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Environmental Impact Statement
Proposed Zoning By-law Amendment
5384 Boundary Road
Ottawa, Ontario

GEMTEC Project: 100011.122

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5384 Boundary Road
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August 26, 2025
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EXECUTIVE SUMMARY

Novatech (the Proponent) has retained GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) to assist with a proposed zoning by-law amendment for the property located at 5384 Boundary Road in Ottawa, Ontario (the Project).

To complete this Environmental Impact Statement (EIS) a desktop review and a single field investigation were completed to identify the presence or absence of natural heritage features and species at risk (SAR) on-site. The field investigation was completed July 3, 2025.

Following completion of the desktop review and field investigations the following natural heritage features were identified as being potentially found on-site or within the study area: provincially significant wetlands (PSW), significant woodlands, and *candidate* significant wildlife habitat. The following SAR and their habitat were identified as having a potential to occur on-site: Blanding's turtle, eastern red bat, eastern small-foot myotis, hoary bat, little brown myotis, silver haired bat, and tri-colored bat. No floral or faunal SAR were observed on site.

Potential impacts to the natural heritage features within the study area are limited to indirect impacts to provincially significant wetlands, significant woodlands, significant wildlife habitat, and potential species at risk regulated habitat.

Natural environment policies outlined in the City of Ottawa Official Plan prescribe a 30 m setback from sensitive natural features, including PSW's. It is our opinion that based on the findings of this report that potential impacts to natural heritage features on-site are likely to be mitigated through the implementation of a 15 m construction setback and re-zoning of natural heritage features to environmental protection or equivalent. The area between the proposed 15 m and 30 m setback limits is currently in an anthropogenically disturbed state and will continue to function as an appropriate buffer to the PSW post-zoning change. Impacts to significant wildlife habitat and SAR habitat can further be mitigated through adherence to timing windows for vegetation removal.

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

The proposed project complies with the natural heritage policies of the Provincial Planning Statement and the City of Ottawa Official Plan. No significant residual negative impacts to identified natural heritage features or their ecological functions are anticipated as a result of the proposed development as long as all mitigation measures in Section 7 are enacted and best

management practices followed measures in Section 7 are implemented and best management practices followed.

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1.0 INTRODUCTION

NOVATECH Planners & Landscape Architects (the Proponent) has retained GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) to assist with a proposed Zoning By-law amendment for a 1.99 ha existing property located on 5384 Boundary Road, City of Ottawa, Ontario (the Subject Property). The location of the subject property is illustrated on Figure A.1 in Appendix A.

1.1 Purpose

The proponent is seeking the required approvals for a Zoning By-law amendment. It is understood that the zoning of the subject property is to change from Rural Commercial (RC) or Rural General Industrial (RG) Zone from the existing Rural Countryside (RU) Zoning. Based on *Section 4.7 – Environmental Protection* of the City of Ottawa Official Plan (Ottawa, 2022) an EIS is required showing that the proposed development will not negatively impact any potential natural heritage features, which may be present within the study area. The study area is defined as the property boundary and the adjacent lands encompassing an area of 120 m beyond the property boundary. The subject property and the extents of the study area are illustrated on Figure A.2 in Appendix A.

1.2 Objective

The 2024 Provincial Planning Statement (MMAH, 2024) issued under Section 3 of the Planning Act states that “development and site alteration shall not be permitted in: habitats of species at risk, significant wetlands, significant woodlands and significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.” Similarly, the 2024 Provincial Planning Statement dictates that ‘development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.”

The objective of the work presented herein is to identify and evaluate the significance of any natural heritage features, as defined in the Provincial Planning Statement (MMAH, 2024), on the subject property and within the broader study area. Additionally, this report will assess the potential impacts from the proposed By-law amendment and site plan control application on any natural heritage features identified and to recommend appropriate and defensible mitigation measures to ensure the long-term protection of any natural heritage features identified.

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

- Provincial Planning Statement (MMAH, 2024);
- Endangered Species Act (Ontario, 2007);
- Conservation Authorities Act (Ontario, 1990);
- Natural Heritage Reference Manual (OMNR, 2010);
- City of Ottawa Official Plan (Ottawa, 2022); and

- City of Ottawa EIS Guidelines (Ottawa, 2023)

1.3 Physical Setting

The subject property is located on Part of Lot 1, Concession 9, Geographic Township of Gloucester, Ottawa, Ontario. The subject property is municipally addressed as 5384 Boundary Road and has existing residential and office buildings. The subject property is bound to the south and west by 5900 Thunder Road, to the north by 6160 Thunder Road, and to the east by Boundary Road.

1.4 Land Use Context

The subject property is surrounded by a mix of rural, agricultural, and commercial land use. The existing land use designation from the City of Ottawa is Rura Area. The City of Ottawa New Colour Zoning By-law Draft zones the property Rural Countryside Zone (RU).

2.0 METHODOLOGY

2.1 Desktop Review

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

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

- Make a Map: Natural Heritage Areas (OMNRF, 2014a)
- Land Information Ontario (OMNRF, 2011);
- City of Ottawa Official Plan (City of Ottawa, 2022)
- Ontario Geological Survey (OGS, 2019);
- Fisheries and Oceans Canada SAR Maps (DFO, 2019);
- Natural Heritage Information Centre Biodiversity Explorer (OMNRF, 2013);
- Breeding Bird Atlas of Ontario (Cadman et al., 2007)
- Ontario Herpetofaunal Atlas (Oldham and Weller, 2000);
- Wildlife Values Area (OMNRF, 2020a);
- Wildlife Values Site (OMNRF, 2020b);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019); and
- South Nation Conservation Authority (SNCA) GeoPortal (undated).

2.2 Field Investigations

Field investigations completed in support of this EIS are outlined in Table 2.1 below. Photographs of site features taken during field investigations are provided in Appendix B.

