ensure that displaced wildlife is guided toward undisturbed habitat and away from roadways.
- Do not feed any wildlife or leave food out that may attract wildlife.
- If wildlife is encountered within the work area, keep distance and allow the animal to exit the work area.

### 6.4.5 Protection of Migratory Birds

The MBCA provides legal protection of migratory birds and their nests in Canada. The loss of migratory bird nests, eggs and or nestlings due to tree cutting or other vegetation clearing can be avoided by limiting clearing of vegetation to outside of the general nesting period for migratory birds in this region as identified by Environment Canada (i.e., between April 15 and August 15) (Environment Canada, 2015b). If work must be performed within this window, a survey for active nests or breeding should be conducted by a qualified biologist within 5 days of commencing work and additional mitigation measures (e.g., implementation of avoidance distances during construction) implemented, if required.

### 6.4.6 Drainage, Erosion, Sediment Control and Protection of Fish Habitat

Appropriate erosion and sediment controls should be employed during all phases of construction to minimize erosion into the Edward Cleroux Municipal Drain within the Study Area and adjacent to the Study Area (downstream).

Mitigation measures to avoid negative impacts to fish habitat and water quality in the Edward Cleroux Municipal Drain should include the following:

- Implement project-specific temporary erosion and sediment control measures according to the Ontario Provincial Standard Specification (OPSS) 805 for Construction Specification for Temporary Erosion and Sediment Control Measures (OPSS, 2015).
- Do not stockpile soil in areas that allow sediment to enter the watercourse.
- Develop and implement a containment and spill management plan to prevent deleterious substances from entering the watercourse.
- Ensure machinery is clean and free of leaks.
- Keep an emergency spill kit on site.
- Maintain the flow of water downstream to the Edward Cleroux Municipal Drain.
- Stabilize disturbed soil upon completion of work.
- Avoid in-water work during the general timing windows for the Southern Region spring spawning species (April 1 to July 15) (DFO, 2013).

# 7.0 SUMMARY AND RECOMMENDATIONS

This EIS provides an assessment of the potential impacts on the natural heritage features and functions that may result from the proposed development. The key natural heritage features and functions identified within the Study Area which may be impacted by this development include the following:

- Tree and vegetation removal - damage or loss of vegetation during construction.
- The loss of potential suitable habitat for monarch, yellow-banded bumble bee and eastern milksnake.
- The loss of migratory bird nests, eggs and or nestlings due to tree cutting and vegetation removal.
- Changes to hydrology and water quality in the Edward Cleroux Municipal Drain.

By following the mitigation measures recommended in this EIS, the proposed development poses minimal impact to the significant natural heritage features identified.

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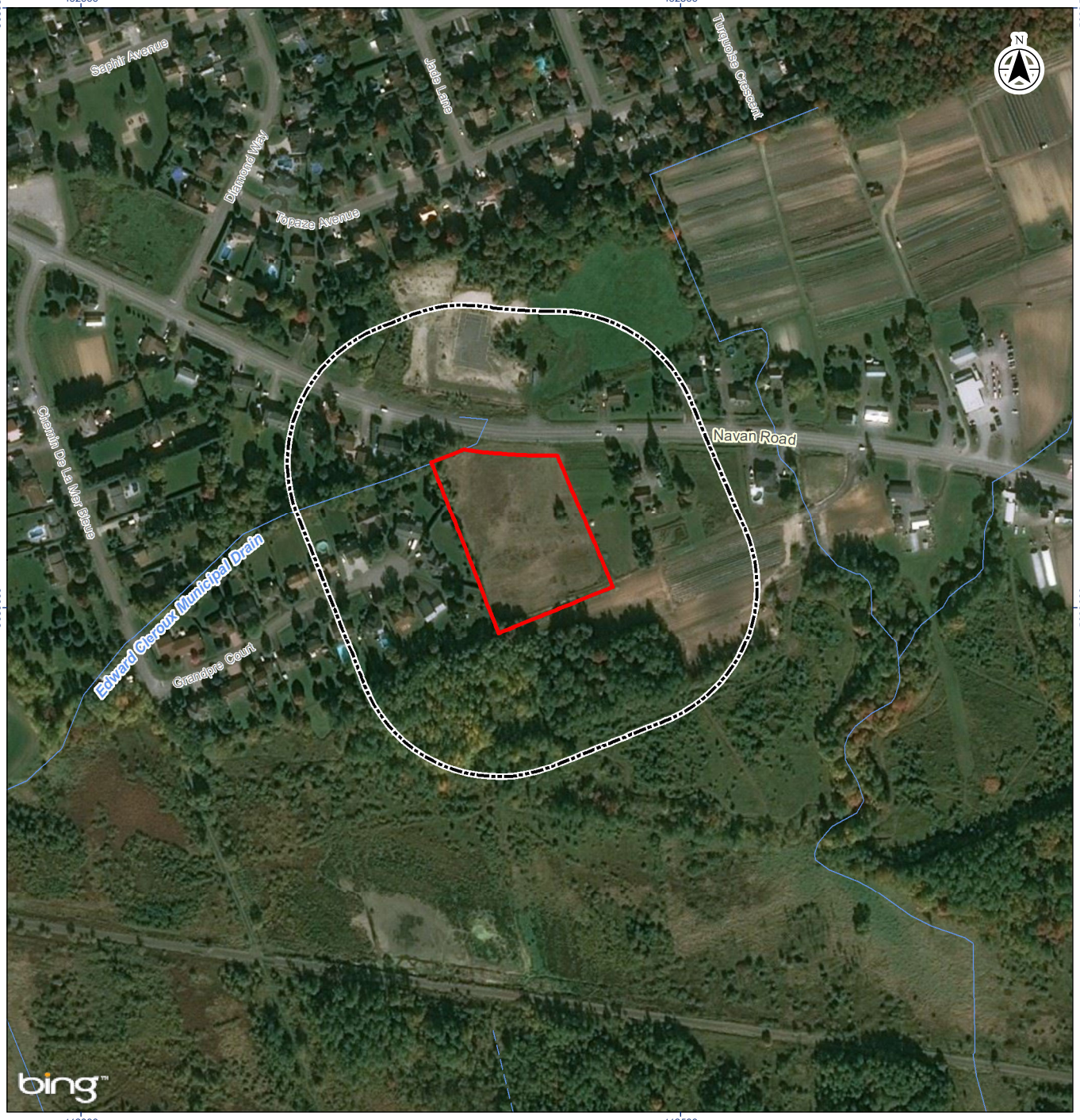
# APPENDICES

# Appendix A FIGURES





Legend

- Subject Property
- Study Area (120 m Buffer)
- Watercourse (Intermittent)
- Watercourse (Permanent)

0 100 200 metres

1:5,000 (at original document size of 8.5x11)

**Notes**

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery: © 2018 Microsoft Corporation © 2018 DigitalGlobe ©CNES (2018) Distribution Airbus DS . No Imagery Date Provided.

Stantec

Project Location
Ottawa, Ontario

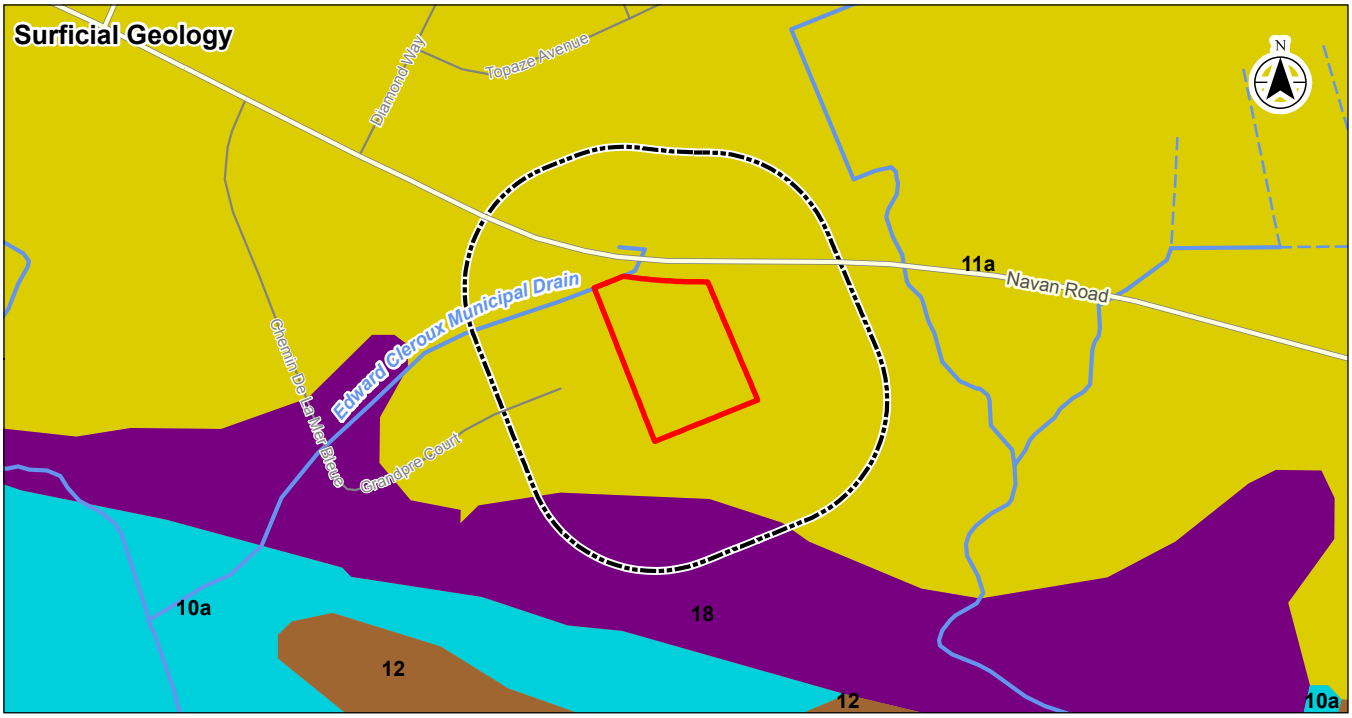
160410200 REVA
Prepared by IP on 2018-10-10
Technical Review by PM on 2018-10-10

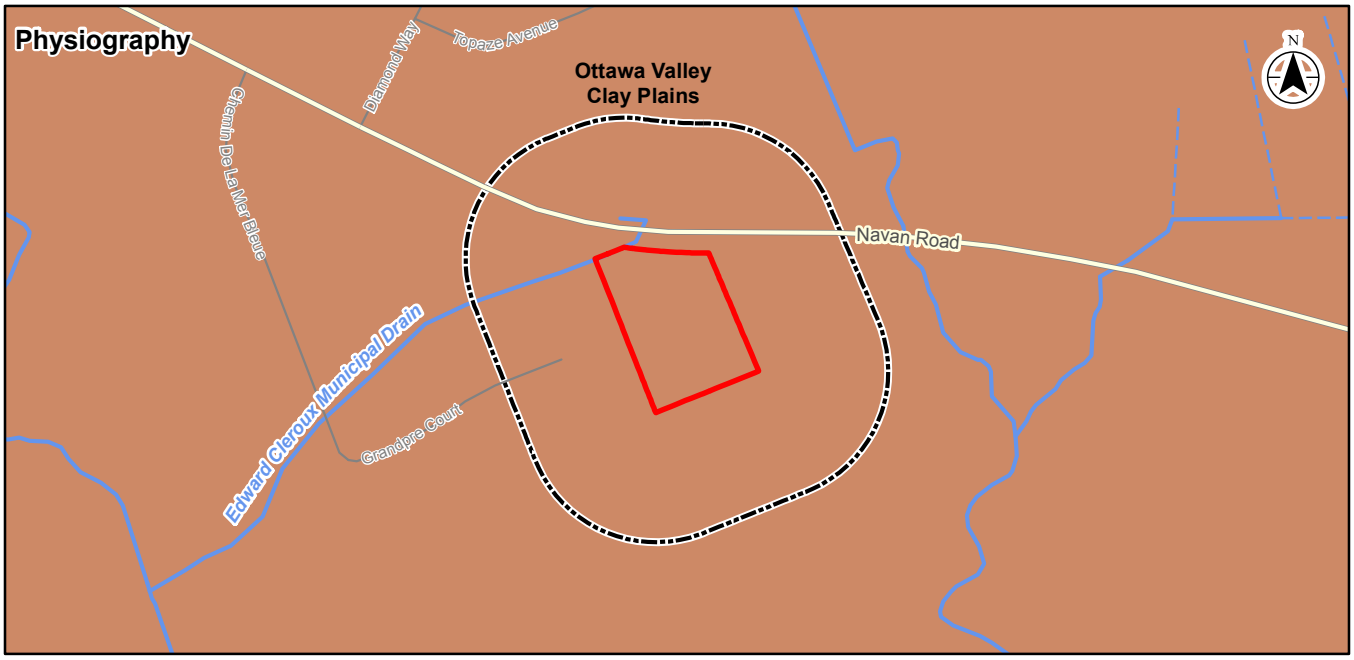
Client/Project
ST. ANTHONY COPTIC ORTHODOX CHURCH
3856, 3866 AND 3876 NAVAN ROAD - EIS

Figure No.
1

Title
**Subject Property**

\\cd1220-f02\Work_group\01409\active_Other_PCs_Active\221 - Ottawa\160410200\drawing\Figures\Terrestrial\InternalMaps\EIS\160410200_Fig02_EIS_Soils_Geology.mxd Revised: 2018-10-10 By: ipodrug





**Notes**
1. Coordinate System: NAD 1983 UTM Zone 18T
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2017.

Legend

- Subject Property
- Study Area (120 m Buffer)

Surficial Geology

- 18: Colluvial deposits
- 12: Older alluvial deposits
- 11a: Coarse-textured glaciomarine deposits (Deltaic deposits)
- 10a: Fine-textured glaciomarine deposits (Massive-well laminated)

Physiography Region

- Ottawa Valley Clay Plains

0 100 200 metres

1:7,000 (at original document size of 8.5x11)

