Environmental Impact Study (EIS)

700 Spring Valley Drive,
Ottawa, ON

Part Lot 5, Concession 4
City of Ottawa

November 21, 2024

Prepared By:

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Table of Contents

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1.0. Introduction

As requested by N45 Architecture Inc, an Environmental Impact Study (EIS) was completed to assess the environmental impacts and potential environmental constraints which may affect the proposed development of a new public elementary school for the OCDSB within the property located at 700 Spring Valley Drive, Ottawa, ON.

1.1. Site Context

The entire property parcel is approximately 2.84 ha in size. The legal land description is Part Lot 5, Concession 4, City of Ottawa. The proponent is proposing to develop the entire parcel into a new public elementary school.

Within the city's Zoning By-law No. 2008-250 the subject lands were zoned as Minor Institutional Zone (I1f) and Area C Suburban. Within the cities official plan (2022) the subject lands are designated as Urban Area, Potential Unstable Slope, and Potential Watercourse (schedule B9, C11C and C15). Additionally, the proposed development is located in Ecoregion 6E.

The subject lands are within the East Urban Community Design Plan Phase 1 Area. The CDP has identified the subject lands as being designated/set aside for development of a school. The northern adjacent lands were designated as Urban Natural Areas Environmental Evaluation Study Candidate Site.

The subject lands are within the Rideau Valley Conservation Authorities jurisdiction. They have identified a Highly Valuable Aquifer and Significant Groundwater Recharge Area within the northern portions of the subject lands.

Through a background review, potential environmental constraints have been identified as Potential Wetland, Potential Watercourse, Unstable Slope, Highly Valuable Aquifer, Significant Groundwater Recharge Area and Wildland Fire Hazard.

The Provincial Policy Statement (PPS) states that natural heritage systems should be maintained, restored, or improved for the purpose of linkages between natural heritage features and areas. The PPS states that site development and alteration shall not be permitted in provincially significant wetlands and alteration shall not be permitted in provincially significant woodlands or significant wildlife habitat in Ecoregion 6E unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. Additionally, development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

2.0. Methodology

This report is prepared in accordance with the City of Ottawa Environmental Impact Statement Guidelines (City of Ottawa 2022), the City of Ottawa Official Plan (2022), and with guidance from the Natural Heritage Reference Manual (OMNR, 2010). This EIS includes an assessment of the identified environmental constraints and the potential for Species at Risk.

This EIS will provide the methodology to mitigate, as required, negative impacts on natural heritage features and their functions. Potential Species at Risk in the general area were identified from the Ministry

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of Natural Resources and Forestry databases, the Department of Fisheries and Ocean databases, the Ontario Breeding Bird Atlas, Ontario Reptile and Amphibian Atlas, iNaturalist and the Global Biodiversity Information Facility.

Colour aerial photography was used to assess the natural environment features in the general vicinity of the proposed severance.

See Table 1 for a summary of field surveys of the site and adjacent lands. Staff qualifications are available in Appendix B.

TABLE 1: Summary of Field Surveys

DATE	*TIME*	AIR TEMP. (°C)	WIND (Beaufort Scale)	CLOUD COVER / PRECIPITATION	STAFF
June 10, 2024	1000-1230h	14.0	Gentle Breeze	Overcast	C.Fontaine
July 15, 2024	0730-1030h	25.0	Light Breeze	30% Cloud Cover	S.St.Pierre C.Fontaine

The area was extensively walked and surveyed for natural heritage features, potential species at risk and their associated habitat.

Upland vegetation communities were described utilising the Ecological Land Classification Southern Manual (Lee et al. 1998), while wetland communities were described utilising the Ontario Wetland Evaluation System Southern Manual (MNRF 2022).

Significant Wildlife Habitat was determined from the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement (OMNRF 2010).

A snag survey for bat habitat was completed. This survey followed the methods present in the 'Maternity Roost Surveys (Forests/Woodlands)' protocol submitted to BCH by MECP on September 19, 2023. The protocol suggest walking transects and identifying suitable snags. As per the protocol if the snag density is calculated to be ≥10 snags/hectare then this the ELC polygon should be considered high quality potential maternity roost habitat. If maternity roost habitat is identified using ELC, acoustic monitoring is recommended to determine if little brown myotis, eastern small-footed myotis, tri-colored and/or northern myotis are recorded in the area. Typically, this survey is recommended to be completed after leaf off. Due to the low number of trees present within the subject lands and the high visibility of these trees, the survey was completed during the July 15, 2024 visit and BCH is confident in our findings. Additionally, potential forest within the subject lands lacks appropriate size to be considered a maternal roosting site.

Observed plants were recorded for each individual community, the plants utilized in the descriptions are the most abundant specimens observed. A complete observed species list is provided in Appendix A. Plants that could not be identified in the field were collected for a more detailed examination. Nomenclature used in this report follows the Southern Ontario Vascular Plant List (Bradley, 2013) which aligns with the Integrated Taxonomic Information System (ITIS).

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3.0. Field Surveys

A butternut and black ash survey was conducted by systematically moving through the subject lands and adjacent lands (discussed in 4.4). A raptor nest survey (section 3.2) and a bat maternal roosting habitat survey (section 4.3) were completed. Vegetation communities and water features description are described in section 3.1.

3.1. Existing Conditions

Within identified subject lands, the lands mostly consisted of a mosaic of meadow/thicket habitat with wetland and forested habitat also occurring. These lands are highly disturbed, development of the surrounding lands appear to begin in 2007, previous to this development the area was clearly active farmland and no wetlands were present within the subject lands. The larger wetland within the subject lands makes it first appearance in 2012 presumably due to the surrounding development, soil stripping, and poor water management plans. The smaller wetland is a remnant from poor construction practices in 2012, resulting in poor drainage of the area. Satellite imagery on GeoOttawa and Google Earth clearly demonstrate the extensive disturbances of the subject lands throughout the years. Additionally, many ruts and low areas are present throughout the subject lands. The subject lands are bordered to the north, west and south by recent residential developments and to the south by a municipal park installed in 2020. Additionally, the northern adjacent lands contain meadow, thicket and forest habitat on a steep hill. The soil present within the majority of the subject lands is within the Allendale soils series which generally consists of very deep, somewhat poorly drained soils that formed in sandy sediments and in the underlying clayey lacustrine deposits or till on lake basins, lake terraces, lake plains, outwash plains, and ground moraines (MAFRA 2024). Water from the subject lands and northern adjacent lands collect in the wetlands within the southern portion of the subject lands.