Table 2.1 Summary of Field Investigations

Date	Time	Weather	Purpose
July 3, 2025	09:00 – 11:00	20C, 100% cloud cover, Beaufort 2, moderate precipitation	Natural Heritage Features, Ecological Land Classification, Species at Risk, Wetland Boundary Confirmation

2.2.1 Ecological Land Classification

Vegetation communities on the subject property were delineated during the desktop review stage of this EIS using publicly available air photos and confirmed in the field on Jul 3, 2025, following the Ecological Land Classification System for Southern Ontario (Lee et al., 2008). Vegetation communities were confirmed in the field by employing the random meander methodology while documenting dominant vegetation species within the various vegetation community forms.

2.2.2 Ontario Wetland Evaluation System

The preliminary desktop review noted inconsistencies with the mapped provincially significant wetland (PSW) and what was observed on-site in terms of vegetation communities. As such, field work was completed on July 3, 2025, in accordance with the Ontario Wetland Evaluation System, to revise a portion of the South Bear Brook Wetland PSW within the study area by completing ground truthing of the wetland boundary. The results and discussion of the wetland boundary revision are provided under separate cover.

2.3 Data Analysis

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

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

3.0 EXISTING ENVIRONMENT

3.1 Ecoregion

The site is situated Ecoregion 6E-11 (Lake Simcoe-Rideau), which extends from Lake Huron in the west to the Ottawa River in the east. The climate of Ecoregion 6E is categorized as humid, high to moderate temperate ecoclimate with a mean annual temperature range between 4.9°C to 7.8°C and an annual precipitation ranging between 759 mm to 1,087 mm (Crins *et al.,* 2009).

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

3.2 Study Area Land Use

A review of aerial photographs indicates that the subject property and surrounding area consists mainly of vacant land populated by forests, agricultural land, and commercial properties (Figure 1). Historical aerial imagery indicates that the subject property was occupied by a rural residential dwelling in 1954 through to 1976. Circa 1976, the Tans Canada Highway is constructed north of the property. The surrounding land use continues to predominantly agriculture, with portions no longer being worked. By 2011 part of the subject property has undergone clearing and grading with gravel/pavement. The surrounding lands east of Boundary Road have undergone significant commercial and light industrial development. By 2025, the subject property is in its existing state. The area of graded gravel/pavement has increased southwards to accommodate additional storage. Further commercial and light industrial development has occurred east of the subject property.

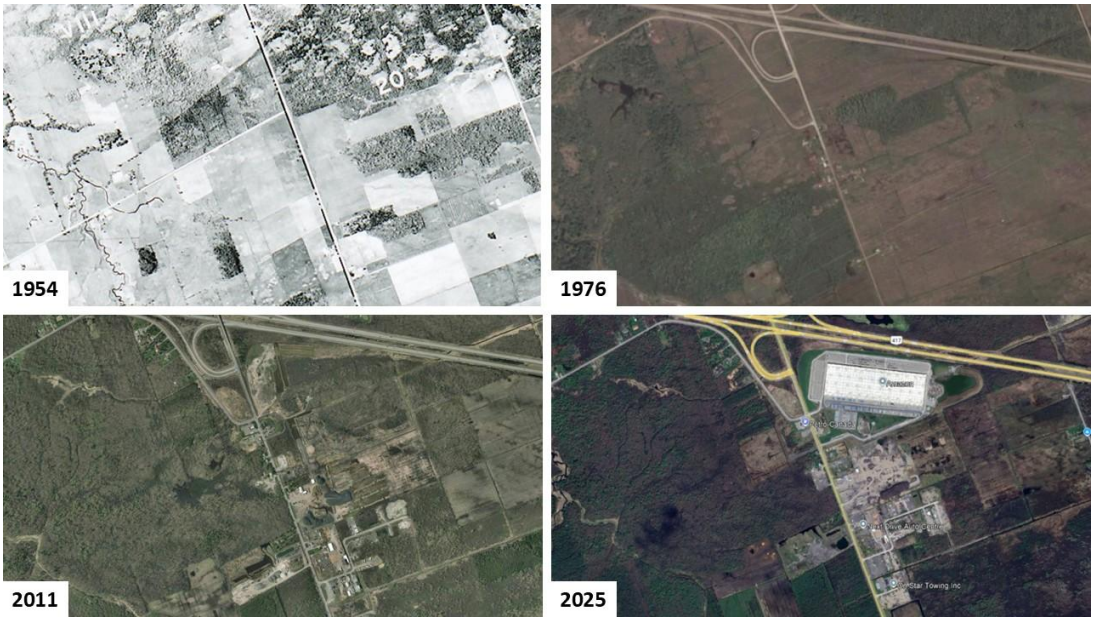

Figure 1 – Temporal Changes in Land Use within Study Area

3.3 Landforms, Soils and Bedrock Geology

The topography of the subject property is generally flat via the grading to accommodate existing property use. A gentle slope is present west to east across the site. The graded portion of the property has an average topographical height of 79 meters above sea level (mASL). The topographical high of 81 mASL is present along the western property boundary, slopping to a topographical low of 77 mASL along Boundary Road.

A single topographical landform, as mapped by Chapman and Putnam (1984) is described on the subject property, sand plains of the Russell and Prescott Sand Plains physiographic region.

The Ontario Geological Survey (OGS, 2019) identifies one surficial soil unit on the subject property: coarse-textured glaciomarine deposits. Located across the entire property are coarse-textured glaciomarine deltaic deposits comprised of sand, gravel, minor silt and clay.

Bedrock at the site, is described by OGS (2019) as shale, limestone, dolostone, and siltstone of the Georgian Bay Formation, Blue Mountain Formation, Billings Formation, Collingwood Member, and Eastview Member.

3.4 Surface Water, Groundwater and Fish Habitat

Surface water features identified as occurring within the study area are limited to the surrounding provincially significant wetland mapping.

Based on a review of South Nation Conservation Authority (SNCA) and City of Ottawa mapping, and following completion of the site investigation, the PSW mapping is not reflective of existing

conditions. A wetland boundary assessment completed in line with OWES guidelines has been completed to reevaluate the boundary of the South Bear Brook Wetland PSW.

No other surface water features were identified within the study area following completion of the site investigation.

Groundwater investigations were not completed in support of this EIS.