Stantec

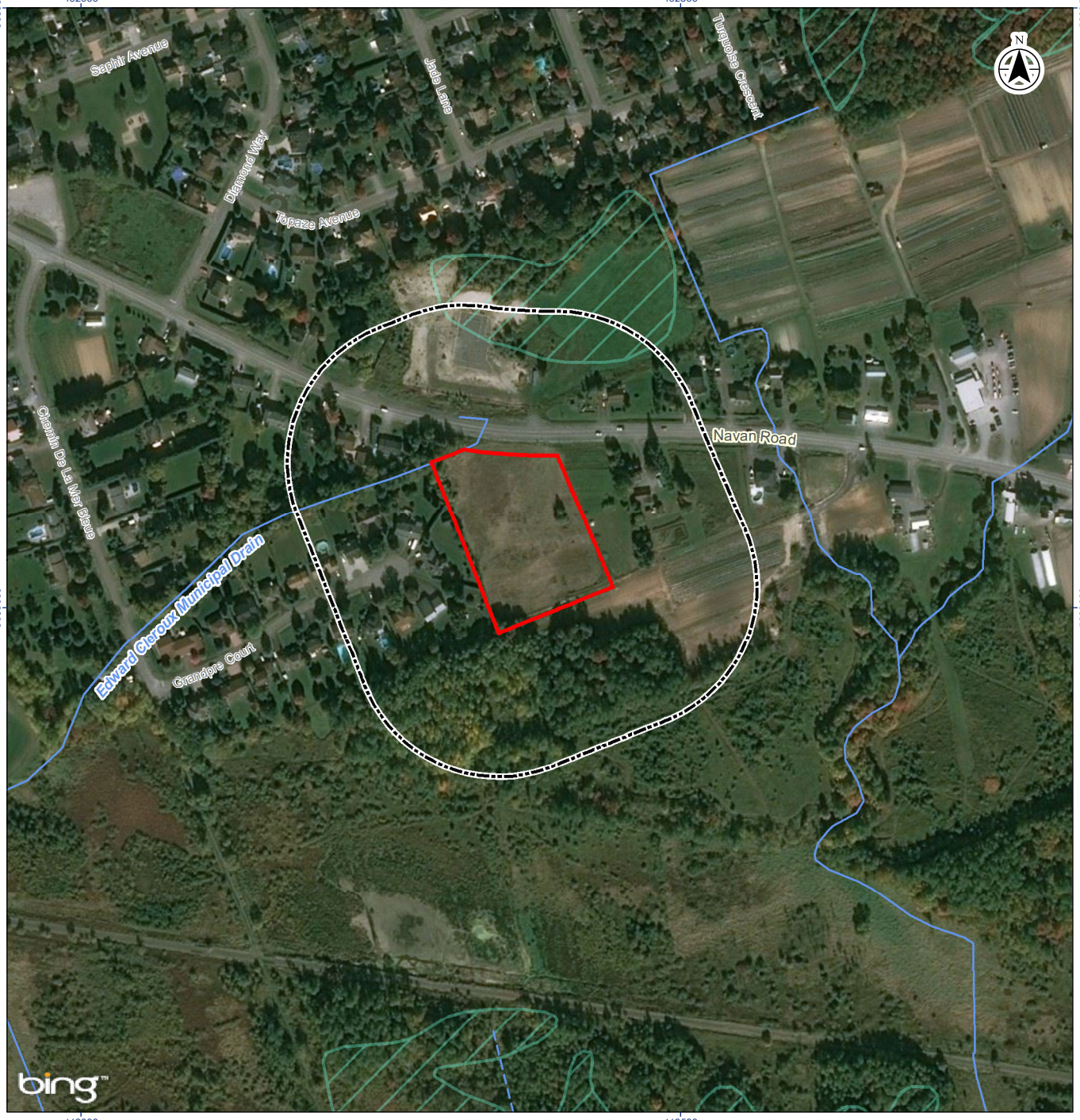
Project Location
Ottawa, Ontario

160410200 REVC
Prepared by IP on 2018-10-10
Technical Review by PM on 2018-10-10

Client/Project
ST. ANTHONY COPTIC ORTHODOX CHURCH
3856, 3866 AND 3876 NAVAN ROAD - EIS

Figure No.
**2**

Title
**Soils and Geology**





Legend

- Subject Property
- Study Area (120 m Buffer)
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Wetland, Not evaluated per OWES

0 100 200 metres

1:5,000 (at original document size of 8.5x11)

**Notes**

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Stantec

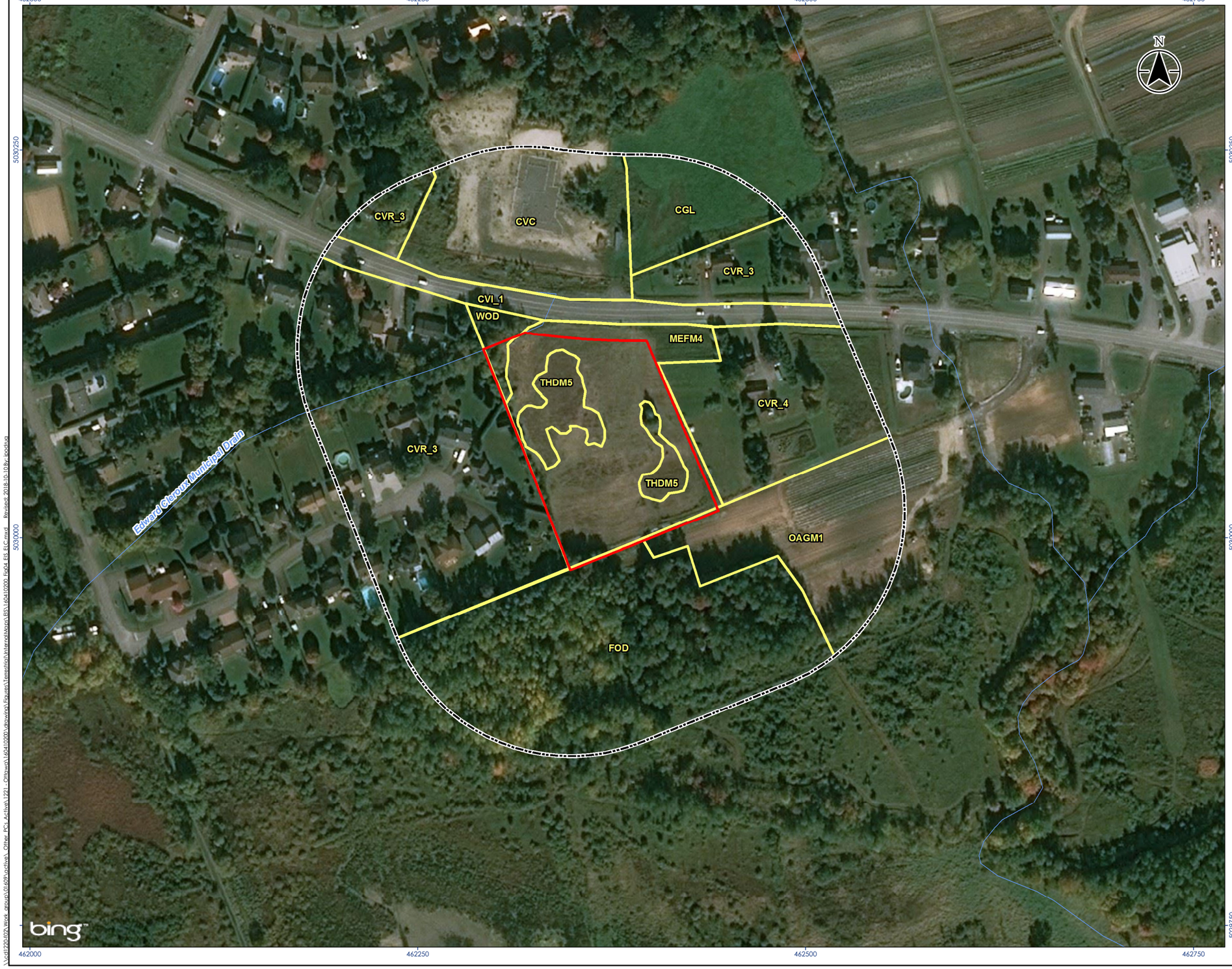
Project Location
Ottawa, Ontario

160410200 REVA
Prepared by IP on 2018-10-10
Technical Review by PM on 2018-10-10

Client/Project
ST. ANTHONY COPTIC ORTHODOX CHURCH
3856, 3866 AND 3876 NAVAN ROAD - EIS

Figure No.
**3**

Title
**Surface Water and Wetlands**




Stantec

Legend

- Subject Property
- Study Area (120 m Buffer)
- ELC
- Watercourse (Permanent)

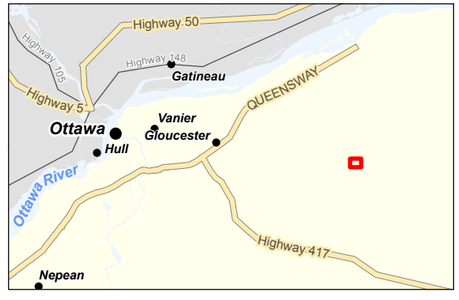
| | |
|---|---|
| MEFM4 | Fresh - Moist Forb Meadow Ecosite |
| THDM5 | Fresh - Moist Deciduous Thicket Ecosite |
| WOD | Deciduous Woodland |
| FOD | Deciduous Forest |
| OAGM1 | Annual Row Crops |
| CGL | Green Lands |
| CVI_1 | Transporation |
| CVR_3 | Single Family Residential |
| CVR_4 | Rural Property |
| CVC | Commercial and Institutional |

0 140 metres

1:2,500 (At original document size of 11x17)

**Notes**

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.
3. Orthoimagery:© 2018 Microsoft Corporation © 2018 DigitalGlobe ©CNES (2018) Distribution Airbus DS . No Imagery Date Provided



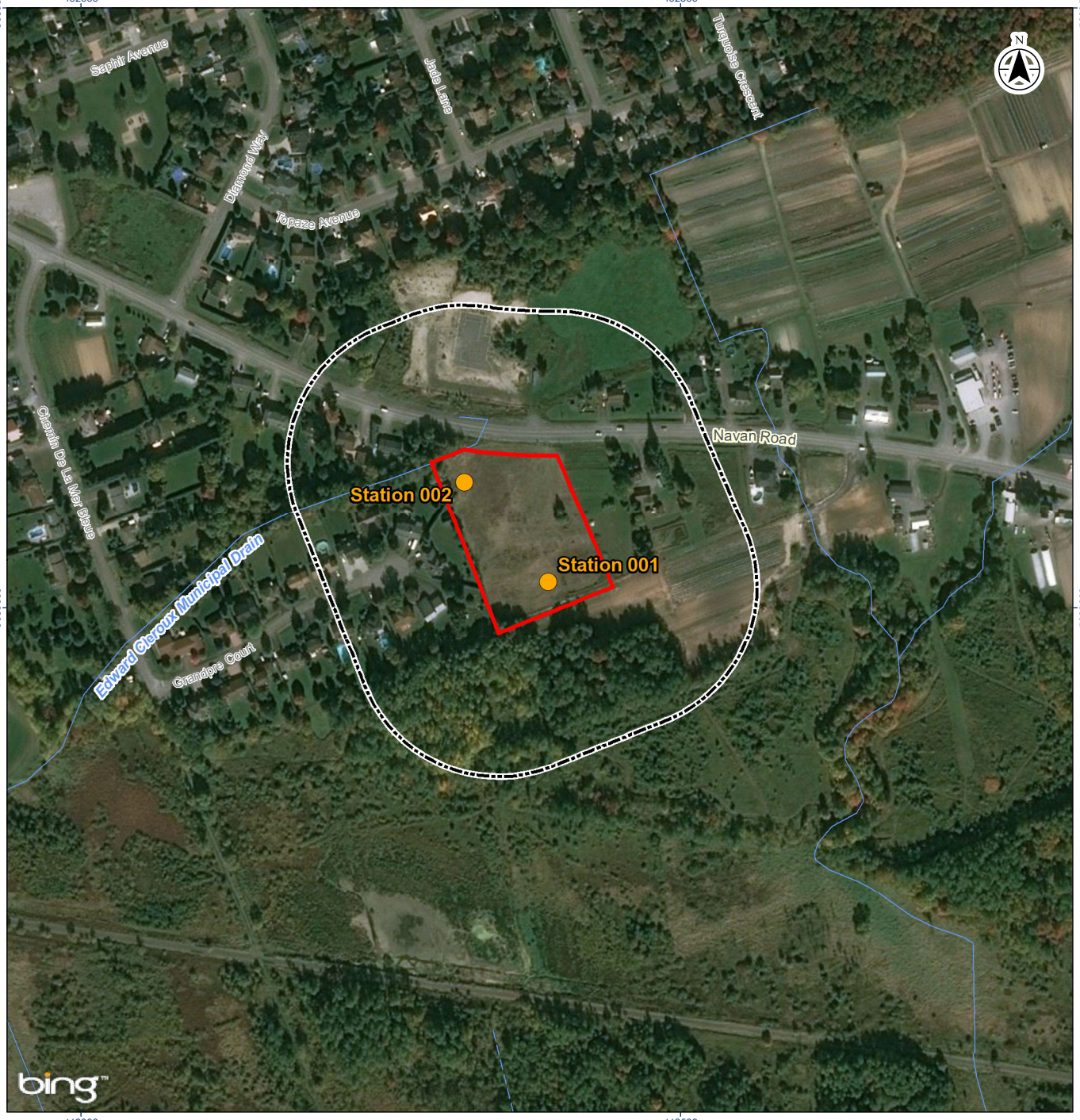

Project Location
Ottawa, ON

160410200 REVA
Prepared by IP on 2018-10-10
Technical Review by PM on 2018-10-10

Client/Project
ST. ANTHONY COPTIC ORTHODOX CHURCH
3856, 3866 AND 3876 NAVAN ROAD - EIS

Figure No.
**4**

Title
## Ecological Land Classifications





Legend

- Breeding Bird Survey Location
- Subject Property
- Study Area (120 m Buffer)
- Watercourse (Intermittent)
- Watercourse (Permanent)

0 100 200 metres

1:5,000 (at original document size of 8.5x11)

**Notes**

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery: © 2018 Microsoft Corporation © 2018 DigitalGlobe ©CNES (2018) Distribution Airbus DS . No Imagery Date Provided.