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FIGURE 1: SUBJECT LANDS

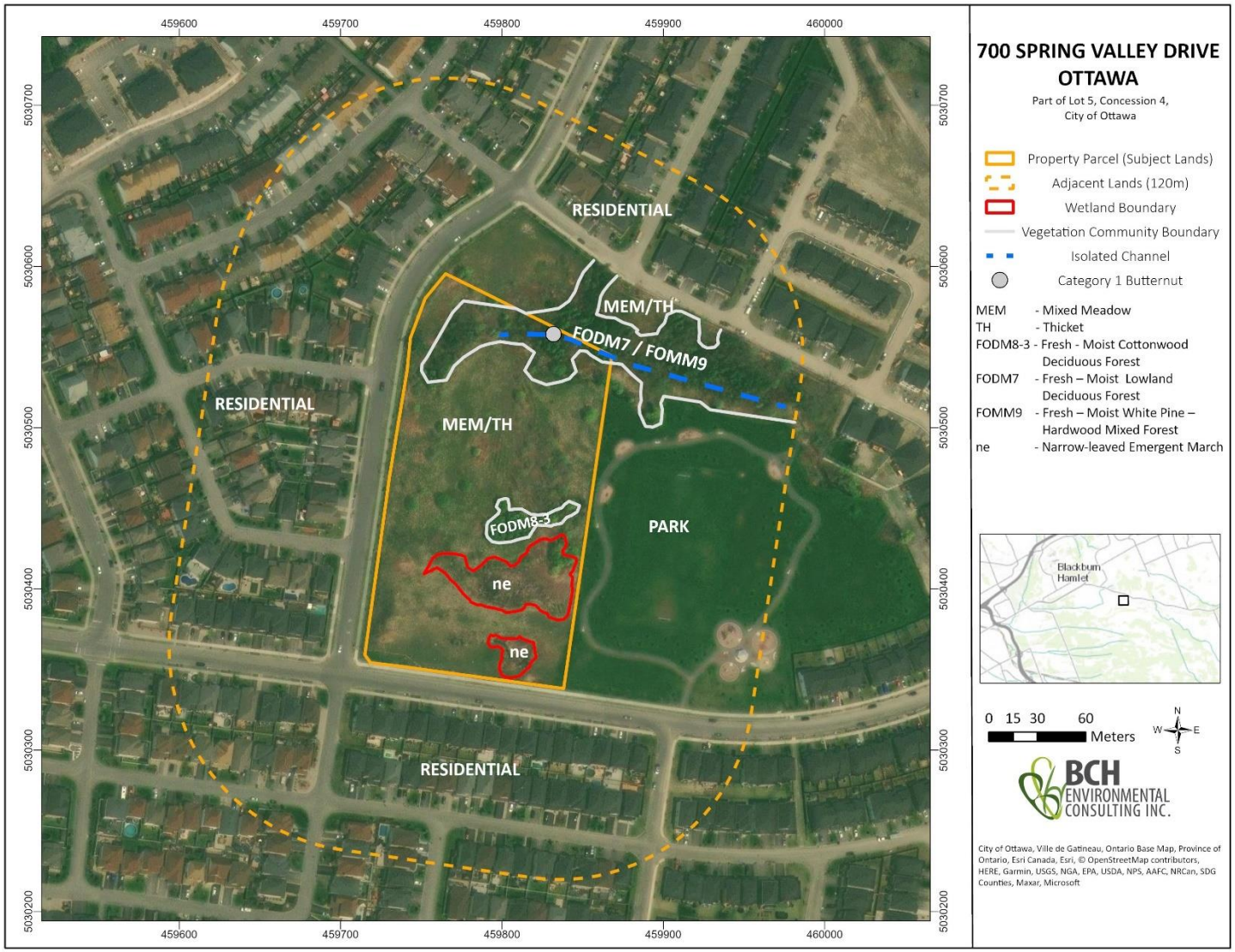

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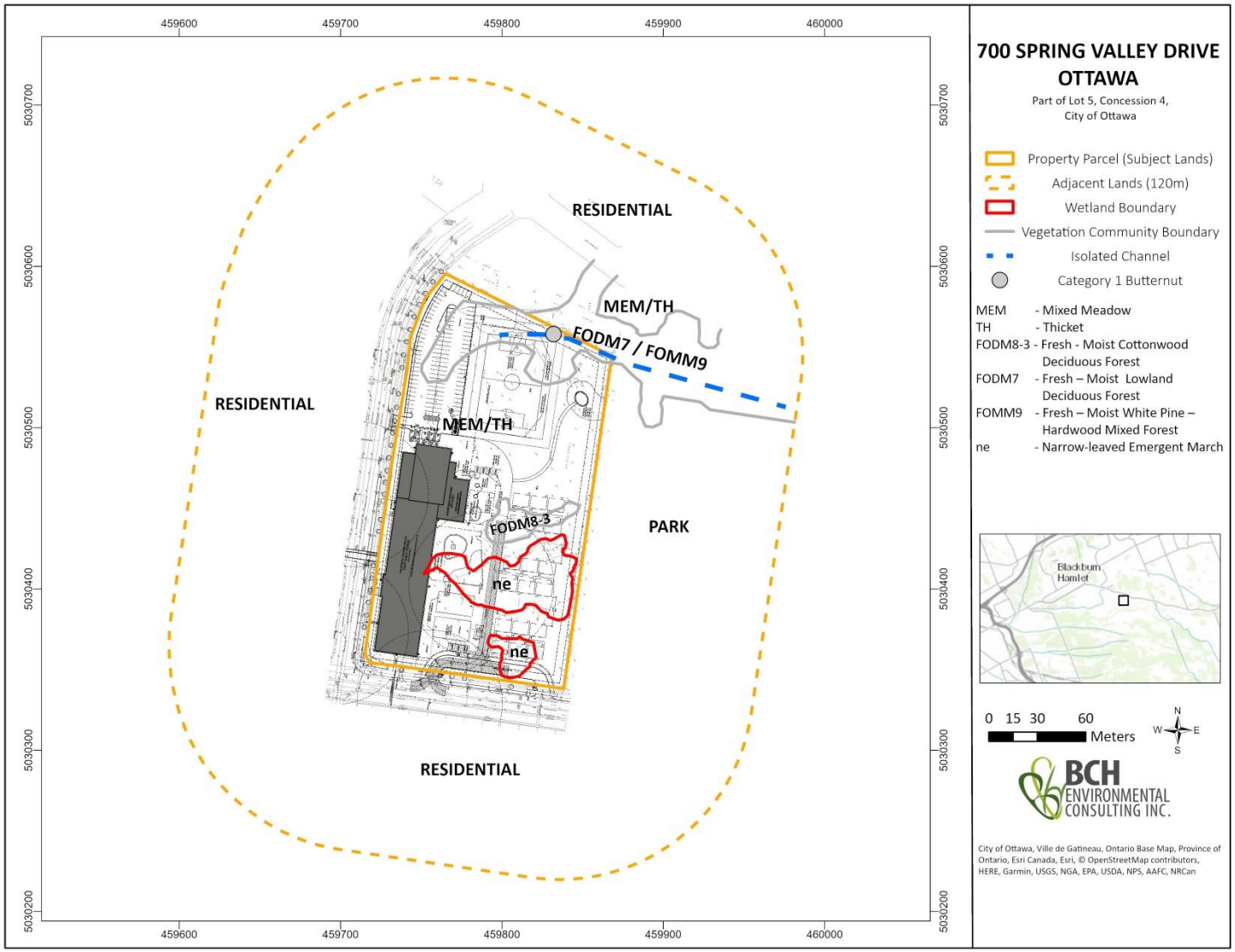
FIGURE 2: SUBJECT LANDS WITH PLANS



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3.1.1. Mosaic of Mixed Meadow and Thicket (MEM/TH)

This community makes up the majority of the subject and portions of the northern adjacent lands and is composed of a mosaic of meadow and thicket habitat. Woody vegetation (0.5-3m tall) was highly variable where present and provided 0-50% cover (staghorn sumac, common buckthorn and occasional willow). The ground layer provided 100% cover with common species including reed canary grass, goldenrod, Canada thistle, common sow-thistle and purple loosestrife. The occasional single and clump of trees were present (Eastern cottonwood, black maple, white ash, trembling aspen and white pine).

Photo 1: Mosaic of Mixed Meadow and Thicket (July 15, 2024)

3.1.2. Fresh - Moist Cottonwood Deciduous Forest (FODM8-3)

A small forest patch is present within the southern subject lands. It consisted of deciduous tree cover. The average DBH was 10cm. The canopy was the dominant layer. The canopy (9-11m tall; 80-100% cover) was dominated by Eastern cottonwood which was much more than black willow. There was no sub-canopy. The understory (1-5m tall; 5-10% cover) included common staghorn sumac, eastern cottonwood and black willow. The ground cover (100% cover) consisted of Canada goldenrod, reed canary grass, purple loosestrife, common sow-thistle and cow vetch.

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Photo 2: Fresh - Moist Cottonwood Deciduous Forest (July 15, 2024)

3.1.3. Mosaic of Fresh – Moist Lowland Deciduous Forest and Fresh – Moist White Pine – Hardwood Mixed Forest (FODM7 / FOMM9)

This community is present within the northern portion of the subject lands and continues into the adjacent lands. It was highly variable alternating between deciduous and mixed forest communities. The average DBH was 20cm. The canopy was the dominant layer. The canopy (10-15m tall; 60-80% cover) was highly variable alternating between trembling aspen, red maple, white pine, green ash, black cherry and bur oak. The sub-canopy (4-8m tall; 20-60% cover) was highly variable consisting of red maple, green ash and trembling aspen. The understory (0.5-3m tall; 80% cover) included common buckthorn, green ash, red maple, staghorn sumac and glossy buckthorn. The ground cover (40-75% cover) consisted of grasses, goldenrod, Virginia creeper, lady fern, large-leaved aster, sedges and bittersweet nightshade. This community was highly disturbed and present on a steep hill. At the base of the hill there was a small channel, this appears to be a remnant channel pre-development of the surrounding lands, no connection downstream or upstream were noted, this channel did not represent fish habitat. During the site visit the channel alternated between wet and dry areas. The average channel width was 3m, in areas containing water the wetted width was 2m and the average depth in these areas was 5-8cm.

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Photo 3: Mosaic of Fresh – Moist Lowland Deciduous Forest and Fresh – Moist White Pine – Hardwood Mixed Forest (July 15, 2024)

Photo 4: Isolated Channel – Wet Portions (July 15, 2024)

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Photo 5: Isolated Channel – Dry Portions (July 15, 2024)

3.1.4. Narrow-leaved Emergent March (ne)

As mentioned, there are two wetlands within the subject lands due to previous site disturbances and poor water management. The larger wetland was 0.26ha while the smaller wetland was 0.05ha. Neither wetland had inlets or outlets. These wetlands represented one form: narrow-leaved emergent (common reed and reed canary grass). The northern wetland has black willows along its northern boundary. Water was present in both wetlands; they were both estimated to be 20-50cm deep. The wetland habitat did not represent fish habitat, turtle habitat is highly unlikely (no cover, no basking opportunities and substrate was hard) and amphibian breeding habitat is possible but very unlikely this area would meet the criteria for significance.

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Photo 6: Narrow-leaved Emergent March (July 15, 2024)

3.2. Bird Survey

A raptor nest survey was completed by systematically traveling through the subject lands. No nesting sites were identified.

4.0. Potential Species at Risk

The Make a Map: Natural Heritage online database (OMNRF) was reviewed on July 11, 2024. This database provides sightings of provincially tracked species including Threatened and Endangered species covered by the 2008 Endangered Species Act in 1 km squares across most of Ontario. A search was conducted on the site and adjacent lands (18VR5930, and 18VR6030). The following species were identified for these squares:

- Bobolink (Threatened)
- Wood Thrush (Special Concern)
- Eastern Wood Pewee (Special Concern)
- Golden-winged Warbler (Special Concern)
- Snapping Turtle (Special Concern)
- Butternut (Endangered)

The Ontario Breeding Bird Atlas provides a searchable database in the form of a 10km square grid. A query revealed the following Species at Risk and species of special concern identified within the 10km square that encompasses the site and adjacent lands (18VR53):

- Black Tern (Special Concern)
- Least Bittern (Threatened)
- Short-eared Owl (Threatened)

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- Chimney Swift (Threatened)
- Eastern Wood-Pewee (Special Concern)
- Bank Swallow (Threatened)
- Barn Swallow (Special Concern)
- Wood Thrush (Special Concern)
- Bobolink (Threatened)
- Eastern Meadowlark (Threatened)
- Canada Warbler (Special Concern)

Similar to the Ontario Breeding Bird Atlas, the Ontario Reptile and Amphibian Atlas provides a searchable database in the form of a 10km square grid. A query revealed the following species of special concern was identified within the 10km square that encompasses the subject lands and adjacent lands (18VR53):

- Snapping Turtle (Special Concern)
- Northern Map Turtle (Special Concern)

iNaturalist and the Global Biodiversity Information Facility provides a searchable database. A query revealed no results in the vicinity of the site.