3.5 Vegetation Communities

Vegetation communities on-site were confirmed by GEMTEC in 2025, following protocols utilized in the Southern Ontario Ecological Land Classification System (Lee et al., 2008). Vegetation at the site is minimal and consistent with a rural, commercial site. Table 3.1 below provides a summary of the vegetation community identified on-site. Photos of the existing conditions of the subject property are presented in Appendix B.

Table 3.1 Vegetation Communities Within the Subject Property

ELC Type	Description	Size (ha)
Rural Property (CVR_4)	Occurring across the entire property is a rural property community type, comprised completely of graded and paved storage area with structures.	1.21
Maple Mineral Deciduous Swamp (SWD3)	The SWD3 community was dominated by a combination of red maple (*Acer rubrum*) and Freeman's maple (*Acer x freemanii*) in the canopy, with a higher percentage of red maple. The sub canopy was also predominantly comprised of younger red maples. The understorey was dominated almost entirely by alder buckthorn (*Frangula alnus*). The ground layer was comprised of several fern species including sensitive fern (*Onoclea sensibilis*), ostrich fern (*Matteuccia struthiopteris*), and royal fern (*Osmunda regalis*) as well as a variety of sedge species (*Carex spp.*).	0.09
Fresh to Moist Sugar Maple Deciduous Forest (FOD6-5)	Fresh-Moist Sugar Maple Deciduous Forest (FOD6-5). This community is characterized as containing uncommon associations with sugar maple (*Acer saccharum*) on moist soils including red maple. FOD6 communities typically represent the transition from terrestrial to wetland, often containing both wetland and upland species. This community was similarly dominated by red maple in the canopy and sub-canopy, with some sugar maple constituents found. The understorey was comprised again of alder buckthorn. The ground layer contained species that were more indicative of an upland area including wild sarsaparilla (*Aralia nudicaulis*), avens species (*Geum spp.*), aster species (*Symphiotrichum spp.*), goldenrod species (*Solidago spp.*), and	0.68

ELC Type	Description	Size (ha)
	lily of the valley (*Convallaria majalis*) with a notably lower concentration of sedges and ferns.	

3.6 Wildlife

During the completed field investigation within the study area, all terrestrial wildlife, including calls and sign, were recorded. These observations are summarized in Table C.1 of Appendix C.

4.0 NATURAL HERITAGE FEATURES

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

4.1 Significant and Local Wetlands

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

A desktop review of NHIC and City of Ottawa mapping indicate the surrounding lands to be part of Provincially Significant wetlands (South Bear Brook Wetland). However, as discussed in Section 3.4 above, a wetland boundary revaluation was completed as part of this EIS to address noted discrepancies between aerial imagery and existing PSW mapping.

No other PSW mapping or local wetland mapping has been identified on-site. Impacts to PSWs from the proposed Zoning By-law amendment are discussed in Section 6 below.

4.2 Significant Woodlands

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

At the local scale, significant woodlands are defined and designated by the local planning authority. Generally, most planning authorities have defined significant woodlands as any woodland that contains any of the four criteria listed in Section 7.2 of the Natural Heritage Reference Manual (OMNR, 2010), including: woodland size, ecological functions, uncommon characteristics and economic and social functional values. Furthermore, the City of Ottawa provides a supplementary document *Significant Woodland: Guidelines for Identification, Evaluation, and Impact Assessment* (Ottawa, 2022), to evaluate woodlands and ensure compliance with the city's policies.

As outlined in *Significant Woodlands: Guidelines for Identification, Evaluation and Impact Assessment* (Ottawa, 2022b), rural area woodlands are to be identified and evaluated using all

the natural heritage resource manual (OMNR, 2010) criteria. For comparison of woodland criteria used in the NHRM, it is assumed that the woodland coverage within the planning area (City of Ottawa – Rural Planning Area – Ottawa East - Bearbrook) is between 15% and 30% of the land area, therefore the minimum woodland size for determining significance is 20 ha or greater.

Based on the NHRM (OMNR, 2010) screening criteria and the observed existing conditions, significant woodlands are present along the periphery of the subject property and extend into the study area. Impacts from the proposed Zoning By-law Amendment are discussed in Section 6 below.

4.3 Significant Valleylands

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

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

No valleylands were identified on-site or within the study area during the desktop review or during the field investigation.

4.4 Significant Areas of Natural and Scientific Interest

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

No ANSI have been identified on-site or adjacent to the site during the desktop review or during field investigations.

4.5 Significant Wildlife Habitat

The Natural Heritage Reference Manual (OMNR, 2010), in combination with the Significant Wildlife Habitat Technical Guide (MNRF, 2000) and the Significant Wildlife Habitat Ecoregion 6E Criterion Schedules (OMNRF, 2015) were used to identify and evaluate potential significant wildlife habitat (SWH) on-site. The SWH are broadly categorized as habitats of seasonal concentration of animals, rare vegetation communities, specialized habitats for wildlife, habitats of species of conservation concern, and animal movement corridors. Table C.3, C.4, C.5 and C.6 in Appendix C, provide the screening rationale for each category of SWH, respectively.

4.5.1 Habitats of Seasonal Concentrations of Animals

Seasonal concentration areas are habitats where large numbers of species congregate at one particular time of the year. The significant wildlife habitat technical guides (OMNR, 2000) and significant wildlife habitat ecoregion criterion schedules (OMNRF, 2015a) identify 11 types of seasonal concentration habitats that may be considered significant wildlife habitat. These 11 types of seasonal habitat are presented in Table C.3 in Appendix C, including a brief description of the rationale as to why they are or are not assessed further in this EIS.

Following review of Table C.3 in Appendix C, one habitat of seasonal concentrations of animals has been identified on-site, *candidate* bat maternity colonies.

4.5.1.1 *Candidate* Bat Maternity Colonies

Candidate bat maternity colonies were identified within the deciduous forest and swamp ecosites of the subject property (Ecosite: FOD6-5, SWD3). Bat maternity colonies can be found in tree cavities, vegetation, and often in buildings (buildings are not considered to be SWH). Bat maternity colonies provide critical habitat for the life cycle of big brown bat (*Eptesicus fuscus*) and silver haired bat (*Lasionycteris noctivagans*) as a space for females to give birth to and rear their young. The confirmed criteria for bat maternity SWH is a forested ecosite with greater than 10 snags per hectare, with use by 10 or more big brown bat or 5 or more adult female silver haired bats.