Stantec

Project Location
Ottawa, Ontario

160410200 REVA
Prepared by IP on 2018-10-10
Technical Review by PM on 2018-10-10

Client/Project
ST. ANTHONY COPTIC ORTHODOX CHURCH
3856, 3866 AND 3876 NAVAN ROAD - EIS

Figure No.
**5**

Title
**Breeding Bird Survey Locations**

# Appendix B AGENCY CONSULTATION

| | |
|---|---|
| **From:** | Lyon, Christian |
| **To:** | "Inforequest, Kemptville (MNRF)" |
| **Subject:** | MNRF Information Request - Project # 160410200 - Environmental Impact Statement (St. George and St. Anthony Coptic Orthodox Church) |
| **Date:** | Wednesday, March 07, 2018 1:59:00 PM |
| **Attachments:** | KV_InfoRequest_EN_Navan Rd_20180306.pdf<br>KV_InfoRequest_EN_Navan Rd_20180306.xlsx<br>160410200_NavanRd Site Location_20180306.pdf |

---

To whom it may concern,

On behalf of our client (St. George and St. Anthony Coptic Orthodox Church) I am writing to request any information the Ministry of Natural Resources (MNRF) might have within, nearby, or from adjacent properties within the approximate boundaries of the Sites (please see attached for map) related to:

- Natural Heritage Features
- Provincially Significant Wetlands
- Significant Wildlife Habitat
- Habitat for Endangered or Threatened Species
- Significant Valleylands
- Significant Woodlands, and
- Fish and Fish Habitat

The purpose of this request is to complete an Environmental Impact Statement to support a Site Plan Control Application for the City of Ottawa.

If any further information is required by Stantec to complete the information request do not hesitate to contact me directly.

Thank you,
Christian Lyon

**Christian Lyon**
Planner/Project Manager
Stantec, Environmental Services
400 - 1331 Clyde Avenue, Ottawa ON K2C 3G4
Phone: 613.738.6044
Cell: 343.999.7573
Christian.Lyon@stantec.com

Ontario

Natural. Valued. Protected.

Email to MNR


# Natural Areas and Features Information Request Form

## Contact Information

Clear Contact

**Name:** Christian Lyon

**Address:** 1331 Clyde Avenue Suite 400

**Phone Number:** (613) 738-6044 **Owner** **Consultant**

**E-mail Address:** christian.lyon@stantec.com

**All red fields are mandatory*

*This includes X & Y Coordinates.*

*Please see page 2 for assistance.*

## Site Information

**Project Name:** See attached spreadsheet

Clear Site

**Geographic Township:** CUMBERLAND **Lot:** 7 **Concession:** 11

***Please refer to map on page 2 for info*

**X:** **Y:** **Address:** See attached

***If more than 1 site, please provide all individual coordinates in an attached spreadsheet*

## Type of Proposal

Clear Details

- ☐ Severance / Zoning
- ☐ Hydroline clearing
- ☐ RE Projects
- ☐ Aggregate Project
- ☐ Drains / Roads / Culverts
- ☐ Small Scale Projects (less than 5 hectares)
- ☐ Large Scale Projects (5 hectares or greater)
- ☐ Other: _____

## Attachments

****Please attach a Site Map showing the area of interest*

- ☐ Picture
- ☑ Map(s)
- ☐ Engineered Drawings
- ☐ Other: _____

## Request

I would like to request the following information for the property identified above:

On behalf of our client (St. George and St. Anthony Coptic Orthodox Church) I am writing to request any information the Ministry of Natural Resources and Forestry (MNRF) might have within, nearby, or from adjacent properties within the approximate boundaries of the Site (please

To better respond to your request please briefly outline the purpose for which this information is required
(e.g. proposed development, lot severance, etc. or attach details):

The purpose of this request is to complete an Environmental Impact Statement to support a Site Plan Control Application for the City of Ottawa.

**Date of works proposed:** ____ / _____ / _____

Please forward the competed form to:

***Kemptville.Inforequest@Ontario.ca*** OR **Fax: 613-258-3920**

**Attention: Information Requests**

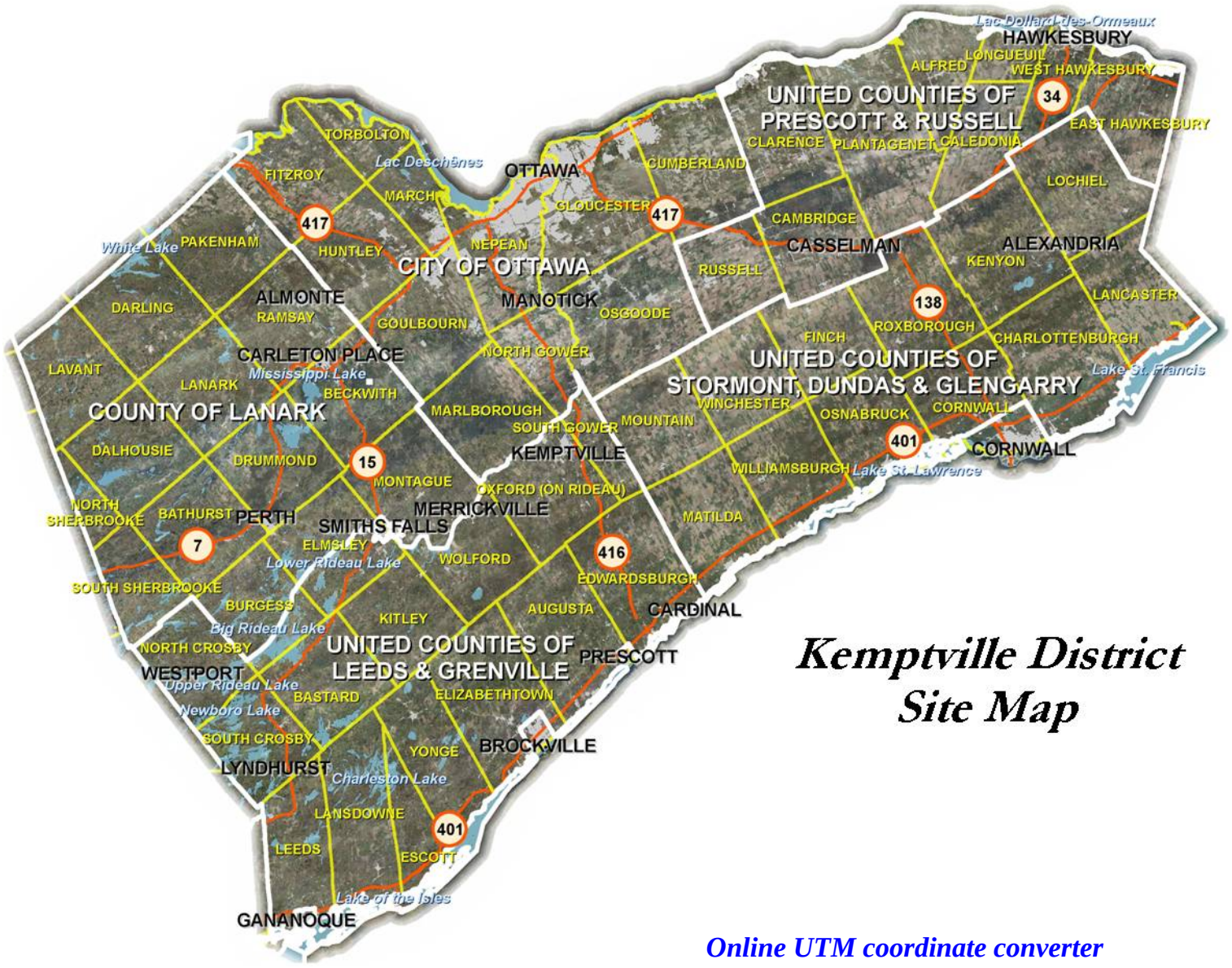
**10 Campus Drive, Postal Bag 2002**

**Kemptville, ON K0G 1J0**

*Personal information contained in this form is collected in order to fulfill your request, respond to your inquiries and for other administration purposes. With regard to the personal information it collects, the ministry is bound by privacy protection rules under the **Freedom of Information and Protection of Privacy Act** and takes all necessary steps to safeguard personal information collected.*

*Please Note: This request MUST be made by the property owner or by someone acting on their behalf. Depending on the nature of the request, it may take 6-8 weeks to respond to your inquiry. If the request does not include the mandatory information, it may delay response time.*

☑ ***I have read the above and agree to all Terms and Conditions***




# Kemptville District Site Map

***Online UTM coordinate converter***

**How to get X, Y coordinates from Google Maps (2 options):**

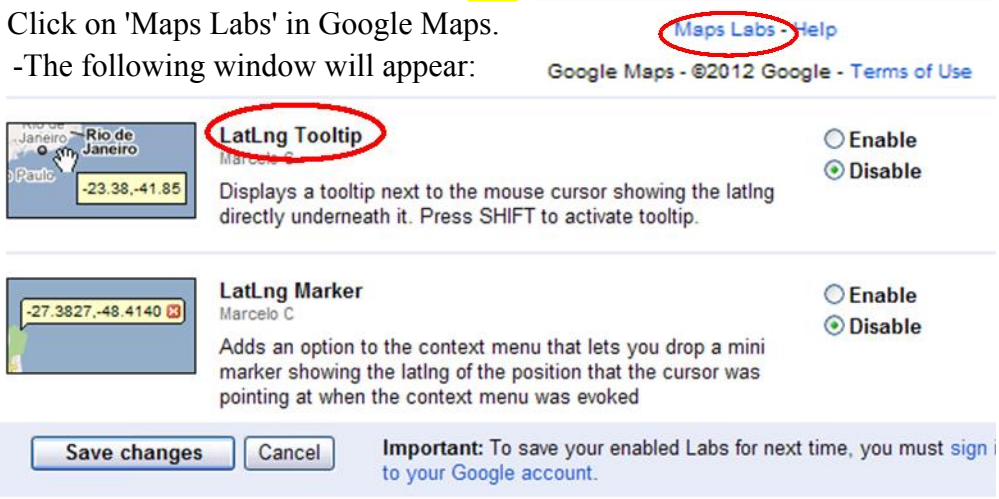
1.) Right-click on the map, at the point of interest, and select 'What's here?'.

-The Latitude & Longitude of the mouse click, in decimal degrees, will automatically appear in the Search box.

**OR**

2.) Click on 'Maps Labs' in Google Maps.

-The following window will appear:




-Enable the LatLng Tooltip and then Save Changes.

-Now every time the **SHIFT** button is pressed in Google Maps, a Tool tip will appear with the Latitude and Longitude of the mouse location in decimal degrees.

REFERENCE PLAN OF SURVEY OF

# PART OF LOT 7
# CONCESSION 11

GEOGRAPHIC TOWNSHIP OF CUMBERLAND

# NOW IN THE CITY OF OTTAWA
# 2012

SURVEYED BY: ARPENTAGE DUTRISAC SURVEYING INC.
SCALE 1 : 500

0 5 10 15 20 30 Metres

I REQUIRE THIS PLAN TO BE DEPOSITED UNDER THE LAND TITLES ACT.

DATE DECEMBER 12th 2012

DENIS DUTRISAC
ONTARIO LAND SURVEYOR
ROCKLAND, ONTARIO

**PLAN 4R-26690**

RECEIVED AND DEPOSITED

DATE DEC 19, 2012

REPRESENTATIVE FOR THE LAND REGISTRAR FOR THE LAND TITLES DIVISION OF OTTAWA-CARLETON N° 4.

## LAND TITLES SCHEDULE

| PART | PART OF LOT | CONCESSION | AREA(Ha) | P.I.N. |
|---|---|---|---|---|
| 1 | 7 | 11 | 0.4720 | ALL OF 04352-0133(LT) |
| 2 | | | 0.4722 | |
| 3 | | | 0.4728 | |
| 4 | | | 1.2227 | |
| 5 | | | 0.0355 | |

**METRIC**

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

## SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.

2. THE SURVEY WAS COMPLETED ON THE 7th DAY OF DECEMBER, 2012

12th DECEMBER, 2012
DATE

DENIS DUTRISAC
ONTARIO LAND SURVEYOR
ROCKLAND, ONTARIO

## LEGEND

| | | |
|---|---|---|
| ■ | DENOTES | SURVEY MONUMENT FOUND |
| □ | DENOTES | SURVEY MONUMENT PLANTED |
| SIB | DENOTES | STANDARD IRON BAR ( 25mm X 120cm ) |
| IB | DENOTES | IRON BAR ( 16mm X 60cm ) |
| SSIB | DENOTES | SHORT STANDARD IRON BAR ( 25mm X 60cm ) |
| CB | DENOTES | CATCH BASIN |
| Ø | DENOTES | ROUND |
| SU | DENOTES | SOURCE UNKNOWN |
| WIT. | DENOTES | WITNESS |
| Meas. | DENOTES | MEASURED |
| P.I.N. | DENOTES | PARCEL IDENTIFICATION NUMBER |
| Plan | DENOTES | EXPROPRIATION PLAN 33982 |
| O.L.S. | DENOTES | ONTARIO LAND SURVEYOR |
| INST. N° | DENOTES | INSTRUMENT NUMBER |
| CON. | DENOTES | CONCESSION |
| A | DENOTES | ARC |
| R | DENOTES | RADIUS |
| C | DENOTES | CHORD |
| N° 990 | DENOTES | J.G. PAYETTE, O.L.S. |
| N° 1491 | DENOTES | DENIS DUTRISAC, O.L.S. |
| AOV | DENOTES | ANNIS, O'SULLIVAN & VOLLEBEKK ONTARIO LAND SURVEYORS |

DISTANCES ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 1.000035.

BEARING REFERENCE:

BEARINGS SHOWN HEREON ARE GRID (CSRS) (1997) BEARINGS AND ARE FROM THE COMPUTED BEARING OF N66°56'05"E BETWEEN ICMS 00119883074 (N. 5021172.558 E. 354418.740) AND ICMS 0011967U530 (N. 5047665.641 E. 416635.079) AND ARE REFERRED TO THE CENTRAL MERIDIAN OF ZONE 9 MTM OF THE ONTARIO CO-ORDINATE SYSTEM LONGITUDE 76°30'W.