The Department of Fisheries and Oceans provide species at risk sightings via their online map tool. A query found no results in the vicinity of the site.

In addition to the above potential Species at Risk, other endangered and threatened species may potentially occur in the general area:

- Little Brown Myotis (Endangered)
- Northern Myotis (Endangered)
- Eastern Small-footed Myotis (Endangered)
- Tri-coloured Bat (Endangered)
- Black Ash (Endangered)

4.1. Turtles and Reptiles

Snapping turtles and Eastern musk turtles are designated as special concern under the Ontario Endangered Species Act (ESA). The habitat of species of special concern is not regulated under the Ontario ESA. No suitable turtle habitat was present within the subject or adjacent lands. The wetlands present within the subject lands and adjacent lands lacked open water, basking opportunity, cover and soft substrate.

4.2. Birds

Black tern, Eastern wood-pewee, wood thrush, barn swallow, golden-winged warbler and Canada warbler are designated special concern under the Ontario Endangered Species Act (ESA). The habitat of species of special concern is not regulated under the Ontario ESA. Black tern nest in large freshwater marshes of at least 20 hectares with emergent vegetation interspersed with open water but will use smaller wetlands with the same features (Burke 2012). This habitat is not present. The eastern wood-pewee is mostly associated with the mid-canopy layer of forest clearings and edges of deciduous and

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mixed forests (COSEWIC 2012a). This habitat is not present. The wood thrush nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers (COSEWIC 2012b). This type of habitat was not present. Barn swallow nest sites are commonly found along the interior or exterior of building structures, under bridges and wharves, and in road culverts (Heagy et al. 2014.). No barn swallow or barn swallow nests were observed and no suitable nesting structures were present. Golden-winged warbler breeding grounds are found in areas of early successional scrub surrounded by mature forests. They are found in dry uplands, swamp forests and marshes (COSEWIC 2006). This habitat is not present. Canada warbler is most common in wet, mixed deciduous-coniferous forest types having a well-developed shrub layer, often as a result of canopy gaps and suitable drainage and soil moisture conditions (COSEWIC 2020). The on-site forests do not support this forest type.

Least bittern, chimney swift, bank swallow, short-eared owl, bobolink, and eastern meadowlark are designated as threatened under the Ontario Endangered Species Act (ESA). Least bittern require emergent marshes (usually cattail) with stable water levels and interspersed areas of open water for breeding (COSEWIC 2009a). This habitat wasn't present within the subject lands. Chimney swift are aerial foragers, associated with water where insects are abundant and urban and rural areas where chimneys are available for nesting and roosting (COSEWIC 2007). No suitable chimneys were observed for this species use. Bank swallow are generally associated with sand-silt vertical banks (COSWIC 2013a). Bank swallow habitat was not present. Short-eared owl prefer a wide variety of unforested habitats are used, including arctic tundra, grasslands, sand-sage, fallow pastures, and occasionally fields planted with row-crops, this habitat was not present. Bobolink and eastern meadowlark are associated with native and non-native larger grassland habitats such as hayfields (COSEWIC 2010, and COSEWIC 2011). The meadow habitat present is approximately 2.62ha in size which is less than the required 5ha for suitable bobolink and meadowlark habitat. Additionally, the mosaic of mixed meadow and thicket is not considered prime habitat for bobolink and meadowlark, these species are not anticipated to be utilising the subject lands and adjacent lands.

No direct impacts on birds are anticipated, indirect impacts on these species as a result of the proposed development can be mitigated provided the mitigation measures in this report are properly implemented.

Further to this, nesting migratory birds are protected under the Migratory Birds Convention Act (MBCA). No work is permitted that would result in the destruction of active nests (nests with eggs or young birds) or the wounding or killing of bird species protected under the MBCA and/or associated regulations.

4.3. Mammals

Little brown Myotis, northern Myotis, Eastern Small-footed Myotis, and tri-coloured bat are designated endangered under the Ontario Endangered Species Act (ESA). All four bats may forage in open areas on-site and may roost in trees or buildings on or adjacent to the Site. The Atlas of Mammals of Ontario (Dobbyn, 1994) suggests that the tri-colored bat is not present within this part of Ontario however, the NatureServe mapping in the COSSARO (2015) includes all of southeastern Ontario. Based on this information, this species is considered to have a very low potential of occurring. To prevent impacts to bats, no clearing of trees greater than 10cm on-site should take place between March 15 and November 30 (inclusive) without a qualified biologist first confirming the absence of bats (i.e., open work timing

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window from December 1 to March 14). If tree clearing is conducted between December 1 and March 15, no interactions with bats are anticipated, and therefore, significant negative impacts to SAR bats would be avoided.

Maternity colonies are established by females in the summer, often in buildings, or large-diameter trees with suitable cavities (COSEWIC 2013b). No caves, bedrock fissures, mining shafts, abandoned buildings, or other features which may function as bat hibernacula habitat were noted within the subject lands.

A snag survey for bat habitat was completed. This survey followed the methods present in the 'Maternity Roost Surveys (Forests/Woodlands)' protocol submitted to BCH by MECP on September 19, 2023. The protocol suggest walking transects and identifying suitable snags. As per the protocol if the snag density is calculated to be ≥10 snags/hectare then this the ELC polygon should be considered high quality potential maternity roost habitat. If maternity roost habitat is identified using ELC, acoustic monitoring is recommended to determine if little brown myotis, eastern small-footed myotis, tri-colored and/or northern myotis are recorded in the area. Typically, this survey is recommended to be completed after leaf off, due to the low number of trees present within the subject lands and the high visibility of these trees the survey was completed during the July 15, 2024 visit and BCH is confident in our findings. Additionally potential forest within the subject lands lacks appropriate size to be considered a maternal roosting site.

Throughout the entire subject lands, no suitable snags that could be utilised by bats for Maternity Roost where identified. As per MECP directives this site is not considered a maternal roost habitat, therefore no further action/surveys are required.

No negative impact to bats are anticipated, mitigation measures present within section 12.0 will mitigate any indirect impacts.

4.4. Vegetation

Butternut (designated as endangered by the ESA) tends to reach greatest abundance in rich well-drained mesic loams in floodplains, streambanks, terraces and ravine slopes, but can occur in a wide range of other situations (COSEWIC 2017). A total of 1 Butternut tree was found during the survey (Table 2). The butternut assessment resulted in being classified as Category 1. MECP has received the BHE Report on November 21, 2024 (Appendix G). The BHE Report must be submitted at least 30 days prior to killing, harming, or removing the Butternut tree. During this 30 day period, no Butternut tree (of any category) may be killed, harmed, or removed, and the MECP may contact you for an opportunity to examine the trees. After the 30 days (December 21, 2024) the Category 1 tree can be removed without further action or compensation.

TABLE 2: BUTTERNUT TREE

ID	UTM NAD83	SPECIES	DBH (cm)	Category	COMMENTS	OWNERSHIP
1	18 T 459832 5030558	Butternut	11	1	Single Stem.	Proponent

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Black ash (designated as endangered by the ESA) occurs most frequently in floodplain forests, basin, seepage and lacustrine swamp forests, shoreline forest margins, and fens (COSEWIC 2018a). No black ash were found during a detailed survey.

4.5. Species at Risk Summary

In summary, based on the habitat present within the subject lands and the field visit the only species present was butternut (subject lands). Impacts on this species as a result of the proposed development can be mitigated provided the mitigation measures in this report are properly implemented.

5.0. Natural Heritage Features

A Natural Heritage Features have been identified in accordance with the direction of the Provincial Policy Statement and the City of Ottawa's Official Plan. Its intent is to reinforce the conservation, restoration, and enhancement of identified natural heritage features and areas and promote the overall diversity and interconnectivity of natural heritage features and areas.

A refined search identified the following Potential Natural Heritage Features (discussion below): Significant Woodland, Wetland, Watercourse and Significant Wildlife Habitat.

5.1. Significant Woodland

There are two woodland patches within the subject lands, the southern patch (Patch 1) is approximately 0.08 ha in size, the northern patch is part of a larger woodland that extends into the adjacent lands and totals approximately 1.06ha in size. The entirety of Patch 1 is being proposed to be cleared, 0.28 ha of Patch 2 is being proposed to be cleared. The significance of this woodland was evaluated using the criteria in the Natural Heritage Reference Manual (OMNR, 2010) and the Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment provided by the city. The PPS does not permit development in significant woodlands south and east of the Canadian Shield unless it has been demonstrated that there will be no negative impacts on the natural features or the ecological functions. Woodlands are significant if they meet the criteria presented by the city

Patch 1 and Patch 2 fall within the established urban process, through the Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment provided by the city these woodlands are not considered significant (these woodlands did not exist in 1976 – GeoOttawa).

5.2. Wetlands

As previously mentioned, these lands are highly disturbed, development of the surrounding lands appear to begin in 2007, previous to this development the area was clearly active farmland and no wetlands were present within the subject lands. The larger wetland within the subject lands makes it first appearance in 2012 presumably due to the surrounding development, soil stripping, and poor water management plans. The smaller wetland is a remnant from poor construction practices in 2012, resulting in poor drainage of the area. Satellite imagery on GeoOttawa and Google Earth clearly demonstrate the extensive disturbances of the subject lands throughout the years. A description of these wetlands is present in section 3.1.4. Due to the size and lack of diversity within these wetlands

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they would not meet the criteria for significance, no formal evaluation has been completed nor is it deemed necessary. These are isolated features that do not represent turtle or fish habitat. They may represent amphibian habitat.