Snag surveys to confirm bat maternity colonies within the mixed forest community were outside of the scope of this EIS. As such, the presence or absence of bat maternity colony SWH was not confirmed. Potential impacts to *candidate* bat maternity colony SWH from the proposed development are discussed in Section 6.

4.5.2 Rare Vegetation Communities

Rare vegetation communities in the province are described generally as those with an S1 to S3 ranking by the NHIC, and typically include communities such as sand barrens, alvars, old growth forests, savannahs and tallgrass prairies.

The vegetation communities identified on-site and described in Section 3.4 of this report are not ranked by the NHIC as S1, S2 or S3 and are therefore not considered to be rare vegetation communities.

4.5.3 Specialized Habitats for Wildlife

Specialized wildlife habitats are microhabitats that provide a critical resource to some groups of wildlife. The Significant Wildlife Habitat Technical Guide (OMNR, 2000) and Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015) identify 8 specialized habitats that may constitute SWH, these 8 types of specialized wildlife habitats are evaluated in Table C.4 in Appendix C.

Following a review of Table C.4 in Appendix C, four specialized wildlife habitats have been identified on-site or within the study area: *candidate* waterfowl nesting area, *candidate* woodland raptor nesting habitat, *candidate* woodland amphibian breeding habitat, and *candidate* area-sensitive breeding bird habitat. The SWH are discussed in detail in the subsections below.

4.5.3.1 *Candidate* Waterfowl Nesting Area

Candidate waterfowl nesting area SWH has been identified on-site based on the presence of suitable swamp habitat adjacent to upland habitat (Ecosites: SWD3, FOD6-5). The habitat is defined as all upland habitats within 120 m of suitable wetland communities (OMNRF, 2015a). Nine waterfowl species are listed as indicator species for waterfowl nesting areas. The defining use criteria for the SWH is a total of 3 nesting pairs of listed species excluding mallard, or 10 nesting pairs for listed species including mallard.

As waterfowl nesting surveys were outside of the scope of work for this EIS, *candidate* habitat cannot be confirmed or refuted within the extent of this EIS. Potential impacts to *candidate* waterfowl nesting SWH are discussed in Section 6.

4.5.3.2 *Candidate* Woodland Raptor Nesting Habitat

Candidate woodland raptor nesting habitat was identified in conjunction with the significant woodland area and field habitats on-site and within the greater study area. Woodland raptor nesting SWH is identified as any forested habitat over 30 ha in size that provides a minimum 10 ha of interior habitat using a 200 m buffer. Woodland raptor nesting SWH provides critical habitat for six raptor species. Defining criteria is the presence of one or more active nests of the six eligible species identified in the Ecoregion 6E SWH manual.

As specific surveys targeting woodland raptor nesting habitat were not completed as part of this EIS, *candidate* habitat cannot be confirmed or refuted within the extent of this EIS. Potential impacts to *candidate* woodland raptor nesting habitat SWH are discussed in Section 6.

4.5.3.3 *Candidate* Woodland Amphibian Breeding Habitat

Candidate woodland amphibian breeding habitat was identified on-site within the marsh and swamp communities, in association with the surrounding upland forest (Ecosites: SWD3, FOD6-5). Woodland amphibian breeding habitat can be located in all ecosites associated with coniferous, mixed and deciduous forests or swamps and provides critically important breeding habitat for 7 amphibian species. The defining criteria for confirmed woodland amphibian breeding SWH is the presence of breeding populations of one or more listed newt/salamander species, two or more of the listed frog/toad species with at least 20 individuals, or two or more of the listed frog/toad species with a call level code 3.

As targeted amphibian breeding surveys were not completed as part of this EIS, *candidate* habitat cannot be confirmed or refuted within the extent of this EIS. Potential impacts to *candidate* woodland amphibian breeding habitat SWH are discussed in Section 6.

4.5.3.4 *Candidate* Woodland Area-Sensitive Bird Breeding Habitat

Candidate woodland area-sensitive bird breeding habitat was identified within the significant woodland area on-site and within the greater study area. The habitat is defined as large (>30 ha), mature (>60-year-old) forest stands that provide interior forest habitat when measured at least 200 m from the edge (OMNRF, 2015a). Woodland area-sensitive bird breeding habitat provides critically important habitat 13 avian species. The defining criteria for *confirmed* woodland area-sensitive bird breeding significant wildlife habitat is the presence of nesting or breeding pairs of three or more of the listed wildlife species, with any site containing breeding Cerulean Warblers (*Setophaga cerulea*) or Canada warblers (*Cardellina canadensis*) is to be considered SWH (OMNRF, 2015).

As targeted breeding bird surveys were not completed as part of this EIS, *candidate* habitat cannot be confirmed or refuted within the extent of this EIS. Potential impacts to *candidate* woodland area sensitive breeding bird habitat SWH are discussed in Section 6.

4.5.4 Habitats of Species of Conservation Concern

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

Based on the guidance provided in the Significant Wildlife Habitat Ecoregion Criterion Schedules (MNRF, 2015), when a plant or animal element occurrence is recorded for any species with an S-rank of S1 (extremely rare), S2 (very rare), S3 (rare to uncommon) or SH (historically present),

the corresponding vegetation ecosite is considered to provide *candidate* habitat for species of conservation concern and further consideration within the EIS is warranted.

The Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015) provides five general habitat types known to support a wide range of species of conservation concern in Ontario. The five general habitat types for Ecoregion 6E are provided in Table C.5 in Appendix C, including a brief rationale as to why they are or are not considered further in this EIS. Following review of Table C.5 in Appendix C, one habitat of species of conservation concern has been identified on-site; habitats of special concern and rare wildlife species.