COORDINATE VALUES ARE TO URBAN ACCURACY IN ACCORDANCE WITH O.REG 216/10.

| | | |
|---|---|---|
| POINT (A) | NORTHING: 5031971.18 | EASTING: 384733.73 |
| POINT (B) | NORTHING: 5031881.55 | EASTING: 384523.36 |
| POINT (C) | NORTHING: 5032022.98 | EASTING: 384464.53 |

CAUTION:
COORDINATES CANNOT IN THEMSELVES BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.


ARPENTAGE DUTRISAC SURVEYING INC.
ONTARIO LAND SURVEYORS
ROCKLAND
PHONE: (613) 446-7101
FAX: (613) 446-7102


INDEX :
CUM-11-7-12

| | |
|---|---|
| **From:** | Inforequest, Kemptville (MNRF) |
| **To:** | Lyon, Christian |
| **Cc:** | Inforequest, Kemptville (MNRF) |
| **Subject:** | MNR Kemptville District Information Request (2018_CUM-4506) Response |
| **Date:** | Friday, April 13, 2018 1:48:09 PM |
| **Attachments:** | ESA_Infosheet-InfoRequest.pdf<br>NHIC-LIO_Infosheet-InfoRequest.pdf<br>2018_CUM-4506_Response.pdf |
| **Importance:** | High |

---

Hello,

Christian Lyon
Stantec

Please find attached a response to your information request for project 'Project # 160410200 - Environmental Impact Statement (St. George and St. Anthony Coptic Orthodox Church)'.

Sincerely,

Information Request Services
Kemptville District
Ministry of Natural Resources

**Ministry of Natural Resources and Forestry**

Kemptville District

10 Campus Drive
Postal Box 2002
Kemptville ON K0G 1J0
Tel.: 613 258-8204
Fax: 613 258-3920

**Ministère des Richesses naturelles et des Forêts**

District de Kemptville

10, promenade Campus
Case postale, 2002
Kemptville ON K0G 1J0
Tél.: 613 258-8204
Téléc.: 613 258-3920

Ontario

Fri. Apr 13, 2018

Christian Lyon
Stantec
400-1331 Clyde Avenue
Ottawa, Ontario
K2C 3G4
(613) 738-6044
christian.lyon@stantec.com

Attention: Christian Lyon

**Subject: Information Request - Developments**
**Project Name: Project # 160410200 - Environmental Impact Statement (St. George and St. Anthony Coptic Orthodox Church)**
**Site Address: 3856, 3866 and 3876 Navan Rd, Navan, ON K4B 1H9**
**Our File No. 2018_CUM-4506**

**Natural Heritage Values**

The Ministry of Natural Resources and Forestry (MNRF) Kemptville District has carried out a preliminary review of the above mentioned area in order to identify any potential natural resource and natural heritage values.

The following Natural Heritage values were identified for the general subject area:

- Municipal Drain, Aldema Cleroux Municipal Drain
- Municipal Drain, Antoine Cleroux Municipal Drain
- Municipal Drain, Edward Cleroux Municipal Drain
- Municipal Drain, Lalonde Cleroux Municipal Drain
- Unevaluated Wetland (Not evaluated per OWES)

Municipal Official Plans contain information related to natural heritage features. Please see the local municipal Official Plan for more information, such as specific policies and direction pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality. Many municipalities require environmental impact studies and other supporting studies be carried out as part of the development application process to allow the municipality to make planning decisions which are consistent with the Provincial Policy Statement (PPS, 2014).

The MNRF strongly encourages all proponents to contact partner agencies and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements, authorizations and approval timelines; Ministry of the Environment

and Climate Change (MOECC) and the local Conservation Authority may require approvals and permitting where natural values and natural hazards (e.g., floodplains) exist.

As per the Natural Heritage Reference Manual (NHRM, 2010) the MNRF strongly recommends that an ecological site assessment be carried out to determine the presence of natural heritage features and species at risk and their habitat on site. The MNRF can provide survey methodology for particular species at risk and their habitats.

The NHRM also recommends that cumulative effects of development projects on the integrity of natural heritage features and areas be given due consideration. This includes the evaluation of the past, present and possible future impacts of development in the surrounding area that may occur as a result of demand created by the presently proposed project.

**Wildland Fire**

MNRF woodland data shows that the site contains woodlands. The lands should be assessed for the risk of wildland fire as per PPS 2014, Section 3.1.8 "*Development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may however be permitted in lands with hazardous forest types for wildland fire where the risk is mitigated in accordance with wildland fire assessment and mitigation standards".* Further discussion with the local municipality should be carried out to address how the risks associated with wildland fire will be covered for such a development proposal. Please see the Wildland Fire Risk Assessment and Mitigation Guidebook (2016) for more information.

**Significant Woodlands**

Section 2.1.5 b) of the PPS states: *Development and site alteration shall not be permitted in significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* The 2014 PPS directs that significant woodlands must be identified following criteria established by the Ontario Ministry of Natural Resources and Forestry, i.e. the Natural Heritage Reference Manual (NHRM), 2010. Where the local or County Official Plan has not yet updated significant woodland mapping to reflect the 2014 PPS, all wooded areas should be reviewed on a site specific basis for significance. The MNRF Kemptville District modelled locations of significant woodlands in 2011 based on NHRM criteria. The presence of significant woodland on site or within 120 metres should trigger an assessment of the impacts to the feature and its function from the proposed development.

**Significant Wildlife Habitat**

Section 2.1.5 d) of the PPS states: *Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* It is the responsibility of the approval authority to identify significant wildlife habitat or require its identification. The MNRF has several guiding documents which may be useful in identification of significant wildlife habitat and characterization of impacts and mitigation options:

- Significant Wildlife Habitat Technical Guide, 2000
- The Natural Heritage Reference Manual, 2010
- Significant Wildlife Habitat Mitigation Support Tool, 2014

- Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E and 6E, 2015

The habitat of special concern species (as identified by the Species at Risk in Ontario list) and Natural Heritage Information Centre tracked species with a conservation status rank of S1, S2 and S3 may be significant wildlife habitat and should be assessed accordingly.

**Water**

The Ministry of Natural Resources and Forestry (MNRF) has established timing window guidelines to restrict in-water work related to an activity during certain periods. These restricted periods are identified in order to protect fish from impacts of works or undertakings in and around water during spawning and other critical life stages. A suite of appropriate measures should be taken for projects involving in-water works to minimize and mitigate impacts to fish, water quality and fish habitat, and include:

- avoiding in-water works during the timing guidelines;
- installation of sediment/erosion control measures;
- avoiding the removal, alteration, or covering of substrates used for fish spawning, feeding, over-wintering or nursery areas; and
- debris control measures to manage falling debris (e.g. spalling).

**Timing guidelines are based on species* presence and are therefore subject to change if new information becomes available. Timing guidelines in Kemptville District are:**

| Waterbody (and applicable geography or Fisheries Management Zone) | Timing Guidelines (no in-water works) |
|---|---|
| ○ St. Lawrence River (FMZ 20) | March 15 – July 15 (Spring spawning species) |
| ○ Ottawa River – Lac Des Chats (FMZ 12) | October 1 to July 15 (Spring and fall spawning species, including Lake Trout and Lake Whitefish) |
| ○ Ottawa River – Lac Deschenes (FMZ 12) | October 15 to July 15 (Spring and fall spawning species, including Cisco) |
| ○ Ottawa River – Lac Dollard des Ormeaux (FMZ 12) | January 1 to July 15 (Winter and spring spawning species, including Burbot) |
| ○ Big Rideau Lake (South Burgess, North Burgess, Bastard and South Elmsley Twps)<br>○ Charleston Lake (Lansdowne and Escott Twps)<br>○ Crow Lake (South Crosby Twp) | October 1 to June 30 (Spring and fall spawning species, including Lake Trout) |
| ○ Bass Lake (South Elmsley Twp)<br>○ Lower Rideau Lake (South Elmsley Twp)<br>○ Bob's Lake (South Sherbrooke Twp)<br>○ Christie Lake (South Sherbrooke Twp)<br>○ Dalhousie Lake (Dalhousie Twp)<br>○ Davern Lake (South Sherbrooke Twp)<br>○ Farren Lake (South Sherbrooke Twp)<br>○ Grippen Lake (Leeds Twp)<br>○ Indian Lake (South Crosby Twp)<br>○ Little Long Lake (Lansdowne Twp)<br>○ Millpond Lake (South Burgess) | October 15 to June 30 (Spring and Fall spawning species, including Lake Whitefish and Cisco) |

| | |
|---|---|
| ○ Otter Lake (South Elmsley, South Burgess and Bastard Twps)<br>○ Otty Lake (North Burgess and North Elmsley Twps)<br>○ Pike Lake (North Burgess Twp)<br>○ Silver Lake (South Sherbrooke Twp)<br>○ Redhorse Lake (Lansdowne Twp)<br>○ Tay River (South Sherbrooke, Bathurst, Drummond and North Elmsley Twps)<br>○ Wolfe Lake (North Crosby Twp) | |
| ○ Bennett Lake (Bathurst Twp)<br>○ Crosby Lake (North Crosby Twp)<br>○ Gananoque River (Leeds Twp)<br>○ Lac Georges (Plantagenet and Alfred Twps)<br>○ Gillies Lake (Lanark Twp)<br>○ Little Crosby Lake (North Crosby Twp)<br>○ McLaren Lake (North Burgess Twp)<br>○ Mississippi Lake (Drummond, Beckwith and Ramsay Twps)<br>○ Mississippi River (Beckwith, Ramsay, Pakenham and Fitzroy Twps)<br>○ Raisin River below Martintown dam (Charlottenburgh Twp)<br>○ Rideau River (Wolford, Oxford, Montague, Marlborough, South Gower, North Gower, Osgood, Nepean and Gloucester Twps)<br>○ South Lake (Leeds Twp)<br>○ South Nation River below Plantagenet weir (Plantagenet Twp)<br>○ Upper Rideau Lake (North Crosby Twp)<br>○ Westport Sand Lake (North Crosby Twp) | January 1 – June 30<br>(Winter and spring spawning species, including Burbot) |
| ○ Small rivers and streams (denoted on 1:50,000 National Topographic System maps as being one lined)<br>○ All other waterbodies in FMZ 18 | March 15 to June 30<br>(Spring spawning species) |

**Please note: Additional timing restrictions may apply as they relate to endangered and threatened species for works in both water and wetland areas. Timing restrictions are subject to change, depending on species found in a given waterbody.*

In addition to adhering to the above timing guidelines, a work permit from the MNRF may be required depending on the nature and scope of work. No encroachment on the bed or banks of a waterbody/watercourse (e.g. abutments, embankments, etc.) is permitted without MNRF approval. Additional information regarding work permits may be found online at https://www.ontario.ca/page/crown-land-work-permits#section-2.

The MNRF does not have any water quality or quantity data available. We recommend that the Ministry of the Environment and Climate Change be contacted for such data along with the local Conservation Authority. For further information regarding fish habitat and protocols, please refer to the following interagency, document, *Fish Habitat Referral Protocol for* Ontario at: http://www.web2.mnr.gov.on.ca/mnr/ebr/fish_hab_referral/protocol_en.pdf.

Additional approvals and permits may be required under the Fisheries Act and the Species at Risk Act; please contact Fisheries and Oceans Canada to determine requirements and next steps. There may also be approvals required by the local Conservation Authority or Transport Canada, and these agencies should be contacted directly to determine requirements. As the MNRF is responsible for the management of provincial fish populations, we request ongoing involvement in such discussions in order to ensure population conservation.

**Species at Risk**

A review of the Natural Heritage Information Centre (NHIC) and internal records indicate that there is a potential for the following threatened (THR) and/or endangered (END) species on the site or in proximity to it:

- Barn Swallow (THR)
- Blanding's Turtle (THR)
- Bobolink (THR)
- Butternut (END)
- Chimney Swift (THR)
- Eastern Meadowlark (THR)
- Henslow's Sparrow (END)
- Little Brown Bat (END)
- Northern Long-eared Bat (END)
- Sensitive Species (END)
- Tri-Colored Bat (END)

All endangered and threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential works should consider disturbance to the individuals as well as their habitat (e.g. nesting sites). General habitat protection applies to all threatened and endangered species. Note some species in Kemptville District receive regulated habitat protection. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under the ESA. For more on how species at risk and their habitat is protected, please see: https://www.ontario.ca/page/how-species-risk-are-protected.

If the proposed activity is known to have an impact on any endangered or threatened species at risk (SAR), or their habitat, an authorization under the ESA may be required. It is recommended that MNRF Kemptville be contacted prior to any activities being carried out to discuss potential survey protocols to follow during the early planning stages of a project, as well as mitigation measures to avoid contravention of the ESA. Where there is potential for species at risk or their habitat on the property, an Information Gathering Form should be submitted to Kemptville MNRF at sar.kemptville@ontario.ca.

The Information Gathering Form may be found here:
http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/FormDetail?OpenForm&ACT=RDR&TAB=PROFILE&ENV=WWE&NO=018-0180E

For more information on the ESA authorization process, please see:
https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization

One or more special concern species has been documented to occur either on the site or nearby. Species listed as special concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act and/or Migratory Birds Convention Act. Again, the habitat of special concern species may be significant wildlife habitat and should be assessed accordingly. Species of special concern for consideration:

- Common Nighthawk (SC)

- Short-eared Owl (SC)
- Snapping Turtle (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNRF should be contacted and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNRF.

Please note that information regarding species at risk is based largely on documented occurrences and does not necessarily include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNRF's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site.

The MNRF continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNRF for technical advice and to discuss what activities can occur without contravention of the Act. For specific questions regarding the Endangered Species Act (2007) or SAR, please contact MNRF Kemptville District at sar.kemptville@ontario.ca.

The approvals processes for a number of activities that have the potential to impact SAR or their habitat have recently changed. For information regarding regulatory exemptions and associated online registration of certain activities, please refer to the following website: https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species; or
- Additional occurrences of species are discovered on or in proximity to the site.

**This letter is valid until: Sat. Apr 13, 2019**

The MNRF would like to request that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

Dom Ferland
Management Biologist
dominique.ferland@ontario.ca

Encl.\

| | |
|---|---|
| **From:** | James Holland |
| **To:** | Lyon, Christian; Laura Crites |
| **Subject:** | RE: Inquiry for Confirmation of Information - Project # 160410200 - Environmental Impact Statement (St. George and St. Anthony Coptic Orthodox Church) |
| **Date:** | Thursday, March 08, 2018 10:45:12 AM |
| **Attachments:** | Info Request - 2018.pdf<br>160410200_NavanRd Site Location_20180306.pdf<br>image609f1e.PNG |

Hi Christian,

South Nation has classification information on a neighbouring municipal drain to the west. There may also be information in municipal documents concerning the natural heritage system and earlier Natural Area Reports (1997).