The official plan defined surface water feature as:

"Water-related features on the earth's surface, including headwater drainage features, rivers, stream channels, drains, inland lakes, seepage areas, recharge/discharge areas, springs, wetlands and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics, including fish habitat"

Although these man-made areas meet the definition of wetland, they have recently been created most likely through bad land management practices, are of no significance, and offer little in habitat to wetland species (lacked diversity). The proposed development wishes to remove these features and it is BCH opinion that these man-made features not be considered as a constraint to development. Water present within these areas should be managed through grading and stormwater management plans (Appendix F).

5.3. Watercourse

A small, isolated watercourse was present within the northern portion of the subject lands and extends into the eastern adjacent lands. A description of this feature is present within section 3.1.3. This feature is most likely a remnant feature that has been disconnected due to the surrounding development. This feature does not represent fish, turtle or amphibian habitat, and most likely only retains water during rain events and spring melt. The proposed development wishes to remove these features and it is BCH opinion that these man-made features not be considered as a constraint to development. Water present within these areas should be managed through grading and stormwater management plans (Appendix F).

5.4. Significant Wildlife Habitat

The potential for significant wildlife habitat was assessed using the guidance in OMNR (2010) and MNRF (2015). Potential components which may lead to a designation of significant wildlife habitat include seasonal concentration areas of animals, rare vegetation communities or specialized habitat for wildlife, habitat for species of conservation concern, and animal movement corridors. No rare vegetative communities, raptor overwintering sites, old growth forest, valley, or caves were located within the subject or adjacent lands.

There is only potential for Specialized Habitats of Wildlife (Amphibian Breeding Habitat), within the wetlands. The southern wetland (smaller one) does not present SWH as it does not meet the minimum size requirement of >500m^2 (it is 485m^2). The northern wetland (larger one) meets the minimum size requirements but most likely does not meet the remaining criteria:

- Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals.

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No newts or salamanders were noted, nor have any frog surveys been conducted. But it is very unlikely that more than 20 individuals of two listed species would be present within this featureless wetland. It is the responsibility of the municipality to decide whether and how significant wildlife habitat will be protected. BCH does not recommend that this feature be considered for protection, and it is our opinion that these features should not represent a constraint to development.

6.0. Urban Natural Areas Environmental Evaluation Study Candidate Site.

The East Urban Community Design Plan has identified the northern adjacent lands as Urban Natural Areas Environmental Evaluation Study Candidate Site. No significant natural heritage features were present within these northern lands (see section 5.1 and 5.3). These lands will not be impacted by the proposed development, the tree conservation plan will address protection of the trees within these lands.

7.0. Tree Conservation

A tree conservation plan has been developed by another contactor, see their report for details.

8.0. Highly Valuable Aquifer and Significant Groundwater Recharge Area

The city has designated the subject lands and surrounding adjacent lands as a Highly Vulnerable Aquifer and Significant Groundwater Recharge Area. As such, the proposed development is located within these areas. The Rideau Valley Conservation Authority has a Source Water Protection Plan in place, different policies apply to different parts of the Highly Vulnerable Aquifer and Significant Groundwater Recharge Area because certain areas are more vulnerable to contamination. The Rideau Valley Conservation Authority should be consulted to ensure policies and recommendations for this specific source water protection area are followed.

9.0. Unstable Slope

The city has designated the northern edge of the subject lands as potentially containing unstable slope. A slope stability study should be undertaken to determine if the proposed development can meet the cities standards and that the development is safe to proceed.

10.0. Wildland Fire Risk Assessment

The wildland fire policy was introduced in the 2014 Provincial Policy Statement to ensure communities consider and plan for avoiding and mitigating losses to their communities due to wildland fire. As outlined in the Provincial Policy Statement, “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”.

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To assist planning city of Ottawa has identified potential hazardous forest types for wildland fire. The subject lands have no designation within the cities official plan.

10.1. Level 1 Site Assessment

Following review of the available information provided in this report and the guidelines as outlined in the MNRF Wildland Fire Risk Assessment and Mitigation Guidebook the subject lands have been deemed a low risk to wildland fires as such no further mitigation measures are required for the proposed development. This was determined by multiple factors: (1) Species compositions, the mixed forest identified within the subject lands consisted of white pines but they were not the dominant tree species, deciduous trees where the dominant species which typically represent low risk. (2) The coniferous trees onsite were surrounded by deciduous trees. (3) There were very little immature coniferous trees mixing within the canopy. (4) Little to light needle buildup. (5) Minimal understory. All these factors indicate that there is a low risk of wildland fires. See section 3.1. for description and pictures of the vegetation communities.

11.0. Development Constraints and Cumulative Impacts

No significant constraints, regulatory requirements, or buffer requirements have been identified in relation to Significant Wildlife Habitat. Constraints that have been identified are collected below (see individual sections for more details):

Species at Risk: Constraints regarding potential species at risk is examined in depth within section 4.0.

The Canadian Environmental Assessment Agency (CEAA) defines cumulative effects as…"the effects on the environment caused by an action in combination with other past, present, and future human actions…" They occur when two or more project-related environmental effects, or two or more independent projects, combine to produce an augmented effect. These cumulative effects may be positive or negative.

Given that the entire site is surrounded by residential areas, it is anticipated that the potential construction of the proposed development will not increase the potential for cumulative effects in the general landscape.

As per the EIS guidelines, climate change should be taken into account when developing the property. The main concerns with climate change are the following: extreme heat and drought, changing seasons, rain and flooding and extreme weather events.

The subject lands currently consist of meadow, thicket, forest, and wetland cover. To aid in mitigating the potential for extreme heat and drought where possible native trees should be considered for planting within remnant green spaces after development along with retaining, where possible, present tree cover. The shade produced by these trees will aid in mitigating heat being produced by hardened surfaces. To aid in the mitigation of the increased risk of rain and flood, the design of the stormwater infrastructure should accommodate the potential increased flows. Additional measures such as designing building and infrastructure to be resilient in future climate conditions such as extreme weather, greater rainfall and higher temperatures should be considered.

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For further information see the City of Ottawa Climate Resiliency webpage (https://ottawa.ca/en/living-ottawa/environment-conservation-and-climate/climate-change-and-energy/climate-resiliency#section-a8783773-3a10-4998-b516-b4d9c5e73cf0)

12.0. Recommendations and Conclusion

This study's recommendations are intended to mitigate potential negative impacts due to the proposed development and should be implemented through a development agreement between the owners and the city in order to control development of the site. Properly implemented controls within this agreement are deemed sufficient to mitigate the potential impacts of the proposed development on the surrounding environment.

12.1. Mitigation for the Species at Risk and Migratory Birds Convention Act

1- To protect breeding birds, no tree or shrub removal should occur between April 1th and August 30th, unless a breeding bird survey is completed by a qualified biologist within two days of the woody vegetation removal and identifies no nesting activity.

2- To prevent impacts to bats, no clearing of trees greater than 10cm on-site should take place between March 15 and November 30 (inclusive) without a qualified biologist first confirming the absence of bats (i.e., open work timing window from December 1 to March 14). If tree clearing is conducted between December 1 and March 15, no interactions with bats are anticipated, and therefore, significant negative impacts to SAR bats would be avoided.

3- A single Category 1 butternut was located within the subject lands. MECP has received the BHE Report on November 21, 2024 (Appendix G). The BHE Report must be submitted at least 30 days prior to killing, harming, or removing the Butternut tree. During this 30 day period, no Butternut tree (of any category) may be killed, harmed, or removed, and the MECP may contact you for an opportunity to examine the trees. After the 30 days (December 21, 2024) the Category 1 tree can be removed without further action or compensation.

4- The contractor is to be aware of potential Species at Risk in the vicinity of the site. Appendix 1 of City of Ottawa Protocol for Wildlife Protection during Construction (2022) and Appendix D of this report for descriptions of these species. Any Species at Risk sightings are to be immediately reported to the project biologist and the MECP, and activities modified to avoid the potential for impacts until further direction is received by the Ministry.

12.2. Recommendation and Mitigation for Tree Protection

1- Any tree in the vicinity of works but not slated for removal will have its critical roots zone protected by sturdy temporary fencing at least 1.3 metres in height installed from the tree trunk to a distance of ten times the retained tree's diameter where possible. Signs shall be posted on the protective fencing to clearly indicate that: a) the fencing is to protect the critical root zones of the retained trees; b) the fencing is not be moved, and; c) fencing is to be maintained until the construction is complete.

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2- No grading, heavy machinery traffic, stockpiling of material, machinery maintenance and refueling, or other activities that may cause soil compaction are to occur within three metres of the critical root zone of the trees to be protected.
3- The root system, trunk, and branches of the trees to be protected are to be protected and not damaged. If any roots of trees to be retained are exposed during site alterations, the roots shall be immediately reburied with soil or covered with filter cloth, burlap or woodchips and kept moist until the roots can be buried permanently. A covering of plastic should be used to retain moisture during an extended period when watering may not be possible. Any roots that must be cut are to be cut cleanly to facilitate healing and as far from the tree as possible. Overhanging branches from protected trees that may be damaged during construction are to be pruned by a qualified arborist prior to construction.
4- Exhaust fumes from all equipment during construction will not be directed towards the canopy of the adjacent protected trees.

12.3. Sediment and Erosion Recommendations and Mitigation Measures

1- Should dust particles be created during construction they will be suppressed using the appropriate method (i.e. water spraying).
2- Install and maintain the erosion control measures during construction. No work will occur until the appropriate sediment and erosion control measures have been designed and implemented prior to any work. At a minimum these will include:
    a. Provide regular maintenance to the sediment and erosion control measures during construction. Contractor shall be responsible for ensuring that the sediment and erosion control measures are maintained. No turbid water is permitted to leave the work area.
    b. Additional materials (i.e. rip rap, filter cloth and silt fencing) will be readily available in case they are needed promptly for erosion and/or sediment control.
    c. Any stock piles of soil or fill material will be protected by silt fencing.
    d. Sediment fencing will be installed at the edge of the work area, and kept in good working condition. The sediment fencing will not be removed until the area has stabilized.