4.5.4.1 Special Concern and Rare Wildlife Species SWH

Based on current NHIC occurrence records, observations form the site investigation, and the linking of candidate habitat to ELC Ecosites, two species of special concern have been identified on-site or within the broader study area: eastern wood-pewee (*Contopus virens*) and snapping turtle (*Chelydra serpentina*). No other species of special concern or rare wildlife species were identified on-site or within the broader study area.

Eastern Wood-pewee

The eastern wood-pewee (*Contopus virens*) is a small flycatcher bird with an S-rank of S4 (uncommon but not rare) and is listed as a species of special concern in Ontario. The species is often found near clearings and forest edges. The NHIC database indicates the presence of species within the study area. The species was not identified during the field investigation. Forest habitat on-site (Ecosite: FOD6-5) may provide suitable nesting and foraging habitats to support Eastern wood-pewee.

Potential impacts to rare and special concern wildlife species are discussed in Section 6 below.

Snapping Turtle

The snapping turtle is a highly aquatic turtle species with an S-rank of S3 (rare to uncommon) and is listed as a species of special concern in Ontario. Snapping turtles are aquatic generalists, found in a variety of wetlands, water bodies and watercourses. The NHIC identified snapping turtle as having occurred within 1 km of the site. The PSW habitat within the study area identified may support snapping turtle foraging and dispersal habitat.

Potential impacts to rare and special concern wildlife species are discussed in Section 6 below.

4.5.5 Animal Movement Corridors

Animal movement corridors are elongated areas used by wildlife to move from one habitat to another and allow for the seasonal migration of animals (OMNRF, 2015). The Significant Wildlife Habitat Ecoregion Criterion Schedules for Ecoregion 6E-11 (OMNRF, 2015) identifies two types of animal movement corridors: amphibian movement corridors and deer movement corridors. As per guidance presented by the MNRF (2015), animal movement corridors should only be

identified as significant wildlife habitat when a *confirmed or candidate* significant wildlife habitat has been identified by the MNRF district office or by the regional planning authority.

Following review of Table C.6 in Appendix C, no animal movement corridors have been identified on-site.

4.6 Fish Habitat

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

When development is unable to avoid resulting in the harmful alteration, disturbance or destruction of fish habitat from typical project impacts such as temperature change, sedimentation, infilling, reduction of nutrient and food supply, etc., an authorization under the Fisheries Act is required for the project to proceed.

A fisheries assessment was not conducted as part of this EIS; however, based on the investigations made during the site investigation, the on-site wetlands do not provide suitable depths and permanency to provide direct fish habitat. As such, direct fish habitat is not considered present on-site or within the study area.

4.7 Species at Risk

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

Table C.7 in Appendix C, provides a summary of all SAR which were determined to have the potential to occur on-site or within the broader study area, their protection status under the provincial Endangered Species Act (Ontario, 2007), their habitat use, their probability of occurrence and a brief rationale of that probability. Impacts to endangered or threatened SAR determined to have a moderate or high potential to occur on-site or within the broader study area are discussed further in Section 6.

5.0 PROPOSED PROJECT

The proposed project assessed for potential impacts on the natural heritage features determined to be present within the broader study area includes the proposed Zoning By-law amendment. It is understood that the zoning of the subject property is to change from Rural Commercial (RC) or Rural General Industrial (RG) Zone from the existing Rural Countryside (RU) Zoning, with protective zoning around natural heritage features. No future development is proposed at the time of this writing.

The act of re-zoning the property parcel is not expected to result in any physical alteration to the subject property. However, future commercial and industrial activities anticipated to occur on the newly zoned parcel may include vegetation clearing and removal, fill placement and/or elevation grading, installation of septic systems, future connection to public services, and general landscaping.

Potential environmental impacts from the proposed project are discussed in relation to proposed construction in Section 6 below.

6.0 IMPACT ASSESSMENT

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

Potential effects to the environment of the site from the re-zoning outlined in Section 5 include: minor vegetation clearing, an increase in impervious surface, an increase in stormwater generation, increases in sedimentation and/or erosion, and increased noise generation.

6.1 Provincially Significant Wetlands

The South Bear Brook Wetland PSW occurs on-site and within the study area. As discussed in Section 4.1, a wetland boundary assessment was completed as part of this EIS to re-evaluate the boundary of the PSW to reflect existing conditions. The results of the boundary re-assessment are illustrated on Figure A.3 of Appendix A. Detailed discussion is to be provided under separate cover.

As no in-water work is currently anticipated as part of the proposed project, potential impacts are anticipated to be indirect in nature. Indirect impacts may include increased human disturbance, increase storm water generation and potentially increased nutrient loading to adjacent surface water features.

Other potential impacts include short duration construction impacts, including: heavy machinery encroachment, compaction and fill placement and long-term human disturbance such as dumping of refuse and waste and trampling of riparian habitats.

Mitigation measures intended to protect PSWs from negative impacts are discussed in Section 7.

6.2 Significant Woodlands

As discussed in Section 4.2, the woodlands on-site are considered significant due to their size, ecological function, and economic and social functional value.

It is understood that no future development is proposed for the subject property at the time of this writing. As such, potential impacts to significant woodlands are anticipated to be indirect in nature. Potential indirect impacts to the significant woodlands may include increased human disturbance, dumping of waste, increased noise and potential for encroachment. Other potential impacts include including heavy machinery encroachment and fill placement.

Avoidance and mitigation measures to minimize impacts to significant woodlands are outlined in Section 7.

6.3 Significant Wildlife Habitat

The potential presence of *candidate* significant wildlife habitat on-site and within the study area was evaluated in Section 4.5. As a result of this assessment, six significant wildlife habitats were determined to be present on-site or within the study area and within the impact footprint of the proposed project; *candidate* raptor wintering habitat, *candidate* bat maternity colony habitat, *candidate* woodland nesting raptor habitat, *candidate* woodland amphibian breeding habitat, , *confirmed* woodland area-sensitive bird breeding habitat, and special concern and rare wildlife species SWH for eastern wood-pewee, wood thrush, and snapping turtle.

Potential impacts to each type of SWH are discussed in greater detail in the following subsections, while mitigation measures intended to prevent such impacts are presented in Section 7.