For a formal review in writing, we ask that the proponent request a Property Inquiry (see attached form). Our comments will also be obtained during the circulation of the site plan application.

Kind regards,
James

**From:** Lyon, Christian [mailto:Christian.Lyon@stantec.com]
**Sent:** March 7, 2018 2:01 PM
**To:** James Holland <jholland@nation.on.ca>
**Subject:** SNC: Inquiry for Confirmation of Information - Project # 160410200 - Environmental Impact Statement (St. George and St. Anthony Coptic Orthodox Church)

Good afternoon James,

On behalf of our client (St. George and St. Anthony Coptic Orthodox Church) I am writing to request any information South Nation Conservation may have within, nearby, or from adjacent properties within the approximate locations of the sites identified in the attached figure (parts 1 – 3 only) and related to:

Fish and Fish Habitat
Water Quality & Quantity
Natural Environment Features (e.g. species at risk provincial and/or federal)
Floodplain mapping; and
Water management studies

The purpose of this request is to complete an Environmental Impact Statement to support a Site Plan Control Application for the City of Ottawa.

| Sites | Township | Lot | Concession | X | Y |
|---|---|---|---|---|---|
| 3856 Navan Rd, Navan, ON K4B 1H9 | Cumberland | 7 | 11 | 45.423521 | -75.481616 |
| 3866 Navan Rd, Navan, ON K4B 1H9 | Cumberland | 7 | 11 | 45.423497 | -75.481069 |
| 3876 Navan Rd, Navan, ON K4B 1H9 | Cumberland | 7 | 11 | 45.423487 | -75.480492 |

If any further information is required by Stantec to complete this inquiry, please do not hesitate to contact me directly.

Thank you,
Christian Lyon

**Christian Lyon**

Planner/Project Manager
Stantec, Environmental Services
400 - 1331 Clyde Avenue, Ottawa ON K2C 3G4
Phone: 613.738.6044
Cell: 343.999.7573
Christian.Lyon@stantec.com



James Holland, MSc, RPP
South Nation Conservation
P. O. Box 29
38 Victoria Street
Finch, ON - K0C 1K0
Tel: 613-984-2948 ext. 227
Fax: 613-984-2872
Toll Free: 1-877-984-2948
jholland@nation.on.ca
www.nation.on.ca

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# Appendix C ELC FIELD CARDS

St. Anthony Monastery - Navan

**ELC** — COMMUNITY DESCRIPTION & CLASSIFICATION

| | | | |
|---|---|---|---|
| SITE (project no./name): | | POLYGON: n/a. | |
| SURVEYOR(S): J. Mansell | DATE: June 5 / 2018 | PHOTO No.: See photo log | |
| START: 0620 | END: 0730 | ZONE & UTM: 18T 462368E 5030031N | |

## POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|---|---|---|---|---|---|
| ■ TERRESTRIAL | ☐ ORGANIC | ☐ LACUSTRINE | ☐ NATURAL | ☐ PLANKTON | ☐ LAKE |
| ☐ WETLAND | ■ MINERAL SOIL | ☐ RIVERINE | ■ CULTURAL | ☐ SUBMERGED | ☐ POND |
| ☐ AQUATIC | ☐ PARENT MIN. | ☐ BOTTOMLAND | | ☐ FLOATING-LVD. | ☐ RIVER |
| | ☐ ACIDIC BEDRK. | ☐ TERRACE | | ☐ GRAMINOID | ☐ STREAM |
| | ☐ BASIC BEDRK. | ☐ VALLEY SLOPE | | ■ FORB | ☐ MARSH |
| SITE | ☐ CARB. BEDRK. | ■ TABLELAND | COVER | ☐ LICHEN | ☐ SWAMP |
| ☐ OPEN WATER | | ☐ ROLL. UPLAND | ■ OPEN | ☐ BRYOPHYTE | ☐ FEN |
| ☐ SHALLOW WATER | | ☐ CLIFF | ☐ SHRUB | ☐ DECIDUOUS | ☐ BOG |
| ■ SURFICIAL DEP. | | ☐ TALUS | ☐ TREED | ☐ CONIFEROUS | ☐ BARREN |
| ☐ BEDROCK | | ☐ CREVICE / CAVE | | ☐ MIXED | ■ MEADOW |
| | | ☐ ALVAR | | | ☐ PRAIRIE |
| | | ☐ ROCKLAND | | | ☐ THICKET |
| | | ☐ BEACH / BAR | | | ☐ SAVANNAH |
| | | ☐ SAND DUNE | | | ☐ WOODLAND |
| | | ☐ BLUFF | | | ☐ FOREST |
| | | | | | ☐ PLANTATION |

## STAND DESCRIPTION:

| | LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|---|---|---|---|---|
| 1 | CANOPY | | | |
| 2 | SUB-CANOPY | 3 | 1 | POPUTRE >> FRAXPEN |
| 3 | UNDERSTOREY | 5 | 4 | SOLIDAGO > ONOCSEN = Common Tansy |
| 4 | GRD. LAYER | 7 | 3 | Moss Sp. |

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

| | | | | | |
|---|---|---|---|---|---|
| STAND COMPOSITION: n/a | | | | | BA: n/a |
| SIZE CLASS ANALYSIS: | | <10 | 10 – 24 | 25 – 50 | >50 |
| STANDING SNAGS: | | <10 | 10 – 24 | 25 – 50 | >50 |
| DEADFALL/LOGS: | | <10 | 10 – 24 | 25 – 50 | >50 |
| ABUNDANCE CODES: | | N=NONE | R=RARE | O=OCCASIONAL | A=ABUNDANT |
| COMM. AGE: | X PIONEER | YOUNG | MID-AGE | MATURE | OLD GROWTH |

## SOIL ANALYSIS: n/a.

| | | | |
|---|---|---|---|
| TEXTURE: | DEPTH TO MOTTLES/GLEY | g= | G= |
| MOISTURE: | DEPTH OF ORGANICS: | | (cm) |
| HOMOGENEOUS / VARIABLE | DEPTH TO BEDROCK: | | (cm) |

## COMMUNITY CLASSIFICATION:

| | | |
|---|---|---|
| COMMUNITY CLASS: | Meadow | CODE: MEI |
| COMMUNITY SERIES: | Forb Meadow | CODE: MEF |
| ECOSITE: | Mineral Forb Meadow | CODE: MEFM |
| VEGETATION TYPE: | Fresh - Moist | CODE: MEFM4 |
| INCLUSION | n/a | CODE: - |
| COMPLEX | n/a | CODE: - |

**Notes:** (e.g. disturbance, surface water depths, etc.)

*BBS #1 completed during ELC.

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER 1 | 2 | 3 | 4 | COLL. |
|---|---|---|---|---|---|
| FRAXPEN | | R | | | |
| POPUTRE | | O | | | |
| VITRIP | | R | | | |
| V. Creeper | | R | | | |
| PRUNAN | | R | | | |
| SPIREA SP | | A | | | |
| SALIX SP | | R | | | |

| SPECIES CODE | LAYER 1 | 2 | 3 | 4 | COLL. |
|---|---|---|---|---|---|
| SOLIDAGO | | | D | | |
| ONOCSEN | | | A | | |
| C. Tansy | | | A | | |
| C. Milkweed | | | R | | |
| Purple Loosestrife | | | R | | |
| Black Raspberry | | | O | | |
| Red Raspberry | | | O | | |
| Yellow Hawkweed | | | O | | |
| QA Lace | | | O | | |
| RC Grass | | | O | | |
| Moss | | | | O | |



Print Name: Josh Mansell (Field Notes Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: (Field Notes QA/QC personnel)

St. Anthony Monastery - Naan

**ELC** — COMMUNITY DESCRIPTION & CLASSIFICATION

| | | | |
|---|---|---|---|
| SITE (project no./name): | | POLYGON: n/a | |
| SURVEYOR(S): J. Mansell | DATE: June 5/2018 | PHOTO No.: See photo log | |
| START: 0800 | END: 0830 | ZONE & UTM: 16T 462974E 5536081N | |

**POLYGON DESCRIPTION**

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|---|---|---|---|---|---|
| ■ TERRESTRIAL | ☐ ORGANIC | ☐ LACUSTRINE | ☐ NATURAL | ☐ PLANKTON | ☐ LAKE |
| ☐ WETLAND | ■ MINERAL SOIL | ☐ RIVERINE | ■ CULTURAL | ☐ SUBMERGED | ☐ POND |
| ☐ AQUATIC | ☐ PARENT MIN. | ☐ BOTTOMLAND | | ☐ FLOATING-LVD. | ☐ RIVER |
| | ☐ ACIDIC BEDRK. | ☐ TERRACE | | ☐ GRAMINOID | ☐ STREAM |
| | ☐ BASIC BEDRK. | ☐ VALLEY SLOPE | | ☐ FORB | ☐ MARSH |
| **SITE** | ☐ CARB. BEDRK. | ■ TABLELAND | **COVER** | ☐ LICHEN | ☐ SWAMP |
| ☐ OPEN WATER | | ☐ ROLL. UPLAND | ☐ OPEN | ☐ BRYOPHYTE | ☐ FEN |
| ☐ SHALLOW WATER | | ☐ CLIFF | ☐ SHRUB | ■ DECIDUOUS | ☐ BOG |
| ■ SURFICIAL DEP. | | ☐ TALUS | ■ TREED | ☐ CONIFEROUS | ☐ BARREN |
| ☐ BEDROCK | | ☐ CREVICE / CAVE | | ☐ MIXED | ☐ MEADOW |
| | | ☐ ALVAR | | | ☐ PRAIRIE |
| | | ☐ ROCKLAND | | | ■ THICKET |
| | | ☐ BEACH / BAR | | | ☐ SAVANNAH |
| | | ☐ SAND DUNE | | | ☐ WOODLAND |
| | | ☐ BLUFF | | | ☐ FOREST |
| | | | | | ☐ PLANTATION |

**STAND DESCRIPTION:**

| | LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|---|---|---|---|---|
| 1 | CANOPY | / | / | / |
| 2 | SUB-CANOPY | 3 | 4 | POPUTRE > FRAXPEN |
| 3 | UNDERSTOREY | 4 | 2 | SALIX > SPIREA |
| 4 | GRD. LAYER | / | / | / |

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| STAND COMPOSITION: n/a R | | | | | | | BA: n/a. | |
| SIZE CLASS ANALYSIS: | A | <10 | ■ | 10 – 24 | N | 25 – 50 | N | >50 |
| STANDING SNAGS: | N | <10 | N | 10 – 24 | N | 25 – 50 | N | >50 |
| DEADFALL/LOGS: | N | <10 | N | 10 – 24 | N | 25 – 50 | N | >50 |

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

| COMM. AGE: | X PIONEER | YOUNG | MID-AGE | MATURE | OLD GROWTH |
|---|---|---|---|---|---|

**SOIL ANALYSIS:** n/a

| | | | |
|---|---|---|---|
| TEXTURE: | DEPTH TO MOTTLES/GLEY | g= | G= |
| MOISTURE: | DEPTH OF ORGANICS: | | (cm) |
| HOMOGENEOUS / VARIABLE | DEPTH TO BEDROCK: | | (cm) |

**COMMUNITY CLASSIFICATION:**

| | | |
|---|---|---|
| COMMUNITY CLASS: | Thicket | CODE: TH |
| COMMUNITY SERIES: | Deciduous Thicket | CODE: THD |
| ECOSITE: | Mineral THD | CODE: THDM |
| VEGETATION TYPE: | Fresh - Moist THDM | CODE: THDM5 |
| INCLUSION | n/a | CODE: / |
| COMPLEX | n/a | CODE: / |

**Notes:** (e.g. disturbance, surface water depths, etc.)

* BBS # completed at the same time
* Herbaceous species same as MEFM4.