12.4. Climate Change Recommendations

1- To aid in mitigating the potential for extreme heat and drought where possible native trees should be considered for planting within remnant green spaces after development. The shade produced by these trees will aid in mitigating heat being produced by hardened surfaces.
2- To aid in the mitigation of the increased risk of rain and flood, the design of the stormwater infrastructure should accommodate the potential increased flows.
3- Additional measures such as designing building and infrastructure to be resilient in future climate conditions such as extreme weather, greater rainfall and higher temperatures should be considered.

12.5. Additional Mitigation Measures

1- All rules governing septic systems and wells must be followed and be kept in good operational order.

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2- There will be no use of herbicides in clearing of vegetation.
3- Municipal by-laws and provincial regulations for noise will be followed.
4- The Rideau Valley Conservation Authority has a Source Water Protection Plan in place, different policies apply to different parts of the Highly Vulnerable Aquifer and Significant Groundwater Recharge Area because certain areas are more vulnerable to contamination. The Rideau Valley Conservation Authority should be consulted to ensure policies and recommendations for this specific source water protection area are followed.
5- The city has designated the northern edge of the subject lands as potentially containing unstable slope. A slope stability study should be undertaken to determine, if the proposed development can meet the cities standards and that the development is safe to proceed.
6- To discourage wildlife from entering the work areas during construction, the site should be kept clear of food wastes and other garbage. Proper drainage should be provided to avoid accumulation of standing water, which could attract amphibians, birds, and other wildlife to the work areas.
5- As recommended in City of Ottawa Protocol for Wildlife Protection during Construction (2022), prior to beginning work each day, wildlife is to be checked for by conducting a thorough visual inspection of the work space and immediate surroundings. See Section 2.0 of City of Ottawa Protocol for Wildlife Protection during Construction (2022) and Appendix C for additional recommendations on construction site management with respect to wildlife. It is the responsibility of the contractor to be familiar with all components of City of Ottawa Protocol for Wildlife Protection during Construction (2022). Any sensitive wildlife in the work area are to be relocated to the East of the subject lands. Animals should be moved only far enough to ensure their immediate safety.

To conclude this EIS, it is the professional opinion of the author that with proper implementation and maintenance of the mitigation measures (see above), the proposed development is suitable within the proposed lands.

Thank you for the opportunity to work with you. If you have any questions or comments, please do not hesitate to contact our office.

Shaun St.Pierre, B.Sc. Biology

Cody Fontaine, Wildlife Technologist

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APPENDIX A: OBSERVED SPECIES LIST

COMMON NAME	SCIENTIFIC NAME	SRANK	SARA STATUS	SARO STATUS	BRUNTON 2005
Field Horsetail	*Equisetum arvense*	S5			Common
Bracken Fern	*Pteridium aquilinum*	S5			Common
Common Lady Fern	*Athyrium filix-femina*	S5			Common
Sensitive Fern	*Onoclea sensibilis*	S5			Common
Balsam Fir	*Abies balsamea*	S5			Common
White Spruce	*Picea glauca*	S5			Common
Eastern White Pine	*Pinus strobus*	S5			Common
Eastern White Cedar	*Thuja occidentalis*	S5			Common
Narrowleaf Cattail	*Typha angustifolia*	SNA			Common
Broad-leaved Cattail	*Typha latifolia*	S5			Common
Black Willow	*Salix nigra*	S4			Uncommon
Slender Willow	*Salix petiolaris*	S5			Common
Smooth Brome	*Bromus inermis*	SNA			Common
Common Timothy	*Phleum pratense*	SNA			Common
Common Reed	*Phragmites australis*	S4?			Uncommon
Eastern Cottonwood	*Populus deltoides*	S5			Common
Large-toothed Aspen	*Populus grandidentata*	S5			Common
Trembling Aspen	*Populus tremuloides*	S5			Common
Pussy Willow	*Salix discolor*	S5			Common
Butternut	*Juglans cinerea*	S2?	END	END	Provincial Conservation Concern
Black Walnut	*Juglans nigra*	S4?			Rare
White Birch	*Betula papyrifera*	S5			Common
Bur Oak	*Quercus macrocarpa*	S5			Common
Northern Red Oak	*Quercus rubra*	S5			Common
Common Hackberry	*Celtis occidentalis*	S4			Uncommon
American Elm	*Ulmus americana*	S5			Common
Spotted Lady's-thumb	*Persicaria maculosa*	SNA			Common
Bladder Campion	*Silene vulgaris*	SNA			Common
Virginia Virgin's-bower	*Clematis virginiana*	S5			Common
Common Strawberry	*Fragaria virginiana*	S5			Common
Common Blackberry	*Rubus allegheniensis*	S5			Common
Black Raspberry	*Rubus occidentalis*	S5			Uncommon
Goldenrods	*Solidogo sp.*				
Wild Red Raspberry	*Rubus idaeus ssp. strigosus*	S5			Common
American Hog-peanut	*Amphicarpaea bracteata*	S5			Common

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COMMON NAME	SCIENTIFIC NAME	SRANK	SARA STATUS	SARO STATUS	BRUNTON 2005
Bird's-foot Trefoil	*Lotus corniculatus*	SNA			Common
Black Medic	*Medicago lupulina*	SNA			Common
White Sweet Clover	*Melilotus albus*	SNA			Common
Black Locust	*Robinia pseudoacacia*	SNA			Rare
Red Clover	*Trifolium pratense*	SNA			Common
White Clover	*Trifolium repens*	SNA			Common
Cow Vetch	*Vicia cracca*	SNA			Common
Upright Yellow Wood-sorrel	*Oxalis stricta*	S5			Common
Common Prickly-ash	*Zanthoxylum americanum*	S5			Common
Western Poison Ivy	*Toxicodendron radicans var. rydbergii*	S5			Common
Staghorn Sumac	*Rhus hirta*	S5			Common
Manitoba Maple	*Acer negundo*	S5			Common
Red Maple	*Acer rubrum*	S5			Common
Sugar Maple	*Acer saccharum*	S5			Common
Black Maple	*Acer nigrum*	S4?			Uncommon
Spotted Jewelweed	*Impatiens capensis*	S5			Common
Common Buckthorn	*Rhamnus cathartica*	SNA			Common
Glossy Buckthorn	*Frangula alnus*	SNA			Common
Virginia Creeper	*Parthenocissus quinquefolia*	S4?			Uncommon
American Basswood	*Tilia americana var. americana*	S5			Common
Common St. John's-wort	*Hypericum perforatum*	SNA			Common
Purple Loosestrife	*Lythrum salicaria*	SNA			Common
Common Evening Primrose	*Oenothera biennis*	S5			Common
Wild Carrot	*Daucus carota*	SNA			Common
Wild Parsnip	*Pastinaca sativa*	SNA			Common
Red-osier Dogwood	*Cornus sericea*	S5			Common
White Ash	*Fraxinus americana*	S4			Common
Green Ash	*Fraxinus pennsylvanica*	S4			Common
Common Milkweed	*Asclepias syriaca*	S5			Common
Field Bindweed	*Convolvulus arvensis*	SNA			Common
Common Mullein	*Verbascum thapsus*	SNA			Common
Common Plantain	*Plantago major*	SNA			Common
Smooth Bedstraw	*Galium mollugo*	SNA			Common
Tatarian Honeysuckle	*Lonicera tatarica*	SNA			Common
Common Yarrow	*Achillea millefolium*	SNA			Common
Common Ragweed	*Ambrosia artemisiifolia*	S5			Common

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COMMON NAME	SCIENTIFIC NAME	SRANK	SARA STATUS	SARO STATUS	BRUNTON 2005
Common Burdock	*Arctium minus*	SNA			Common
Large-leaved Aster	*Eurybia macrophylla*	S5			Common
Chicory	*Cichorium intybus*	SNA			Common
Canada Thistle	*Cirsium arvense*	SNA			Common
Grass-leaved Goldenrod	*Euthamia graminifolia*	S5			Common
Oxeye Daisy	*Leucanthemum vulgare*	SNA			Common
Black-eyed Susan	*Rudbeckia hirta*	S5			Common
Common Sow-thistle	*Sonchus oleraceus*	SNA			Uncommon
Common Dandelion	*Taraxacum officinale*	SNA			Common
Colts Foot	*Tussilago farfara*	SNA			Uncommon
Canada Goldenrod	*Solidago canadensis var. canadensis*	S5			Common
Black Cherry	*Prunus serotina var. serotina*	S5			Common
Reed Canary Grass	*Phalaris arundinacea var. arundinacea*	S5			Common
Scots Pine	*Pinus sylvestris var. sylvestris*	SNA			Rare
White Meadowsweet	*Spiraea alba var. alba*	S5			Common
Grasses					
Green Frog	*Rana clamitans*	S5			
American Woodcock	*Scolopax minor*	S4B			
Northern Flicker	*Colaptes auratus*	S4B			
American Robin	*Turdus migratorius*	S5B			
Gray Catbird	*Dumetella carolinensis*	S4B			
Northern Cardinal	*Cardinalis cardinalis*	S5			
Red-winged Blackbird	*Agelaius phoeniceus*	S4			
American Goldfinch	*Carduelis tristis*	S5B			
Red Squirrel	*Tamiasciurus hudsonicus*	S5			

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APPENDIX B: QUALIFICATIONS

SHAUN M. ST.PIERRE, B.Sc. Biology

EDUCATION

B.Sc. Biology, Trent University 2007
Fisheries and Wildlife Technology, Frost Campus, Sir Sandford Fleming College, 2005
Fisheries and Wildlife Technician, Frost Campus, Sir Sandford Fleming College, 2004