6.3.1 *Candidate* Bat Maternity Colonies

Candidate bat maternity colonies SWH has been identified within the forested habitats on-site (Ecosite: SWD3, FOD5-6). Snag surveys were outside the scope of this EIS, as such snag density was not confirmed.

Potential impacts to *candidate* bat maternity colony SWH are anticipated to be associated with indirect impacts to woodland habitat. Potential indirect impacts to *candidate* bat maternity colony SWH are related to the increased human presence and disturbance.

Other potential impacts include including heavy machinery encroachment, fill placement, and long-term human disturbances such as noise generation and trampling.

Mitigation measures to reduce impacts to *candidate* bat maternity colony SWH are provided in Section 7.

6.3.2 *Candidate* Waterfowl Nesting Habitat

Candidate waterfowl nesting habitat was identified on-site within the on-site PSW (Ecosites: SWD3) and extends into adjacent upland habitats (FOD5-6).

As no in-water work or tree clearing is proposed as part of the development, potential impacts to *candidate* woodland amphibian breeding SWH are anticipated to be associated with indirect impacts to wetland and forested habitats. Indirect impacts may include alterations to water quality due to nutrient and sediment loading as well as alterations to the hydrologic regime due to increases in impermeable surfaces and increases in storm water runoff.

Other potential impacts include heavy machinery encroachment, fill placement, and long-term human disturbances such as noise generation, dumping of refuse and waste and trampling, and increased road mortality, particularly during the breeding season.

Mitigation measures to protect *candidate* woodland amphibian breeding habitat are provided in Section 7.

6.3.3 *Candidate* Woodland Raptor Nesting Habitat

Candidate woodland raptor nesting habitat can be found in the significant woodlands on-site and extending into the greater study area (SWD3, FOD5-6). Additionally, snags and tree cavities are present which may provide suitable habitat for some nesting raptor species. As such, it is possible that the greater study area may contain *candidate* woodland raptor nesting habitat. No suitable nesting habitat was observed on-site.

Potential impacts to *candidate* woodland raptor nesting habitat are anticipated to be indirect in nature. Potential indirect impacts include increase human presence, increased human and wildlife interaction and disturbances, and increased noise levels.

Mitigation measures to protect *candidate* woodland raptor nesting habitat are provided in Section 7.

6.3.4 *Candidate* Woodland Amphibian Breeding Habitat

Candidate woodland amphibian breeding habitat was identified on-site within the on-site PSW (Ecosites: SWD3) and extends 230 m into adjacent forested ecosites (FOD5-6).

As no in-water work is proposed as part of the development, potential impacts to *candidate* woodland amphibian breeding SWH are anticipated to be associated with indirect impacts to wetland habitats. Indirect impacts may include alterations to water quality due to nutrient and sediment loading as well as alterations to the hydrologic regime due to increases in impermeable surfaces and increases in storm water runoff.

Other potential impacts include heavy machinery encroachment, fill placement, and long-term human disturbances such as noise generation, dumping of refuse and waste and trampling, and increased road mortality, particularly during the breeding season.

Mitigation measures to protect *candidate* woodland amphibian breeding habitat are provided in Section 7.

6.3.5 *Candidate* Woodland Area-Sensitive Bird Breeding Habitat

As mentioned in Section 4.5, *candidate* SWH for woodland area-sensitive bird breeding has been identified on-site within forested communities (SWD3, FOD5-6). No development will occur within the *candidate* woodland area-sensitive bird breeding habitat on-site. As such, potential impacts are anticipated to be indirect in nature.

Indirect impacts include a minor increase in human presence, human-wildlife interaction, and increased noise levels. Given the abundance of woodlands and available habitat throughout the

study area, it is unlikely that the proposed project will have a negative impact on *candidate* area-sensitive bird breeding habitat.

Mitigation measures to protect *candidate* woodland area-sensitive bird breeding habitat are provided in Section 7.

6.3.6 Habitats of Special Concern and Rare Wildlife Species

6.3.6.1 Eastern Wood-Pewee

Eastern wood-pewee are small, avian insectivores that live in a variety of deciduous, mixed, and to a lesser extent, coniferous woodland habitats (COSEWIC, 2012a). The eastern wood-pewee is a species of special concern in Ontario. The NHIC indicates the presence of the species within 1 km of site. The species were not observed during the field investigation.

Impacts to avian species of special concern are limited to indirect impacts to woodlands. Indirect impacts include a minor increase in human presence, human-wildlife interaction, and increased noise levels. Impacts from increased human presence are anticipated to be minimal given the existing residential development surrounding the subject property, and the availability of suitable habitat within the greater study area.

Mitigation measures intended to prevent negative impacts to nesting and foraging eastern wood-pewee are presented in Section 7.

6.3.6.2 Snapping Turtle

Snapping turtle is a freshwater turtle found in a variety of permanent aquatic features including wetlands, waterbodies and watercourses. In Ontario, the Snapping Turtle is listed as a species of special concern. The NHIC indicates the presence of the species within 1 km of site. The species was not observed on-site during the field investigation.

As no in water work is proposed as part of the project, impacts to snapping turtles and their habitat are limited to indirect impacts to PSWs within the study area (Ecosites: SWD3), which may provide suitable foraging and dispersal habitat.

Potential impacts include heavy machinery encroachment, fill placement and long-term human disturbance such as noise generation, dumping of refuse and waste and trampling as well as increased road mortality, particularly during nesting season when turtles are more transient.

Mitigation measures to protect snapping turtle and their habitat from the proposed development are presented in Section 7.

6.4 Species at Risk

As outlined in the Endangered Species Act (Ontario, 2007), only species listed as threatened or endangered and their general habitat receive automatic protection. Following enactment of Bill

5, species specific habitat regulations are no longer valid for species protection, this includes documents such as general habitat descriptions that outlined Category 1, Category 2 and Category 3 habitats for species. Presently, habitat protections refer to the definition outlined in Bill 5 as follows:

"'habitat' means:

a) *In respect of an animal species:*

    i. *A dwelling-place such as a den, nest or other similar place, that is occupied or habitually occupied by one or more members of a species for the purposes of breeding, rearing, staging, wintering or hibernating, and*

    ii. *The area immediately around a dwelling place described in subclause (i) above that is essential for the purposes set out in that subclause*

b) *In respect of a vascular plant species: the critical root zone surroundings a member of the species, and*

c) *In respect of all other species: an area on which any member of a species directly depends in order to carry on its life processes"*

Under the ESA, species of special concern and their habitat do not receive protection under the ESA.