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER 1 | 2 | 3 | 4 | COLL. |
|---|---|---|---|---|---|
| POPUTRE | | D | | | |
| FRAXPEN | | R | | | |
| SALIX SP | | | O | | |
| SPIREA SP | | | O | | |

| SPECIES CODE | LAYER 1 | 2 | 3 | 4 | COLL. |
|---|---|---|---|---|---|



Print Name: Jess Mansell (Field Note Author)

Quality Control: This form is complete ☐ & legible ☐

Signature: _____ (Field Note Author) Date: _____

# Appendix D SPECIES AT RISK HABITAT ASSESSMENT

## Observed Species at Risk and/or Potential Species at Risk Habitat Within the Study Area

| Species | Habitat Preference | On- Subject Property | | Adjacent | Field Observations |
|---|---|---|---|---|---|
| | | Species observed (✓/×) | Potential Habitat observed (✓/×) | Potential Habitat observed (✓/×) | |
| **Plants** | | | | | |
| **Butternut** | Forest openings, and forest edges, with good sun exposure (Environment Canada, 2010). | × | × | ✓ | Potential habitat in the adjacent FOD community within the Study Area. No individuals were observed. |
| **Insects** | | | | | |
| **Rusty-patched bumble bee** | Habitat generalist. Occurs in a wide variety of habitats such as mixed farmland, sand dunes, marshes, urban and wooded areas (COSEWIC, 2010). | × | ✓ | ✓ | Potential habitat in all communities within the Study Area, however occurrence is highly unlikely due to lack of recent recorded observations. **Species is considered absent.** |
| **Gypsy cuckoo bumble bee** | Habitat generalist. Occur in a wide variety of habitats such as montane meadows, old fields, mixed farmlands, urban areas and open woodlands (COSEWIC, 2014). | × | ✓ | ✓ | Potential habitat in all communities within the Study Area, however occurrence is highly unlikely due to lack of recent recorded observations. **Species is considered absent.** |
| **Nine-spotted lady beetle** | Habitat generalist. Occur in a wide variety of habitats such as agricultural areas, suburban gardens, parks, coniferous forests, deciduous forests, prairie grasslands, meadows, riparian areas and isolated natural areas (COSEWIC, 2016). | × | ✓ | ✓ | Potential habitat in all communities within the Study Area, however occurrence is highly unlikely due to lack of recent recorded observations. **Species is considered absent.** |
| **Reptiles** | | | | | |
| **Blanding's turtle** | Lakes, ponds, and marshes, especially shallow water with abundant aquatic vegetation and a soft bottom; also, adjacent upland forests (COSEWIC, 2016a). | × | × | × | No potential habitat observed. **Species is considered absent.** |

| Species | Habitat Preference | On- Subject Property | | Adjacent | Field Observations |
|---|---|---|---|---|---|
| | | Species observed (✓/✗) | Potential Habitat observed (✓/✗) | Potential Habitat observed (✓/✗) | |
| **Bird** | | | | | |
| **Chimney swift** | Hollow trees and chimneys, often near bodies of water (COSEWIC, 2007). | ✗ | ✗ | ✓ | Potential habitat in the adjacent FOD community within the Study Area.<br>No individuals were observed during the breeding bird surveys. |
| **Least Bittern** | Cattail marshes that have emergent vegetation interspersed with open water areas (COSEWIC, 2009). | ✗ | ✗ | ✗ | No potential habitat observed.<br>No individuals were observed during the breeding bird surveys.<br>**Species is considered absent.** |
| **Bank swallow** | Nest in river banks, bluffs, sand piles; generally, prefers eroding, unconsolidated material with a vertical face (COSEWIC, 2013). | ✗ | ✗ | ✗ | No potential habitat observed.<br>No individuals were observed during the breeding bird surveys.<br>**Species is considered absent.** |
| **Barn swallow** | Nest on walls or ledges of barns as well as on other human-made structures such as bridges, culverts or other buildings; forages in open areas for flying insects (COSEWIC, 2011). | ✗ | ✗ | ✗ | No potential habitat observed within the Subject Property.<br>No individuals were observed during the breeding bird surveys. |
| **Henslow's sparrow** | Large areas of grassland that lack emergent woody vegetation, with tall dense grass cover, thick thatch layer, and low-lying wet areas in the spring. This species is area-sensitive and requires greater than 30 hectares but prefer more than 100 hectares of suitable habitat (COSEWIC, 2011a). | ✗ | ✗ | ✗ | No potential habitat observed. The MEFM4 community is approximately 1.2 hectares.<br>No individuals were observed during the breeding bird surveys.<br>**Species is considered absent.** |

| Species | Habitat Preference | On- Subject Property | | Adjacent | Field Observations |
|---|---|---|---|---|---|
| | | Species observed (✓/×) | Potential Habitat observed (✓/×) | Potential Habitat observed (✓/×) | |
| **Bobolink** | Nests primarily in forage crops with a mixture of grasses and broad-leaved forbs, predominantly hayfields and pastures (COSEWIC, 2010a). | × | × | × | No potential habitat observed.<br>No individuals were observed during the breeding bird surveys.<br>**Species is considered absent.** |
| **Eastern meadowlark** | Meadows, hayfields and pastures; also, other open habitat types including mown lawn (COSEWIC, 2011b). | × | ✓ | ✓ | Potential habitat in MEFM4 and adjacent CGL communities.<br>No individuals were observed during the breeding bird surveys. |
| Mammal | | | | | |
| **Eastern small-footed myotis** | Roost in rock outcrops, caves, buildings, or bridges (MNRF, 2018). | × | × | × | No potential habitat observed.<br>**Species is considered absent.** |
| **Little brown myotis** | Trees, buildings and bridges for roosting. Caves and mines provide overwintering habitat (COSEWIC, 2013a). | × | × | ✓ | Potential roosting habitat in the adjacent FOD community. |
| **Northern myotis** | Trees, buildings and bridges for roosting. Caves provide overwintering habitat. Rarely uses human-made structures for roosting (COSEWIC, 2013a). | × | × | ✓ | |
| **Tri-coloured bat** | Trees, buildings and bridges for roosting. Found in a variety of habitats. Caves provide overwintering habitat (COSEWIC, 2013a). | × | × | ✓ | |
| **Gray fox** | Habitat generalists. Den sites are usually in deciduous forests (COSEWIC, 2015) | × | × | ✓ | Potential habitat in the adjacent FOD community within the Study Area, however occurrence is highly unlikely due to lack of recent recorded observations.<br>**Species is considered absent.** |

**REFERENCES**


COSEWIC. (2007). *COSEWIC Assessment and Status Report on the Chimney Swift (Chaetura pelagica) in Canada.* Ottawa: COSEWIC. Retrieved from Species at Risk Public Registry.

COSEWIC. (2009). *COSEWIC Assessment and Update Status Report on the Least Bittern (Ixobrychus exilis) in Canada.* Ottawa: Committee on the Status of Endangered Wildlife in Canada. Retrieved from Species at Risk Public Regisrty.

COSEWIC. (2010). *COSEWIC assessment and status report on the Rusty–patched Bumble Bee (Bombus affinis) in Canada.* Ottawa: Committee on the Status of Endangered Wildlife in Canada.

COSEWIC. (2010a). *COSEWIC Assessment and Status Report on the Bobolink (Dolichonyx oryzivorus) in Canada.* Ottawa: COSEWIC. Retrieved from Species at Risk Public Registry.

COSEWIC. (2011). *COSEWIC Assessment and Status Report on the Barn Swallow (Hirundo rustica) in Canada.* Ottawa: COSEWIC. Retrieved from Species at Risk Public Registry.

COSEWIC. (2011a). *COSEWIC Assessment and Status Report on the Henslow's Sparrow (Ammodramus henslowii) in Canada.* Ottawa: COSEWIC. Retrieved from Species at RIsk Public Registry.

COSEWIC. (2011b). *COSEWIC Assessment and Status Report on the Eastern Meadowlark (Sturnella magna) in Canada.* Ottawa: COSEWIC. Retrieved from Species at Risk Public Registry.

COSEWIC. (2013). *COSEWIC Assessment and Status Report on the Bank Swallow (Riparia riparia) in Canada.* Ottawa: COSEWIC. Retrieved from Species at Risk Public Registry.

COSEWIC. (2013a). *COSEWIC Assessment and Status Report on the Little Brown Myotis (Myotis lucifugus), Northern Myotis (Myotis septentrionalis), Tri-colored Bat (Perimyotis subflavus) in Canada.* Ottawa: COSEWIC. Retrieved from Species at Risk Public Registry.

COSEWIC. (2014). *COESWIC Assessment and Status Report on the Gypsy Cuckoo Bumble Bee (Bombus bohemicus) in Canada.* Ottawa: Committee on the Status of Endangered Wildlife in Canada. Retrieved from Species at Risk Public Registry: http://www.registrelep-sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Gypsy%20Cuckoo%20Bumble%20Bee_2014_e.pdf

COSEWIC. (2015). *COSEWIC Assessment and Status Report on the Gray Fox (Urocyon cinereoargenteus) in Canada.* Ottawa: Committee on the Status of Endangered Wildlife in Canada. Retrieved from Species at Risk Public Registry.

COSEWIC. (2016). *COSEWIC Assessment and Status Report on the Nine-spotted Lady Beetle (Coccinella novemnotata) in Canada.* Ottawa: Committee on the Status of Endangered Wildlife in Canada. Retrieved from Species at Risk Public Registry: http://www.registrelep-sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Nine-spotted%20Lady%20Beetle_2016_e.pdf

COSEWIC. (2016a). *COSEWIC Assessment and Status Report on the Blanding's Turtle Emydoidea blandingii Nova Scotia population and Great Lakes/St. Lawrence population in Canada.* Ottawa: COSEWIC.

Environment Canada. (2010). *Recovery Strategy for the Butternut (Juglans cinerea) in Canada.* Species at Risk Act Recovery Strategy Series. Ottawa: Environment Canada.

MNRF. (2018). *Eastern small-footed myotis*. Retrieved July 19, 2018, from Species at Risk in Ontario List: https://www.ontario.ca/page/eastern-small-footed-myotis

# Appendix E BREEDING BIRD SURVEY OBSERVATIONS

Bird Species Recorded During Field Investigations at 4041 Moodie Drive, Ottawa, Ontario

| *COMMON NAME* | *SCIENTIFIC NAME* | ONTARIO STATUS | GLOBAL STATUS | AREA SENSITIVITY (ha) |
|---|---|---|---|---|
| Mourning Dove | *Zenaida macroura* | S5 | G5 | |
| Black-billed Cuckoo | *Coccyzus erythropthalmus* | S5B | G5 | |
| Ring-billed Gull | *Larus delawarensis* | S5B,S4N | G5 | |
| Great Blue Heron | *Ardea herodias* | S5 | G5 | |
| Yellow-bellied Sapsucker | *Sphyrapicus varius* | S5B | G5 | 30-50 |
| Downy Woodpecker | *Picoides pubescens* | S5 | G5 | |
| Northern Flicker | *Colaptes auratus* | S4B | G5 | |
| Pileated Woodpecker | *Dryocopus pileatus* | S5 | G5 | 30-50* |
| Alder Flycatcher | *Empidonax alnorum* | S5B | G5 | |
| Great Crested Flycatcher | *Myiarchus crinitus* | S4B | G5 | |
| Red-eyed Vireo | *Vireo olivaceus* | S5B | G5 | |
| Blue Jay | *Cyanocitta cristata* | S5 | G5 | |
| American Crow | *Corvus brachyrhynchos* | S5B | G5 | |
| Black-capped Chickadee | *Poecile atricapillus* | S5 | G5 | |
| House Wren | *Troglodytes aedon* | S5B | G5 | |
| American Robin | *Turdus migratorius* | S5B | G5 | |
| Gray Catbird | *Dumetella carolinensis* | S4B | G5 | |
| European Starling | *Sturnus vulgaris* | SNA | G5 | |
| Cedar Waxwing | *Bombycilla cedrorum* | S5B | G5 | |
| Common Grackle | *Quiscalus quiscula* | S5B | G5 | |
| Common Yellowthroat | *Geothlypis trichas* | S5B | G5 | |
| Chipping Sparrow | *Spizella passerina* | S5B | G5 | |
| Song Sparrow | *Melospiza melodia* | S5B | G5 | |
| Red-winged Blackbird | *Agelaius phoeniceus* | S4 | G5 | |
| American Goldfinch | *Carduelis tristis* | S5B | G5 | |
| Northern Cardinal | *Cardinalis cardinalis* | S5 | G5 | |

REGION: Rare in a Site Region

S4: Apparently Secure—Uncommon but not rare

S5: Secure—Common, widespread, and abundant in the province

S#B- Breeding status rank

S#N- Non Breeding status rank

SNA: Not applicable—A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

G5: Very common globally; demonstrably secure

Area: Minimum patch size for area-sensitive species (ha)

**Note:** All rankings for birds refer to breeding birds unless the ranking is followed by N

* The Pileated Woodpecker will incorporate smaller woodlots into its homerange, therefore it may not be a true area-sensitive species (Naylor et al. 1996)