LANGUAGES

Fluent in French and English

POSITIONS HELD

2018 - :	BCH Environmental Consulting Inc., Biologist / Owner
2006-2017:	Bowfin Environmental Consulting Inc., Biologist / GIS Specialist / Environmental Site Inspector
2005:	St. Lawrence River Institute of Environmental Sciences, Field Research Assistant
2004:	MNR Kawartha Lakes, Field Research Assistant
2003:	DFO- Experimental Lake Area, Field Research Assistant
2001:	Resource Stewardship S, D &G, Stewardship Ranger

CERTIFICATIONS / PROFESSIONAL AFFILIATIONS

MTO/DFO/OMNR Fisheries Protocol, Ecological Land Classification (ELC), Certified in Inventory and Identification Methods for Ontario's Reptiles and Amphibians, North American Benthological Society (NABS) Certified Family Level Taxonomist, Ontario Benthos Biomonitoring Network (OBBN), Ontario Stream Assessment Protocol (OSAP), Certified Ontario Wetland Evaluator (OWES), Butternut Health Assessor/Expert (BHA/BHE), first aid, CPR, Pleasure Craft Operator Card, Marine Radio Operator, WHMIS, WHSA, Hazard Identification, Assessment and Control, All Terrain Vehicle Riders Course (issued by the Manitoba Safety Council), Water Safety Training (Bronze Cross), Possession / Acquisition Firearms Licence, Ontario Hunter Education Course Certificate, Ontario Trapper Education Course Certificate, Wildlife Chemical Immobilization, Vaccination, and Euthanasia- Certificate of Knowledge, South Lancaster/South Glengarry Fish and Game Club (SLFGC; president 2012 and 2013; executive member 2014-2023), Ontario class G driver's license, and Snowmobile License.

EXPERIENCE

Experience in environmental impact assessments/studies, environmental monitoring, environmental assessments, terrestrial habitat assessment, species at risk surveys, amphibian surveys, avian surveys, freshwater habitat assessment, collection and identification of plants, collection and identification of aquatic invertebrate, collection and identification of fish, fish salvage, fish behavioral studies, winter bat hibernaculum inventories and fisheries inventories including habitat mapping, electroshocking, FWIN and RIN. Other experience include GIS mapping.

Environmental and Fisheries Inspections

- Provided environmental and fisheries inspections for the construction of the Cataraqui Crossing HWY 401-MTO (Kingston, ON).
- Provided environmental and fisheries inspections for the construction of the Three Nations Bridge including surveys for nesting species at risk (Cornwall, ON).
- Provided environmental and fisheries inspections for construction (Ottawa, ON).
- Conducted nest surveys (Kemptville, ON.; Stittsville, ON.; Cornwall, ON.)
- Conducted environmental inspections for the construction of the Clarkson WWTP outfall, Lake Ontario.
- Conducted environmental inspections for the construction of a new bridge crossing Bearbrook Creek along the 417.
- Provided environmental and fisheries inspections for the blasting and drilling operation for the Burloak Water Purification Tunnel project (Burlington, ON).

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- Provided environmental and fisheries inspections for the construction of the Poole Creek Re-alignment/Huntmar Drive Crossing.

Environmental Impact Assessments/Studies

- Conducted the field work and authored multiple EIA/EIS throughout Ontario.

Wetland Evaluations and Delineation

- Conducted multiple Wetland Evalautions and Delineation as per OWES (Ottawa, Rideau Lakes, United Counties of SDG, United Counties of Leeds and Grenville and many other locations).

Species at Risk Inventories / Monitoring

- Has over 15 years' experience of conducting butternut assessments. I am a butternut health assessor (BHA #281, a butternut health expert, and has aided for the Forest Gene Conservation Association of Ontario to assess the archivability of Category butternut 3 trees.
- Butternut survey and assessment for proposed developments (Brockville, Carleton Place, Carp, Clarence-Rockland, Cornwall, Munster, Hawkesbury, Kemptville, Ottawa, South Lancaster, Smith Falls, Stittsville, Prospect, Vars, Moose Creek, Prescott, Westminster, Renfrew, Battersea, Jones Falls, and Millbrook).
- American Eel surveys using the boat electrofisher on the Mississippi River (Almonte, ON), South Nation River (Casselman, ON) and Ottawa River (Renfrew, ON; Ottawa, ON: Shawville, QC)
- American Eel collection on the St. Lawrence River for the St. Lawrence River Institute (Cornwall, ON)
- American Ginseng survey for proposed development (Kanata, South Lancaster and Renfrew).
- Whip-poor-will survey for proposed development (Navan, ON; Kemptville, ON; Stittsville, ON; Prescott, ON; Alexandria, ON) and quarries (Avonmore, Moosecreek, Prospect, Stittsville, Kanata, Ottawa)
- Assisted in a Least Bittern survey (Avonmore, ON)
- Conducted turtle surveys: Blanding's turtle, Eastern musk turtle (Carleton Place, ON; Ottawa, ON; Stittsville, ON; Kanata, ON, Prospect, ON)
- Conducted rapid clubtail surveys (Almonte, ON)
- Bat maternal nesting site surveys (Prescott, ON; Battersea, ON; Prescott, ON; Hawkesbury, ON; Russell, ON)

Aquatic Inventories

- Boat electrofishing along the shoreline of the Ottawa River (Chat Falls, ON) along the shoreline of the Cataraqui River (Kingston, ON), downstream of the Carillion Dam (Pointe-Fortune, QC), Lake St. Francis (South Lancaster, ON), South Nation River (Casselman, ON), Raisin River (Lancaster, ON), and the St. Lawrence River (Cornwall, ON)
- Collecting and data entry for benthic macroinvetebrate community surveys on several watercourses within Ontario including: Bonnechere River (Renfrew, ON), Montreal River (Latchford, ON), Jock River (Ottawa, ON), tributaries of the Bonnechere River (Renfrew, ON), tributaries to Feedmill Creek (Ottawa, ON), tributary to Chippewa Creek (North Bay, On) and tributary to the Beaudette River (Alexandria, ON).
- Collecting and data entry for several fish community surveys including: Black Creek (Westminster, ON), Bonnechere River (Renfrew and Douglas, ON), Butler's Creek (Brockville, ON), East Branch of Little Cataraqui Creek (Kingston, ON), Kehoe Ditch (Greely, ON), Lac Opemisca (Ouje-Bougoumou, QC), Marshall Seguin Municipal Drain (Vars, ON), Montreal River (Latchford, ON), tributaries of Lavalle Creek (Carleton Place), tributaries to Feedmill Creek (Ottawa, ON), tributaries to Lafontaine Creek (Clarence-Rockland), tributaries to Shirley's Brook (Kanata, ON), tributaries to the Beaudette River (Alexandria, ON), tributaries to the Bonnechere River (Renfrew, ON), tributaries to the Ottawa River (Carp, ON; Ottawa, ON; Wendover, ON; Clarence-Rockland, ON), tributaries to the South Nation River (Casselman, ON), tributaries to the South Nation River (Jessup Falls, ON), tributary to Hawkesbury Creek (Hawkesbury, ON), Hawkesbury Creek (Hawkesbury , ON), tributary to the St.Lawrence River (Prescott, ON) and tributary to the North Castor River (Greely, ON).
- Mapped fish habitat in many watercourses including: Black Creek (Westminster, ON), Bonnechere River (Renfrew and Douglas, ON), Butler's Creek (Brockville, ON), Kehoe Ditch (Greely, ON), Lac Opemisca/Lac Barlow Bypass channel (Ouje-Bougoumou, QC), Marshall Seguin Municipal Drain (Vars, ON), McKinnons Creek

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(Navan, ON), Montreal River (Latchford, ON), tributaries of Lavalle Creek (Carleton Place), tributaries of the Bonnechere River (Renfrew, ON), tributaries to Lafontaine Creek (Clarence-Rockland), tributaries to McKinnons Creek (Navan, ON), tributaries to Shirley's Brook (Kanata, ON), tributaries to the North Castor River (Greely, ON), tributaries to the Ottawa River (Ottawa, ON; Wendover, ON), tributaries to the South Nation River (Casselman, ON), tributaries to the South Nation River (Jessup Falls, ON), tributary to the St.Lawrence River (Prescott, ON) and tributary to Hawkesbury Creek (Hawkesbury, ON).

- Assisted in YOY sampling on the Raisin River (Lancaster, ON).
- Conducted riverine index netting on the Bonnechere River (Renfrew, ON).
- Assisted in gill netting on Bonnechere River (Renfrew, ON), Lac Barlow (Ouje-Bougoumou, QC), Lac Opemisca (Ouje-Bougoumou, QC), Montreal River (Latchford, ON), and Raisin River (Lancaster, ON).
- Assisted in conducting larvae surveys on Bonnechere River, Hoople Creek, Montreal River and Raisin River,
- Collected walleye eggs from the spawning grounds on the Bonnechere River, Montreal River, Raisin River and Hoople Creek.
- Assisted in the monitoring of a new wetland channel created in the Little Cataraqui River.
- Marsh monitoring program breeding amphibian survey at Stittsville, ON; Cornwall, ON; Kanata, ON; Hoople Creek and the Bonnechere River.
- Assisted in conducting fall walleye index netting for the MNR in Kawartha Lakes
- Conducted turtle surveys (Carleton Place, ON; Ottawa, ON)
- Conducted headwater waters assessment (Kanata, ON; Navan, ON, Ottawa, ON)

Terrestrial Inventories

- Multiple Environmental Impact Assessments across Ontario
- Tree Inventory for construction of the light rail (LRT; Ottawa, ON)
- Winter white-tailed deer survey (Edwardsburgh, ON)
- Plant community inventories for proposed developments, quarries, sand pits and road extensions (Brockville, Carleton Place, Carp, Casselman, Elgin, Griffith, Hamilton, Jessup Falls, Navan, Ottawa, Stittsville, Rockland, Simcoe, Cornwall, Kemptville, Hawkesbury, Smith Falls, Wendover, Moosecreek, Westminster, Prescott, Renfrew, Jones Falls, Michipicoten Island and in Ouje-Bougoumou in QC)

Aquatic Habitat Mapping for Municipal, City Roads and Provincial Highways

- Conducted MTO habitat assessments at Galetta Side Road, Torbolton Road, Kinburn Side Road (Ottawa, ON)
- Conducted MTO habitat assessments at Prince of Wales, Fernbank Road, Fallowfield Road, HWY 115, Arbuckle drain, the Carp river, tributaries to the Carp river and tributaries to Mud creek (Ottawa, ON)
- Conducted MTO habitat assessments at Innes Road, Ottawa, ON.
- Conducted MTO habitat assessments at MacLaren Side Road, Ottawa, ON.