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

6.4.1 Blanding's Turtle

Blanding's turtles (*Emydoidea blandingii*) have a highly domed, smooth black carapace with small, irregular tan or yellow flecking. The most distinctive characteristic of this species is the bright yellow chin and throat. Their hinged plastron is yellow with a large dark blotch in the corner of each scute, but may also be entirely black (Oldham and Weller, 2000).

In Canada, Blanding's turtles are found throughout southern and south-central Ontario from south of Manitoulin Island to western Quebec. In Ontario, Blanding's turtles are often observed utilizing eutrophic habitats with clear water (COSEWIC, 2005). This turtle species occurs primarily in shallow water; adults are generally found in open or partially vegetated sites, where as juveniles prefer areas that contain thick aquatic vegetation. Blanding's turtles are known to make large overland journeys between connected lakes, rivers, streams, marshes or ponds, upwards of 6 km in a single active season. Overwintering occurs in permanent pools that average about one metre in depth, or slow flowing streams (COSEWIC, 2005). A review of NHIC occurrence data indicates

the species has been observed within 1 km of the site. The species was not observed during the site investigations.

As outlined in the ESA (Ontario, 2024), habitat for species at risk is defined as a dwelling-place, such as a den, nest or other similar place, that is occupied or habitually occupied by one or more members of a species for the purposes of breeding, rearing, staging, wintering or hibernating, the area immediately around a dwelling place essential to the above purposes, and an area on which any member of a species directly depends on to carry out its life processes. Vascular plants regulated habitat is considered as the critical root zone surrounding a member of the species.

Based on the observations made during the site investigations, no direct habitat for Blanding's turtle is present on-site or within the study area. The PSW on-site and within the study area was noted to lack sufficient depths and water permanency to support overwintering. No sandy areas were observed that may support nesting. The PSW habitats within the study area may provide nonregulated dispersal and foraging habitat.

As no in water work is proposed as part of the project, impacts to Blanding's turtle and their habitat are limited to indirect impacts to PSWs within the study area (Ecosites: SWD3). Potential indirect impacts include heavy machinery encroachment, fill placement and long-term human disturbance such as noise generation, dumping of refuse and waste and trampling as well as increased road mortality, particularly during nesting season when turtles are more transient.

Avoidance and mitigation measures intended to prevent harm to Blanding's turtles who have the potential to occur on-site are presented in Section 7.

6.4.2 Eastern Red Bat

Eastern red bat (*Lasiurus borealis*) are long distance migrants, travelling from the overwintering grounds in Mexico and the southern United States where they hibernate under leaf litter, with periods of torpor lasting several days (COSEWIC, 2023). In the summer the species makes long distance trips to summer ranges in the north, with the species showing high fidelity to small roosting areas (COSEWIC, 2023).

Based on the presence of suitable forested habitat within the study area, there is a potential for the eastern red bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts to eastern red bat are primarily associated with encroachment and increased wildlife-human interaction.

Mitigation measures intended to protect eastern red bat from impacts of the proposed development are discussed in Section 7.

6.4.3 Eastern Small-footed Myotis

Eastern Small-footed Myotis (*Myotis leibii*) primarily overwinter in caves and abandoned mines with low humidity and temperatures and stable microclimates (Humphrey, 2017). In comparison to other Ontario bat species, they are able to tolerate much colder temperatures, drier conditions and draftier locations for hibernating (Humphrey, 2017). During the spring and summer months, they utilize a variety of habitats for roosting, including under rocks or rock outcrops, in buildings, under bridges, or in caves, mines or hollow trees (Ontario, 2021a).

Based on the presence of suitable forested habitat within the study area, there is a potential for Eastern Small-footed Myotis to occur on the property, primarily for foraging or non-maternal roosting. Impacts to Eastern Small-footed Myotis are primarily associated with encroachment and increased wildlife-human interaction.

Mitigation measures intended to protect eastern small-footed myotis from impacts of the proposed development are discussed in Section 7.

6.4.4 Hoary Bat

The hoary bat (*Lasiurus cinereus*) is a long distance migratory species, travelling from southern overwintering sites in the United States and Mexico, up to northern summer sites across Canada (COSEWIC, 2023). The species relies of forested habitats and clearing to carry out maternal roosting and foraging life processes (COSEWIC, 2023).

Based on the presence of suitable forested habitat within the study area, there is a potential for the hoary bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts to hoary bat are primarily associated with encroachment and increased wildlife-human interaction.

Mitigation measures intended to protect hoary bat from impacts of the proposed development are discussed in Section 7.

6.4.5 Little Brown Myotis

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

Based on the presence of suitable forested habitat within the study area, there is a potential for there is a potential for little brown myotis to occur on the property, primarily for foraging or non-maternal roosting. Impacts to little brown myotis are primarily associated with encroachment and increased wildlife-human interaction.

Mitigation measures intended to protect little brown myotis from impacts of the proposed development are discussed in Section 7.

6.4.6 Silver-haired Bat

Silver-haired bat (*Lasionycteris noctivagans*) is a large-bodied insectivorous bat. The fur black to dark brown, often with silver or grey tips and is found across Canada in the summer months and during fall migration (COSEWIC, 2023).

The full extent of the Canadian range is not well known due to lack of survey efforts. The species is a long-distance migrant, travelling from overwintering sites in the southern united states and Mexico up to summer sites in Canada (COSEWIC, 2023). The species shows high fidelity to forested ecosites with clearings, where summer maternal roosting and foraging occurs (COSEWIC, 2023).

Based on the presence of suitable forested habitat within the study area, there is a potential for the silver-haired bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts silver-haired bat are primarily associated with encroachment and increased wildlife-human interaction.

Mitigation measures intended to protect silver-haired bat from impacts of the proposed development are discussed in Section 7.