# Appendix F WILDLIFE HABITAT ASSESSMENT

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| **Seasonal Concentration Areas** | | | |
| Waterfowl Stopover and Staging Area (Terrestrial) | Fields with sheet water or utilized by tundra swans during spring (mid-March to May), or annual spring melt water flooding found in any of the following Community Types: Meadow (CUM1), Thicket (CUT1).<br>Agricultural fields with waste grains are commonly used by waterfowl, and these are not considered SWH unless used by Tundra swans in the Long Point, Rondeau, Lake St. Clair, Grand Bend and Point Pelee Areas. | ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (terrestrial). | No candidate habitat for waterfowl stopover and staging areas occurred within the Study Area. |
| Waterfowl Stopover and Staging Area (Aquatic) | The following Community Types: Shallow Marsh (MAS), Shallow Aquatic (SA), Deciduous Swamp (SWD).<br>Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration.<br>The combined area of the ELC ecosites and a 100 m radius area is the SWH.<br>Sewage treatment ponds and storm water ponds do not qualify as a SWH; however, a reservoir managed as a large wetland or pond/lake does qualify. | ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (aquatic). | No ELC communities were identified within the Study Area that are generally associated with potential candidate aquatic waterfowl stopover and staging areas.<br>No candidate habitat for aquatic waterfowl stopover and staging areas occurred within the Study Area. |
| Shorebird Migratory Stopover Area | Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.<br>Great Lakes coastal shorelines, including groynes and other forms of amour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October.<br>Sewage treatment ponds and storm water ponds do not qualify as a significant wildlife habitat.<br>The following community types: Meadow Marsh (MAM), Beach/Bar (BB), or Sand Dune (SD) | ELC surveys were used to assess features within the Study Area that may support migratory shorebirds. | No ELC communities were identified within the Study Area that are generally associated with potential candidate shorebird migratory stopover areas.<br>No candidate habitat for shorebird stopover areas occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Raptor Wintering Area | At least one of the following Forest Community Types: Deciduous Forest (FOD), Mixed Forest (FOM) or Coniferous Forest (FOC), in combination with one of the following Upland Community Types: Meadow (CUM), Thicket (CUT), Savannah (CUS), Woodland (CUW) (<60% cover) that are >20 hectare (ha) and provide roosting, foraging and resting habitats for wintering raptors.<br>Upland habitat (CUM, CUT, CUS, CUW), must represent at least 15 ha of the 20 ha minimum size. | ELC surveys were used to assess features within the Study Area that may support wintering raptors. | No candidate habitat for raptor wintering areas occurred within the Study Area. |
| Bat Hibernacula | Hibernacula may be found in caves, mine shafts, underground foundations and karsts.<br>May be found in these Community Types: Crevice (CCR), Cave (CCA). | ELC surveys were used to assess features within the Study Area that may support bat hibernacula. | No crevices, caves or abandoned mines are located within the Study Area.<br>No candidate habitat for bat hibernacula occurred within the Study Area. |
| Bat Maternity Colonies | Maternity colonies considered significant wildlife habitat are found in forested ecosites.<br>Any of the following Community Types: Deciduous Forest (FOD), Mixed Forest (FOM), Deciduous Swamp (SWD), Mixed Swamp (SWM), that have>10/ha wildlife trees >25cm diameter at breast height (dbh).<br>Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).<br>Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2.<br>Northern Myotis prefer contiguous tracts of older forest cover for foraging and roosting in snags and trees<br>Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. | ELC surveys were used to assess features within the Study Area that may support bat maternity colonies. | The adjacent FOD may contain candidate habitat for bat maternity colonies. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Turtle Wintering Areas | Snapping and Midland Painted turtles utilize ELC community classes: Swamp (SW), Marsh (MA) and Open Water (OA). Shallow water (SA), Open Fen (FEO) and Open Bog (BOO).<br>Northern Map turtle- open water areas such as deeper rivers or streams and lakes can also be used as over-wintering habitat.<br>Water has to be deep enough not to freeze and have soft mud substrate.<br>Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen. | ELC surveys were used to assess features within the Study Area that may support areas of permanent standing water but not deep enough to freeze. | No ELC communities were identified within the Study Area that are generally associated with potential candidate turtle wintering areas.<br>No candidate habitat for turtle wintering areas occurred within the Study Area. |
| Snake Hibernacula | Hibernation occurred in sites located below frost lines in burrows, rock crevices, broken and fissured rock and other natural features. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.<br>Any ecosite in southern Ontario other than very wet ones may provide habitat. The following Community Types may be directly related to snake hibernacula: Talus (TA), Rock Barren (RB), Crevice (CCR), Cave (CCA), and Alvar (RBOA1, RBSA1, RBTA1). | ELC surveys and wildlife assessments were used to assess features within the Study Area that may support snake hibernacula. | No candidate snake hibernacula were observed within the Study Area. |
| Colonial-Nesting Bird Breeding Habitat (Bank and Cliff) | Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, or barns found in any of the following Community Types: Meadow (CUM), Thicket (CUT), Bluff (BL), Cliff (CL).<br>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.<br>Does not include a licensed/permitted Mineral Aggregate Operation. | ELC surveys were used to assess features within the Study Area that may support colonial bird breeding habitat. | No ELC communities were identified within the Study Area that are generally associated with potential candidate colonial-nesting bird breeding habitat (bank and cliff).<br>No candidate habitat for bank or cliff colonial nesting birds occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Colonial-Nesting Bird Breeding Habitat (Tree/Shrubs) | Identification of stick nests in any of the following Community Types: Mixed Swamp (SWM), Deciduous Swamp (SWD), Treed Fen (FET).<br>The edge of the colony and a minimum 300 m area of habitat or extent of the Forest Ecosite containing the colony or any island <15.0 ha with a colony is the SWH. Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. | ELC surveys were used to assess features within the Study Area that may support colonial bird breeding habitat (Trees/Shrubs). | No ELC communities were identified within the Study Area that are generally associated with potential candidate habitat for colonial nesting breeding birds.<br>No large stick nests were observed during Stantec surveys.<br>No candidate habitat for tree/shrub colonial nesting birds occurred within the Study Area. |
| Colonial-Nesting Bird Breeding Habitat (Ground) | Any rocky island or peninsula within a lake or large river.<br>For Brewer's Blackbird close proximity to watercourses in open fields or pastures with scattered trees or shrubs found in any of the following Community Types: Meadow Marsh (MAM1-6), Shallow Marsh (MAS1-3), Meadow (CUM), Thicket (CUT), Savannah (CUS). | ELC surveys were used to assess features within the Study Area that may support colonial bird breeding habitat (ground). | No rocky islands or peninsulas are present within the Study Area.<br>No candidate habitat for ground colonial nesting breeding birds occurred within the Study Area. |
| Migratory Butterfly Stopover Areas | Located within 5 km of Lake Ontario<br>A combination of ELC communities, one from each land class is required: Field (CUM, CUT, CUS) and Forest (FOC, FOM, FOD, CUP)<br>Minimum of 10 ha in size with a combination of field and forest habitat present | ELC surveys were used to assess features within the Study Area that may support migratory butterfly stopover areas. | No candidate significant wildlife habitat for migratory butterfly stopover areas occurred within the Study Area. |
| Landbird Migratory Stopover Areas | The following community types: Forest (FOD, FOM, FOC) or Swamp (SWC, SWM, SWD)<br>Woodlots must be >10 ha in size and within 5 km of Lake Ontario – woodlands within 2 km of Lake Ontario are more significant | ELC surveys and GIS analysis were used to assess features within the Study Area that may support landbird migratory stopover areas. | No candidate habitat for migratory landbird stopover areas occurred within the Study Area. |
| Deer Winter Congregation Areas | Woodlots typically > 100 ha in size unless determined by the MNR as significant. (If large woodlots are rare in a planning area >50ha)<br>All forested ecosites within Community Series: FOC, FOM, FOD, SWC, SWM, SWD<br>Conifer plantations much smaller than 50 ha may also be used | No studies required as the MNRF determines this habitat. | No deer winter congregation areas were identified by the MNRF within the Study Area.<br>The adjacent FOD is less than 100 ha in size.<br>No candidate habitat for deer winter congregation areas occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| **Rare Vegetation Communities** | | | |
| Cliffs and Talus Slopes | A Cliff is vertical to near vertical bedrock >3 m in height.<br>A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris<br>Any ELC Ecosite within Community Series: TAO, TAS, TAT, CLO, CLS, CLT<br>Most cliff and talus slopes occur along the Niagara Escarpment | ELC surveys were used to assess features within the Study Area that would be considered cliffs or talus slopes. | No cliffs or talus slopes were identified within the Study Area.<br>No candidate wildlife habitat for cliffs or talus slopes occurred within the Study Area. |
| Sand Barrens | Sand barrens typically are exposed sand, generally sparsely vegetated and cause by lack of moisture, periodic fires and erosion.<br>Vegetation can vary from patchy and barren to tree covered but less than 60%.<br>Any of the following Community Types: SBO1 (Open Sand Barren Ecosite), SBS1 (Shrub Sand Barren Ecosite), SBT1 (Treed Sand Barren Ecosite). | ELC surveys were used to assess features within the Study Area that would be considered to be sand barrens. | No sand barrens were identified within the Study Area.<br>No candidate wildlife habitat for sand barrens occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Alvars | An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil.<br>Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant.<br>Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species.<br>Vegetation cover varies from patchy to barren with a less than 60% tree cover.<br>Any of the following Community Types: ALO1(Open Alvar Rock Barren Ecosite), ALS1 (Alvar Shrub Rock Barren Ecosite), ALT1 (Treed Alvar Rock Barren Ecosite), FOC1 (Dry-Fresh Pine Coniferous Forest), FOC2 (Dry-Fresh Cedar Coniferous Forest), CUM2 (Bedrock Cultural Meadow), CUS2 (Bedrock Cultural Savannah), CUT2-1 (Common Juniper Cultural Alvar Thicket), or CUW2 (Bedrock Cultural Woodland)<br>An Alvar site > 0.5 ha in size | ELC surveys were used to assess features within the Study Area that would be considered to be alvar communities. | No candidate wildlife habitat for alvars occurred within the Study Area. |
| Old-growth Forest | Old-growth forests tend to be relatively undisturbed, structurally complex, and contain a wide variety of trees and shrubs in various age classes. These habitats usually support a high diversity of wildlife species.<br>No minimum size criteria t in any of the following Community Types: FOD (Deciduous Forest), FOM (Mixed Forest), FOC (Coniferous Forest)<br>Forests greater than 120 years old and with no historical forestry management was the main criteria when surveying for old-growth forests. | ELC surveys were used to assess features within the Study Area that would be considered to be old-growth forest communities. | No old growth forests were identified within the Study Area.<br>No candidate wildlife habitat for old growth forests occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Savannahs | A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.<br>In Ecoregion 6E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).<br>Any of the following Community Types: TPS1 (Dry- Fresh Tallgrass Mixed Savannah Ecosite), TPS2 (Fresh-Moist Tallgrass Deciduous Savannah Ecosite), TPW1 (Dry-Fresh Black Oak Tallgrass Deciduous Woodland Ecosite), TPW2 (Fresh-Moist Tallgrass Deciduous Woodland Ecosite), CUS2 (Bedrock Cultural Savannah Ecosite). | ELC surveys were used to assess features within the Study Area that would be considered to be savannah communities. | No savannahs were identified within the Study Area.<br>No candidate wildlife habitat for savannahs occurred within the Study Area. |
| Tall-grass Prairies | A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.<br>In Ecoregion 6E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).<br>Any of the following Community Types: TPO1 (Dry Tallgrass Prairie Ecosite), TPO2 (Fresh-Moist Tallgrass Prairie Ecosite). | ELC surveys were used to assess features within the Study Area that would be considered to be tall-grass communities. | No candidate wildlife habitat for tall grass prairies occurred within the Study Area. |
| Other Rare Vegetation Communities | Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG | ELC surveys were used to assess features within the Study Area that would be considered to be other rare vegetation communities. | No rare vegetation communities were identified within the Study Area.<br>No candidate wildlife habitat for rare vegetation communities occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| **Specialized Habitat for Wildlife** | | | |
| Waterfowl Nesting Area | All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4.<br>Waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5 ha) and any small wetlands (0.5ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.<br>Note: includes adjacency to Provincially Significant Wetlands | ELC surveys were used to assess features within the Study Area that may support nesting waterfowl. | No ELC communities were identified within the Study Area that are generally associated with potential candidate waterfowl nesting areas.<br>No candidate wildlife habitat for waterfowl nesting areas occurred within the Study Area. |
| Bald Eagle and Osprey nesting, Foraging, and Perching Habitat | Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.<br>Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms).<br>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands | ELC surveys were used to assess features within the Study Area that may support nesting, foraging and perching habitat for large raptors. | No large stick nests were identified within the Study Area.<br>No candidate wildlife habitat for Osprey or Bald Eagle habitat occurred within the Study Area. |
| Woodland Raptor Nesting Habitat | All natural or conifer plantation woodland/forest stands combined >30 ha and with >4 ha of interior habitat. Interior habitat determined with a 200 m buffer.<br>Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands.<br>May be found in all forested ELC Ecosites.<br>May also be found in SWC, SWM, SWD and CUP3 | ELC surveys and GIS analysis were used to assess features within the Study Area that may support nesting habitat for woodland raptors. | There is no interior habitat within the Study Area, and no stick nests were identified in woodland/forest communities during field surveys.<br>No candidate wildlife habitat for woodland raptor nesting occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Turtle Nesting Areas | Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, BOO1, FEO1<br>Best nesting habitat for turtles is close to water, away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.<br>For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas.<br>Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.<br>Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. | ELC surveys and GIS analysis were used to assess features within the Study Area that may support turtle nesting areas. | No ELC communities were identified within the Study Area that are generally associated with potential candidate wildlife habitat for turtle nesting areas.<br>No candidate wildlife habitat for turtle nesting areas occurred within the Study Area. |
| Seeps and Springs | Seeps/Springs are areas where ground water comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.<br>Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system | The presence of seeps and springs was recorded during spring and summer field investigations. | No seeps or springs were observed within the Study Area. |
| Amphibian Breeding Habitat (Woodland) | All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD<br>Presence of a wetland, lake, or pond within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians.<br>Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat | ELC surveys and Woodland Assessments were used to assess features within the Study Area that may support woodland breeding amphibians. | No significant woodland amphibian breeding habitat occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Amphibian Breeding Habitat (Wetland) | ELC Community Classes SW, MA, FE, BO, OA and SA.<br>Wetland areas >120 m from woodland habitats.<br>Wetlands and pools (including vernal pools) >500 $m^2$ (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats.<br>Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.<br>Bullfrogs require permanent water bodies with abundant emergent vegetation | ELC surveys were used to identify wetland habitat features within the Study Area including those that may support bullfrogs (i.e., natural open aquatic and marsh habitats greater than 1 ha in size). | No significant wetland amphibian breeding habitat occurred within the Study Area. |
| **Species of Conservation Concern** | | | |
| Marsh Bird Breeding Habitat | All wetland habitats with shallow water and emergent aquatic vegetation.<br>May include any of the following Community Types: Meadow Marsh (MAM), Shallow Aquatic (SA), Open Bog (BOO), Open Fen (FEO), or for Green Heron: Swamp (SW), Marsh (MA) and Meadow (CUM) Community Types. | ELC surveys were used to identify marshes with shallow water and emergent vegetation that may support marsh breeding birds. | No wetland habitats were identified within the Study Area.<br>No candidate wildlife habitat for marsh breeding birds occurred within the Study Area. |
| Woodland Area-sensitive Bird Breeding Habitat | Habitats >30ha where interior forest is present (at least 200 m from the forest edge); typically, >60 years old.<br>These include any of the following Community Types: Forest (FO), Treed Swamp (SW) | ELC surveys and GIS analysis were used to determine whether woodlots that occurred within the Study Area that were >30 ha with interior habitat present (>200 m from edge). | The adjacent FOD is less than 30 ha in size.<br>No candidate wildlife habitat for woodland area-sensitive breeding bird habitat occurred within the Study Area. |
| Open Country Bird Breeding Habitat | Grassland areas > 30 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or hay or livestock pasturing in the last 5 years, in the following Community Type: Meadow (CUM). | ELC surveys and GIS analysis were used to identify grassland communities within the Study Area that may support area-sensitive breeding birds. | No non-agricultural grassland communities >30 ha were identified within the Study Area.<br>No candidate wildlife habitat for open country breeding bird habitat occurred within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Shrub/Early Successional Bird Breeding Habitat | Oldfield areas succeeding to shrub and thicket habitats >10 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing in the last 5 years, in the following Community Types: Thickets (CUT), Savannahs (CUS), or Woodlands (CUW). | ELC surveys and GIS analysis were used to identify large CUT, CUS or CUW communities that may support shrub/early successional breeding birds. | No candidate wildlife habitat for shrub/early successional breeding bird habitat occurred within the Study Area. |
| Terrestrial Crayfish | Meadow marshes and edges of shallow marshes (no minimum size). Vegetation communities include MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3.<br>Construct burrows in marshes, mudflats, meadows Can be found far from water | ELC surveys were used to identify shallow marsh and meadow marsh communities that occurred within the Study Area. | No candidate wildlife habitat for terrestrial crayfish were observed within the Study Area.<br>No Terrestrial Crayfish chimneys were observed within the Study Area. |
| **Special Concern and Rare Species (i.e. all special concern and S1-S3 species)** | | | |
| **Plants** | | | |
| Alder silk moss (*Plagiothecium latebricola*) | Occurs in hardwood swamps and marshy habitats on wet, rotten stumps, old sedge and fern tussocks, and bark at the base of trees (Anderson, Crum, & Buck, 1990). | Botanical inventories conducted on June 5, 2018. | No potential habitat observed within the Study Area.<br>Alder silk moss was not observed within the Study Area during field investigations. |
| Woodland pinedrops (*Pterospora andromedea)* | Occurs in conifer woods, under pine trees (MNRF, 2000). | | No potential habitat observed within the Study Area.<br>Woodland pinedrops was not observed within the Study Area during field investigations. |
| Twin-stemmed bladderwort (*Utricularia geminiscapa*) | Occurs in bog pools (MNRF, 2000). | | No potential habitat observed within the Study Area.<br>Twin-stemmed bladderwort was not observed within the Study Area during field investigations. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Northern long sedge (*Carex folliculata*) | Occurs in bogs, wet shorelines and cedar swamps (MNRF, 2000). | | No potential habitat observed within the Study Area.<br>Northern long sedge was not observed within the Study Area during field investigations. |
| Cattail sedge (*Carex typhina*) | Occurs in wet-mesic hardwood forests (MNRF, 2000). | | No potential habitat observed within the Study Area.<br>Cattail sedge was not observed within the Study Area during field investigations. |
| Greene's rush (*Juncus greenei*) | Occurs in beaches, crevices, limestone, roadsides and dry open prairies (MNRF, 2000). | | No potential habitat observed within the Study Area.<br>Greene's rush was not observed within the Study Area during field investigations. |
| Southern twayblade (*Neottia bifolia*) | Occurs in bogs and swamps (Hill, Crowell, Lapaix, & Hicks, 2018). | | No potential habitat observed within the Study Area.<br>Southern twayblade was not observed within the Study Area during field investigations. |
| Large purple fringed orchid (*Platanthera grandiflora*) | Occurs in damp meadows and open woods (MNRF, 2000). | | The MEFM4 and WOD communities within the Study Area may provide suitable habitat for large purple fringed orchid.<br>Large purple fringed orchid was not observed within the Study Area during field investigations. |
| **Insects** | | | |
| Green-striped darner (*Aeshna verticalis*) | Occurs in spring-fed ponds, marshy meadows, marshy lakes, ponds, and slow streams bordered by sedges (Wisconsin Odanata Survey, 2018) | Botanical inventories conducted on June 5, 2018 confirmed the presence/absence of these species. | No potential habitat observed within the Study Area.<br>Green-striped darner was not observed within the Study Area during field investigations. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Horned clubtail (*Arigomphus cornutus*) | Occurs in bog-edged ponds, small marshy lakes, slow streams, and rivers (Wisconsin Odanata Survey, 2018). | | No potential habitat observed within the Study Area.<br>Horned clubtail was not observed within the Study Area during field investigations. |
| Skillet clubtail (*Gomphus ventricosus*) | Occurs in medium to slow-running mesotrophic waters with fine substrate (COSEWIC, 2010). | | No potential habitat observed within the Study Area.<br>Skillet clubtail was not observed within the Study Area during field investigations. |
| Arrowhead spiketail (*Cordulegaster obliqua*) | Occurs in spring-fed forest rivulets with muck substrate; sometimes with rocks or in small rapid streams (Wisconsin Odanata Survey, 2018). | | No potential habitat observed within the Study Area.<br>Arrowhead spiketail was not observed within the Study Area during field investigations. |
| Forcipate emerald (*Somatochlora forcipata*) | Occurs in boggy spring-fed streams, bog pools, and alder swamps (Wisconsin Odanata Survey, 2018). | | No potential habitat observed within the Study Area.<br>Forcipate emerald was not observed within the Study Area during field investigations. |
| Monarch (*Danaus plexippus)* | Found primarily wherever milkweed and wildflowers (e.g., goldenrods, asters, purple loosestrife) exist. The Larvae occur only where milkweed exists; adults are more generalized, feeding on a variety of wildflower nectar. This includes abandoned farmland, along roadsides, and other open spaces where these plants grow (COSEWIC, 2016). | | Common milkweed observed in the MEFM4 and THDM5 communities located within the Subject Property, could provide habitat for monarch larvae. |
| Yellow-banded bumble bee (*Bombus terricola*) | Habitat generalist. Occurs in a wide variety of habitats such as open coniferous, deciduous and mixed-wood forests, wet and dry meadows and prairie grasslands, meadows bordering riparian zones, and along roadsides, in taiga adjacent to wooded areas, urban parks, gardens and agricultural areas, subalpine habitats and more isolated natural areas (COSEWIC, 2015). | | Potential habitat in all communities within the Study Area. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| **Amphibians** | | | |
| Western Chorus Frog (Great Lakes - Shield) (*Pseudacris triseriata)* | A variety of lowland habitats with an open or discontinuous canopy (clearings, damp meadows, fields, and shrublands), where slight depressions in topography allows the formation of wetlands (marshes, swamps, ponds) that generally dry out in summer (Environment Canada, 2015). | Botanical inventories conducted on June 5, 2018 confirmed the presence/absence of this species. | No potential habitat observed within the Subject Property.<br>Western chorus frog was not observed within the Study Area during field investigations. |
| **Reptiles** | | | |
| Snapping turtle (*Chelydra serpentina*) | Inhabits ponds, sloughs, streams, rivers, and shallow bays that are characterized by slow moving water, aquatic vegetation, and soft bottoms. Females show strong nest site fidelity and nest in sand or gravel banks at waterway edges in late May or early June (COSEWIC, 2008) | Botanical inventories conducted on June 5, 2018 confirmed the presence/absence of these species. | No potential habitat observed within the Study Area.<br>Snapping turtle was not observed within the Study Area during field investigations. |
| Eastern musk turtle (*Sternotherus odoratus*) | Requires aquatic habitats of soft substrate and shallow water with little to no current. Nesting occurred in areas close to the water with direct exposure to sunlight, eggs are laid on the open ground or in shallow excavations in decaying vegetation and rotting wood, nests have also been found in shallow gravel or rock crevices. This species is highly aquatic, and rarely leaves the water (Environment Canada, 2016). | | No potential habitat observed within the Study Area.<br>Eastern musk turtle was not observed within the Study Area during field investigations. |
| Northern map turtle (*Graptemys geographica*) | Rivers and lakes that contain molluscs and rocks or logs to bask on (COSEWIC, 2012). | | No potential habitat observed within the Study Area.<br>Northern map turtle was not observed within the Study Area during field investigations. |
| Eastern milksnake (*Lampropeltis Triangulum*) | Open habitats such as fields and meadow. Eggs are often laid under boards, rocks, and rotting logs (COSEWIC, 2014). | | Potential general habitat observed (e.g. feeding, sunning) in the MEFM4 and adjacent CGL communities within the Study Area. No potential hibernacula features were observed within the Study Area.<br>Eastern milksnake was not observed within the Study Area during field investigations. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| **Birds** | | | |
| Common nighthawk (*Chordeiles minor*) | Open areas that are free of vegetation (e.g., beaches, exposed rock, forest clearings, or flat gravel roofs) (COSEWIC, 2007a). | Botanical inventories conducted on June 5, 2018 and breeding bird surveys conducted on June 5, 16, and 26, 2018 confirmed the presence/absence of these species. | No potential habitat observed within the Study Area.<br>Common nighthawk was not observed within the Study Area during field investigations. |
| Black tern (*Chlidonias niger*) | Limestone-based, rich, freshwater marshes with an abundance of emergent vegetation along rivers, lakes or inland locations. Generally considered an area-sensitive species; prefers wetlands in excess of 20 ha (Burke, 2012). | | No potential habitat observed within the Study Area.<br>Black tern was not observed within the Study Area during field investigations. |
| Short-eared owl (*Asio flammeus*) | Open habitats including grasslands, arctic tundra, taiga, bogs, marshes, old pastures, sand-sage, and agricultural fields This area sensitive species nests on the ground usually in tall vegetation and typically prefers 75 ha of suitable habitat in order for nesting to occur (COSEWIC, 2008a). | | MEFM4 and OAGM1 communities are present within the Study Area however, these communities are not large enough for this species to breed.<br>Short-eared owl was not observed within the Study Area during field investigations. |
| Eastern wood-pewee (*Contopus virens*) | Woodland species often found near clearings and edges (COSEWIC, 2012a). | | Suitable woodland habitat is present in the WOD and adjacent FOD within the Study Area.<br>Eastern wood-pewee was not observed within the Study Area during field investigations. |
| Wood thrush (*Hylocichla mustelina*) | Mature deciduous and mixed forests with a well-developed understory (COSEWIC, 2012b). | | Suitable forest habitat is present in the adjacent FOD within the Study Area.<br>Wood thrush was not observed within the Study Area during field investigations. |