Other

- Fish salvage: Mississippi River (Almonte, ON), Monaghan Drain (Ottawa, ON), tributary to the Rideau Canal (Kemptville, ON), and tributary to Feedmill Creek (Ottawa ON), Bonnechere River (Renfrew, ON)
- Assisted in conducting a winter bat hibernaculum inventory (Plantagenet, ON)
- Field research assistant for the Metalicuus study and EDC study (Experimental Lakes Area, ON)
- Captured, pit tagged, telemetry tagged and tracked Northern Pike (Experimental Lakes Area, ON)
- Construction and maintenance of nature trail (the Cornwall Outdoor Recreational Area, ON)
- Conducted frog deformities surveys (Glengarry, ON)
- Organized youth fishing derbies through SLFGC (2011-2013; South Lancaster)
- Organized the St.Francis Walleye Tournament through SLFGC (2012-2013; South Lancaster)

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CODY J.C FONTAINE, Fisheries and Wildlife Technologist

EDUCATION

Fisheries and Wildlife Technology, Frost Campus, Sir Sandford Fleming College, 2012
Fisheries and Wildlife Technician, Frost Campus, Sir Sandford Fleming College, 2011

LANGUAGES

Fluent in English

POSITIONS HELD

2022: BCH Environmental Consulting Inc., Fisheries and Wildlife Technologist
2014: Bowfin Environmental Consulting Inc., Fisheries and Wildlife Technologist
2009: Raisin Region Conservation Authority, Field Research Assistant

CERTIFICATIONS / PROFESSIONAL AFFILIATIONS

MTO/DFO/OMNR Fisheries Protocol, Environmental Monitoring For Construction Projects Practitioner (EMCPP), Ontario Stream Assessment Protocol (OSAP), Class 2 Electroshocking, first aid, CPR, Pleasure Craft Operator Card, WHMIS, WHSA, Hazard Identification, Assessment and Control, Ice Safety Training, Possession / Acquisition Firearms License, Fish Identification Certificate, Radio Telemetry Certificate, Fish Hatchery Operations Certificate, Ontario Hunter Education Course Certificate, Ontario trapper Education Course Certificate, Ontario class G driver's license.

EXPERIENCE

Experience in environmental monitoring, environmental assessments, terrestrial habitat assessment, species at risk surveys, amphibian surveys, freshwater habitat assessment, collection and identification of plants, collection and identification of fish, fish salvage, bat hibernaculum inventories and fisheries inventories including netting and electroshocking. Other experiences include GIS mapping.

Aquatic Inventories

- Assisted with boat electrofishing along the shoreline of the Ottawa River (Chat Falls and Ottawa, ON), Lake St. Francis (South Lancaster, ON), Bonnechere (Renfrew, ON), Raisin River (Lancaster, ON), Buckhorn Lake (Peterborough, ON) and the St. Lawrence River (Cornwall, ON)
- Assisted in collecting and data entry for several fish community surveys including: Bonnechere River (Renfrew, ON), tributaries to Feedmill Creek (Ottawa, ON), tributaries to Shirley's Brook (Kanata, ON), tributaries to the Ottawa River (Ottawa, ON), tributaries to the Rideau River (Manotick, ON), tributaries to the Castor River (Vars, ON), tributaries to the Otonabee River (Lakefield, ON), tributary to the Madawaska River (Arnprior, ON), tributaries to Kemptville Creek (Kemptville, ON), tributary to Blairs Creek (Clarence Creek, ON), tributaries to South Indian Creek River (Russell, ON) tributaries to the South Nation River (Casselman, ON), tributaries to Fraser Clarke Drain (Nepean, ON), tributaries to the Raisin River (Long Sault, ON), Oliver-Magee drain (South Glengarry, ON) and tributary to Hawkesbury Creek (Hawkesbury, ON).
- Assisted in collecting walleye eggs from the spawning grounds on the Raisin River.
- Marsh monitoring program breeding amphibian surveys (Stittsville, Lakefield, Cornwall, Long Sault, South Glengarry, Bourget, Manotick and Kanata, ON).
- Conducted turtle surveys (Carleton Place, Ottawa, Cornwall and Lancaster, ON)
- Conducted Headwater Assessments (Ottawa, Stittsville and Manotick, ON)
- Invasive Species Survey (Ottawa, ON)

Species at Risk Inventories / Monitoring

- Assisted in butternut surveys, inventories and assessments for proposed developments (Carleton Place, Casselman, Cornwall, South Glengarry, Long Sault, Kemptville, Smiths Falls, Ottawa, Stittsville, Peterborough, Lakefield, Brockville, Alfred, Orleans, Kanata and Prescott, ON).

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- American Eel surveys using the boat electrofisher on the Ottawa River (Ottawa, ON)
- American Eel collection on the St. Lawrence River for the St. Lawrence River Institute (Cornwall, ON)
- Conducted tailrace surveys for hydro facilities regarding American eel and lake sturgeon fatalities (Almonte, Renfrew, Ottawa and Fitzroy Harbour, ON)
- Whip-poor-will survey for proposed development (Ottawa, Kemptville, Bourget, Stittsville, Alfred, South Glengarry and Alexandria, ON) and quarries (Ottawa and Cornwall, ON)
- Surveyor for Little Brown bat, Eastern Small Footed Bat and Northern Long Eared Bat surveys at Ernestown Windpark (Ernestown, ON)
- Gray Ratsnake Survey (Smiths Falls and Lakefield, ON)
- Bat Cavity Survey (Lakefield, Smiths Falls, Bourget, Clarence Creek, Casselman, Orleans, Kanata, South Glengarry and Embrun, ON)
- Conducted Least Bittern surveys (Prospect, Alexandria, and Lancaster, ON)
- Conducted Black Tern nest surveys (Alexandria, and Cornwall, ON)
- Conducted turtle surveys: Blanding's turtle, Musk turtle and Northern Map turtle, Painted turtle and Snapping turtle (Carleton Place, Ottawa, Stittsville, Kanata, Rockland, Cornwall, Lakefield, Alfred, Clarence Creek and Lancaster, ON)
- Conducted American Ginseng Survey (Alfred, ON)
- Conducted rapid clubtail surveys (Almonte, ON)
- Conducted Osprey nest surveys (Cornwall, ON)

Terrestrial Inventories

- Assisted plant community inventories for proposed developments (Ottawa, Cornwall and Prescott, ON)
- Assisted in ELC inventories (Ottawa, Lakefield, Alfred, Kanata, Long Sault, South Glengarry and Peterborough ON)
- Nesting Bird Survey (Stittsville and Brockville ON)
- Large Tree Survey (Carp, Kanata and Orleans, ON)
- Deer and Moose Overwintering Survey (Alfred, ON)

Environmental and Fisheries Inspections

- Assisted in providing environmental and fisheries inspections for construction (Ottawa, ON)
- Assisted in turtle salvage during construction at the Cavanagh Snow Dump (Kanata, ON)

Fish Salvage

- Highway 401 Fish Salvage – Brockville, ON and Prescott, ON (Cruikshank, MTO Contract)
- Other fish salvages: Cardinal Creek (Ottawa, ON), Monaghan Drain (Ottawa, ON), tributary to the Rideau Canal (Kemptville, ON), tributary to Feedmill Creek (Ottawa ON), Bonnechere River (Renfrew, ON), Mississippi River (Almonte, ON), Ottawa River (Ottawa, ON), Tributary to Fraser Clarke Drain (Nepean, ON), tributary to St.Lawrence River (Newington, ON), Davidson Pond (Ottawa, ON),. Hazeldean tributary (Ottawa, ON), tributary to Jock River (Richmond, ON), culvert on Thunder Road (Gloucester, ON), culvert on Dunning Road (Cumberland, ON)

Other

- Organized fishing derby through RRCA (2008-2012; Cornwall, ON)
- Conducted environmental education presentations to many school groups (Cornwall, and Lancaster, ON)
- Tree Planting (2008-2012; Cornwall, ON)

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APPENDIX C: On-site Reference Handout

General Provisions:

- Watch out for wildlife while driving, and avoid hitting them, provided that it is safe to do so.
- Ensure sediment and erosion control measures (i.e., silt fencing) and other protective measures are in place prior to beginning work. Inspect them regularly, and particularly after storm events, to ensure their continued effectiveness.
- Prior to beginning work each day, check for wildlife by conducting a thorough visual inspection of the work space and immediate surroundings.
- Restrict all activities, vehicles and materials to the designated work space. Do not disturb areas identified for retention.
- Secure stockpiled materials, vehicles and structures against wildlife entry.
- Litter and other waste materials must be appropriately contained and promptly disposed of.
- Do not feed any wildlife or leave food out where it could attract them.

For health and safety reasons, and for protection of animals, removal and relocation of mammals must only be done by qualified and properly equipped personnel. Call the wildlife service provider [BCH ENVIRONMENTAL CONSULTING INC.] at (613) 571-8883 for assistance.