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|---|
| Canada warbler (*Cardellina canadensis*) | Well-developed wet forest types with a dense shrub layer, often near streams or hummocks. This area sensitive species typically prefers a minimum of 30 ha of suitable habitat for nesting (COSEWIC, 2008b). | | Habitat for this species can be determined through the consideration of Woodland Area-sensitive Bird Breeding Habitat.<br>No Woodland Area-sensitive Bird Breeding Habitat was identified in the Study Area. An evaluation of significance is therefore not required to determine the presence/absence of this species.<br>Canada warbler was not observed within the Study Area during field investigations. |
| **Animal Movement Corridors** | | | |
| Amphibian Movement Corridor | Corridors may be found in all ecosites associated with water.<br>Determined based on identifying significant amphibian breeding habitat (wetland). | Identified after Amphibian Breeding Habitat - Wetland is confirmed.<br>Movement corridors should be considered when amphibian breeding habitat is confirmed as SWH from Amphibian Breeding Habitat (Wetland). | No significant amphibian breeding habitat was present within the Study Area.<br>Therefore, no amphibian movement corridors are present within the Study Area. |

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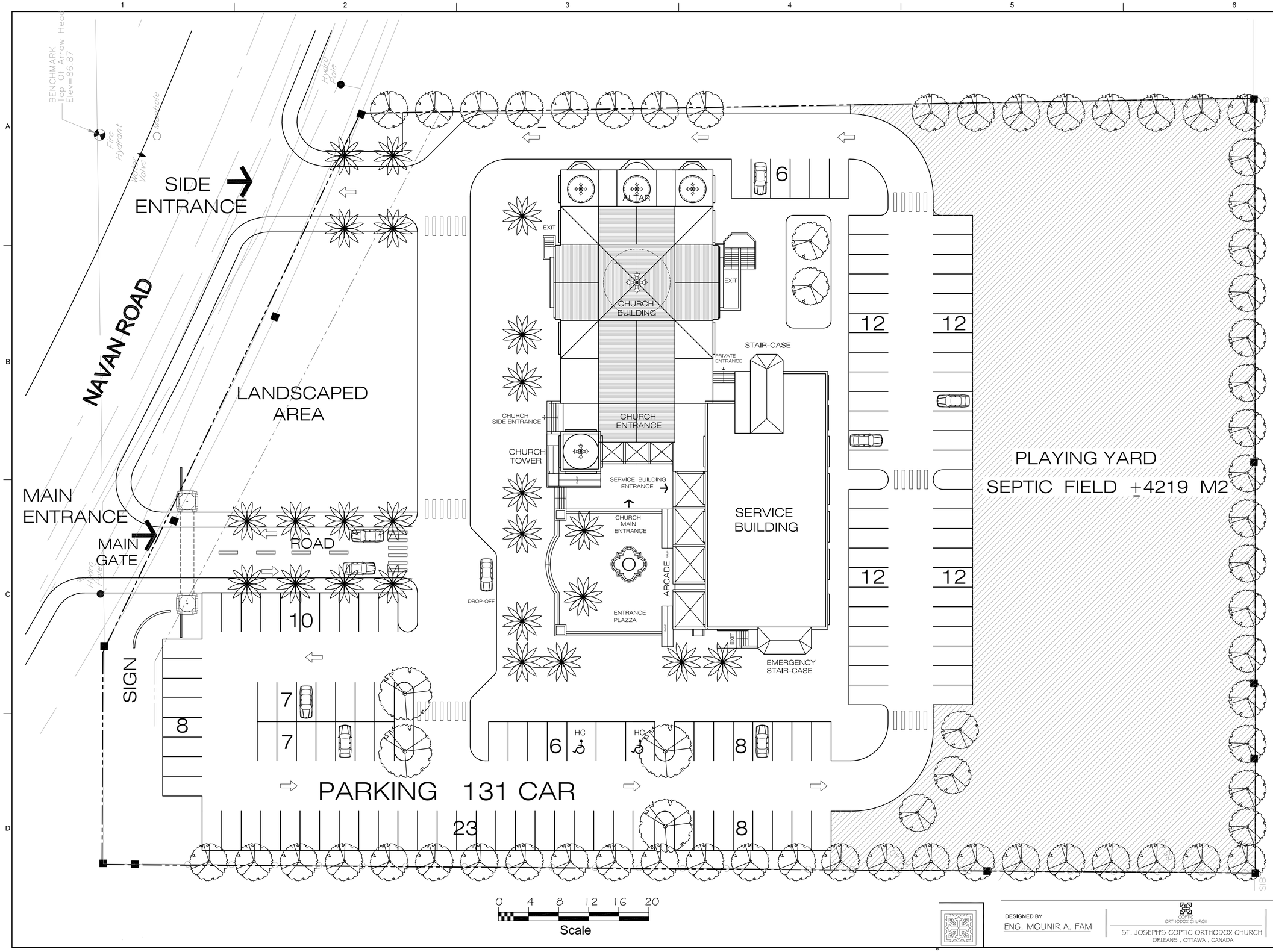
# Appendix G SITE PLAN

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COPTIC ORTHODOX CHURCH
ST. JOSEPH'S COPTIC ORTHODOX CHURCH
ORLEANS , OTTAWA , CANADA

**General**

**SITE PLAN**

designer: M. FARID, P. ENG
date: October, 2016
drawn
checked
approved
Tender

project no.: -

drawing no.: G1

DESIGNED BY
ENG. MOUNIR A. FAM

COPTIC ORTHODOX CHURCH
ST. JOSEPH'S COPTIC ORTHODOX CHURCH
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