Scratches and bites from animals, whether domestic or wild, can result in serious infections and/or transmit diseases. Seek medical treatment immediately for any person injured by an animal.

Wildlife Encounters:

- **Do not harm any wildlife.** Many species are protected under provincial and/or federal legislation. Legal protection of egg-laying species applies to their eggs as well. Penalties for contravening these Acts can be severe.
- **Stand back** and allow the animal to leave the site. Wildlife may be encouraged to move away from the work area by shouting, waving of arms, clapping of hands or gentle redirection using a push broom. Contact project biologist / wildlife service provider for assistance if needed (e.g., if young animals are found). Do not unnecessarily harass any wildlife.
- **Turtles** may need to be helped to safety. Our most common species, Painted and Snapping Turtles, are protected under the Fish and Wildlife Conservation Act, 1997. If one of these turtles is found in the work area, it can be gently removed to a safe location nearby. Wear gloves, or use a broom to steer the turtle into a bucket or other container. Handle with care to avoid injury to the turtle or yourself, particularly when dealing with Snapping Turtles, which may bite or scratch. Turtles may also wet themselves when handled.
- Most of Ottawa's **snakes** are protected under the Fish and Wildlife Conservation Act, 1997. None of them are venomous, but bites may cause infections. Some produce a foul-smelling musk when handled, instead of biting. Snakes will usually try to escape or hide when disturbed, and only defend themselves when trapped. If a snake is found in the work area, it should be gently herded out to a safe location.
- **Stop work immediately** if any species protected under the Endangered Species Act, 2007 are seen in or near the work site (see attached sheet for tips on identifying some commonly encountered species). Take a photograph if possible, to confirm the sighting, and contact the project biologist at (613) 571-8883 and the Ministry of Environment, Conservation and Parks at SAROntario@ontario.ca. Additional measures to avoid impacts may be required by the Ministry before work can restart.

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APPENDIX D: Commonly Encountered Species Protected under the Endangered Species Act, 2007

Blanding's Turtle Bright yellow chin and throat. Highly domed, speckled shell up to 28 cm (11 in) in length. Eggs small, oval and white. Usually less than 12 eggs per nest.	  Photo courtesy of R. van de Lande
Bobolink Males black with white back and cream hood during spring and summer breeding season. Females and non-breeding males streaky brown. Nests on the ground in open grasslands and hayfields.	  Photo courtesy of A. MacPherson
Eastern Meadowlark Streaky grayish-brown bird with bright yellow front marked by black "V." Short tail has white edges on each side. Nests on the ground in open grassy areas; often seen perching on fence posts or shrubs.	 Photo courtesy of A. MacPherson
Butternut Each leaf has several pairs of leaflets on either side of the main stalk, and one leaflet at the tip. Leaves and twigs grow in an alternating pattern along the branches. The nuts resemble limes or lemons in shape, and have greenish-yellow fuzzy rinds covering a hard, brown, ridged shell. The closely related Black Walnut. Its leaves are very similar to Butternut's leaves, but the terminal leaflet at the tip of each leaf is often much smaller than the other leaflets, or missing entirely.	   Photo courtesy of A. MacPherson

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APPENDIX E: Agency Contact

Agency	Staff Contact(s)	Telephone	Information/Authority on:
City of Ottawa	Planner	(613) 580-2424	Development application review process
	Environmental Planner	(613) 580-2424	EIS and other municipal environmental policies
	Forester-Planning	(613) 580-2424	Tree Conservation Report and urban tree removal
Conservation Authority – usually only one will be involved in any given application	Mississippi Valley Rideau Valley South Nation	(613) 253-0006 (613) 692-3571 (613) 984-2948	Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation
Fisheries and Oceans Canada	Fish and Fish Habitat Protection Program (Ontario)	1-855-852-8320 FisheriesProtection@dfo-mpo.gc.ca	Fish and fish habitat issues
Ministry of Environment, Conservation and Parks	Management Biologist	SAROntario@ontario.ca	Provincially protected species at risk (occurrence data, habitat information, advice and applications for permits under the *Endangered Species Act, 2007).*
Ministry of Natural Resources and Forestry (Kemptville District office)	Management Biologist	(613) 258-8204 (main office)	Wetlands; Areas of Natural and Scientific Interest; significant wildlife habitat.

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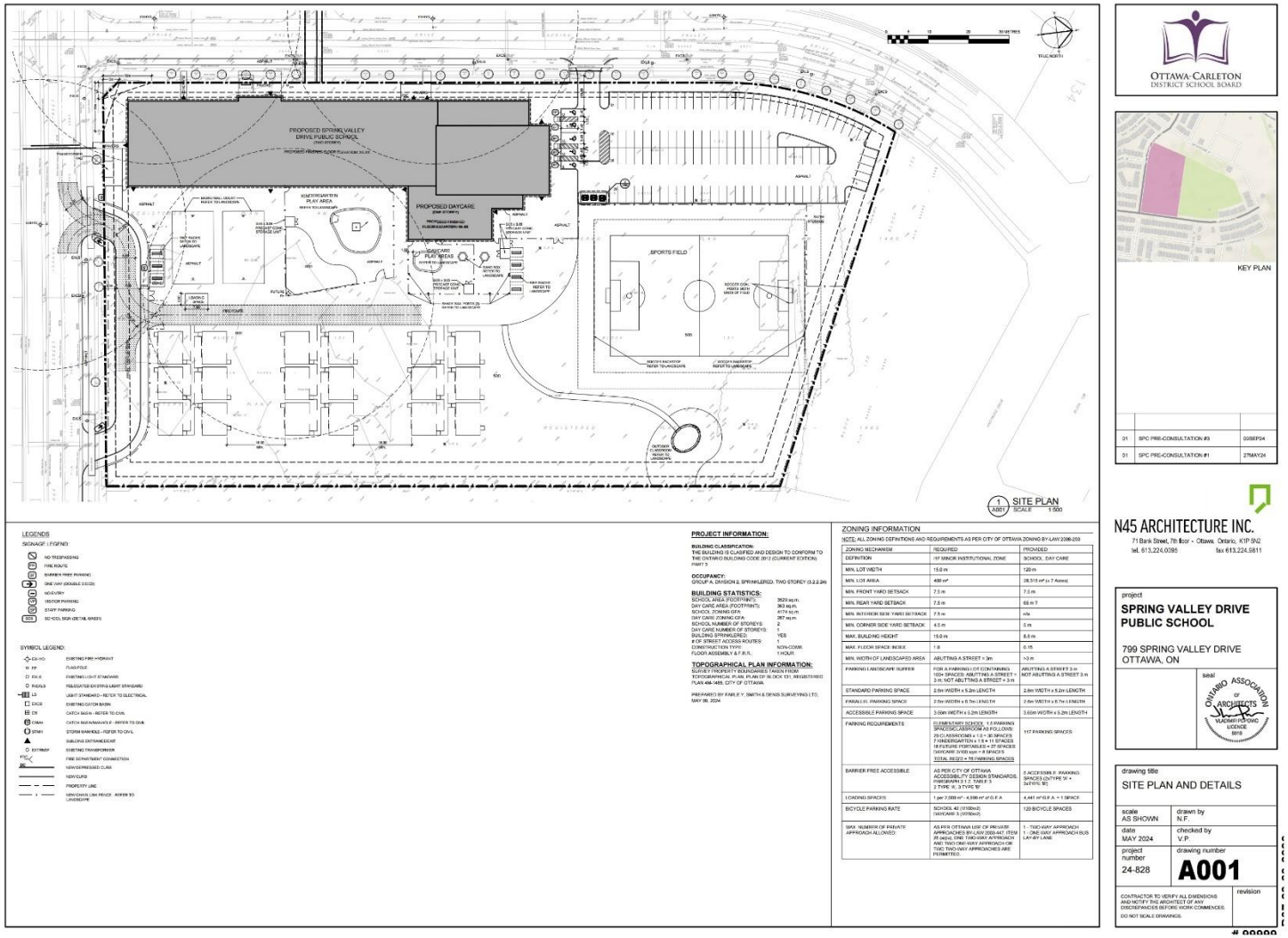
APPENDIX F: PLANS



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APPENDIX G: CONFIRMATION OF BHE SUBMISSION

Gmail Shaun St.Pierre <shaun@bchenviro.ca>

BHA Report Number: FON118; 700 Spring Valley Drive, Ottawa, On

Species at Risk (MECP) <SAROntario@ontario.ca> Thu, Nov 21, 2024 at 8:55 AM
To: "Shaun St.Pierre" <shaun@bchenviro.ca>
Cc: Andrew Boyd <aboyd@ifsassociates.ca>

Hello Shaun,

Thank you for submitting your competed Butternut Health Assessment (BHA) to the Species at Risk Branch (SARB).

Please use this email as receipt of your approved submission, dated November 21, 2024.

If you are proposing to rely on
Part
5 of the Ontario Regulation 830/21 for the tree(s) identified in the BHA, then you are eligible to do so 30-days following the date that the BHA was submitted
to the SARB.

Thank you,
Species at Risk Branch

From: Shaun St.Pierre <shaun@bchenviro.ca>
Sent: Wednesday, November 20, 2024 10:07 AM
To: Species at Risk (MECP) <SAROntario@ontario.ca>
Cc: Andrew Boyd <aboyd@ifsassociates.ca>
Subject: BHA Report Number: FON118; 700 Spring Valley Drive, Ottawa, On

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello!

Attached is the Butternut Health Experts Report for 700 Spring Valley Drive, Ottawa, ON, Part Lot 5, Concession 4

City of Ottawa, BHA Report Number: FON118

If you have any questions, please feel free to contact me at (613)571-8883 or by e-mail at shaun@bchenviro.ca

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Shaun St.Pierre