6.4.7 Tri-colored Bat

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

Based on the presence of suitable forested habitat within the study area, there is a potential for the Tri-colored Bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts to Tri-colored Bats are primarily associated with encroachment and increased wildlife-human interaction.

Mitigation measures intended to protect tri-colored bat from impacts of the proposed development are discussed in Section 7.

6.5 Cumulative Impacts

Cumulative impacts to the natural environment at the site due to increased human presence, increased wildlife and human interaction and increased noise, are expected to be negligible given

the existing industrial and commercial land use surrounding the subject property along Boundary Road.

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

7.0 RECOMMENDED AVOIDANCE AND MITIGATION MEASURES

The following avoidance and mitigation measures have been recommended by GEMTEC in order to minimize or eliminate potential environmental impacts identified in Section 6. As such, the following avoidance and mitigation measures should be enforced throughout the development through application of Site Plan Controls.

For the purpose of this report, a setback is defined as the minimum required distance between any structure, development or disturbance and a specified line. A buffer is defined as the area located between a natural heritage feature and the prescribed setback. For the purpose of the following subsections, buffers should be located between natural heritage features and lands subject to development or alteration, be permanently vegetated by native or non-invasive, self sustaining vegetation and protect the natural heritage feature against the impact of the adjacent land use.

Vegetated buffers, particularly buffers that are vegetated with a mix of grassy herbaceous vegetation and shrubby or woody vegetation are most effective in mitigating impacts associated with anthropogenic activities in adjacent lands (Beacon, 2012). In the subsections below, where possible, literature references for studies used as the basis of the recommended buffer widths are provided.

7.1 Provincially Significant Wetlands

No negative impacts on the integrity of local wetlands are anticipated as a result of the proposed zoning change if all mitigation measures recommended below area enacted and best management practices followed. The South Bear Brook Wetland PSW can be protected against potential impacts of the re-zoning and any subsequent future development, through the implementation of a construction setback.

Beacon Environmental Review of Ecological Buffers (2012), provides a range for buffer widths to protect various natural heritage features based on the current science. The buffers are presented in a way that determines the risk of not achieving the desired buffer function (i.e. high, moderate and low). The functions analysed include water quality, screening or human disturbance/changes in land use, hazard mitigation zone and core habitat protection. Impacts to the local unevaluated wetlands on-site and off-site were identified to include potential impacts to water quality, human disturbance and core habitat protection. Wetland buffer widths have a moderate risk of not providing adequate mitigation for water quality impacts at widths equal to or greater than 10 m. Wetland buffer widths have a low risk of not providing adequate mitigation for human disturbance/land use change impacts at widths equal to or greater than 30 m. Wetland buffer widths have a moderate risk of not providing adequate mitigation for core habitat protection at widths greater than 20 m but less than 30 m.

A minimum 15 m setback from all wetlands is recommended and is illustrated on Figure A.5 of Appendix A. The recommended 15 m setback provides sufficient protection for mitigating water quality impacts and human disturbances. At 15 m, the protection the buffer offers for core habitat protection, falls into the moderate risk of not achieving desired buffer function. Furthermore, it is anticipated that the natural heritage features areas on-site will re-zoned to environmental protection or equivalent.

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

- Buffers should remain vegetated and where possible, be comprised of a mixture of native, self-sustaining trees, shrubs and tall grasses.
- All future development and construction activities within the study area, including ditching, culvert installation, erosion and sediment control and storm water management should be completed in accordance with Ontario Provincial Standard Specification 182 and OPSS 805.
- Silt fencing should be installed along all setbacks to provide visual demarcation of the setbacks to prevent machinery encroachment and sediment transport.
- Install and maintain effective sediment and erosion control measures before starting work.
- Schedule work to avoid wet, windy and rainy periods.
- When native soil is exposed, sediment and erosion control work in the form of heavy-duty sediment fencing shall be positioned along the down gradient edge of any construction envelopes adjacent to waterbodies.
- Site grading plans should direct runoff to roadside ditches and not towards adjacent surface water features.
- The development plan should include lot-side swales and/or roadside ditches designed to promote infiltration.
- Downspouts should be directed towards lot-side swales that are in turn directed to roadside ditches and not adjacent surface water features.
- Maintain as much permeable surface area as possible in future development plans to limit the generation of stormwater runoff.
- In order to protect aquatic habitat from contamination, it is recommended that all machinery be maintained in good working condition and that all machinery be fueled a minimum of 30 m from the high-water mark.
- Any temporary storage of aggregate material shall be set back from the water's edge by no less than 40 m and be contained by heavy-duty silt fencing.
- Septic systems shall be installed no closer than 30 m from the high-water mark of any surface water feature and not located in areas of exposed bedrock.
- Best practices for siting of septic systems should be adhered to and be installed by a licenced septic system contractor ensuring all applicable regulations are met and required permits obtained.

7.2 Significant Woodlands

The implementation of the 15 m setback prescribed for the protection of PSWs within the study area is sufficient to protect significant woodlands on-site. Furthermore, it is anticipated that the natural heritage features areas on-site will re-zoned to environmental protection or equivalent.

No negative impacts on the ecological function of the significant woodlands are anticipated as a result of this project if all mitigation measures and best management practices recommended below are adhered to.

7.3 Significant Wildlife Habitat

The 15 m setback and proposed environmental protection re-zoning presented above for the protection of wetlands and woodlands on-site are sufficient to protect *candidate* SWH identified on-site.

To further protect herptiles species of special concern within the study area, exclusion fencing should be installed around the entirety of any construction areas prior to construction commencing to prohibit the movement of turtles and amphibians into construction areas. Exclusion fencing should follow guidelines established in *Species at Risk Branch Best Practices Technical Note – Reptile and Amphibian Exclusion Fencing* (OMNRF, 2013b).

Additional mitigation measures, timing windows, and best practices to protect SWH and associated species are provided in Section 7.7 below.

7.4 Species at Risk

No regulated habitat for Blanding's turtle was identified within the study area during the site investigations. The 15 m setback and proposed environmental protection re-zoning or equivalent prescribed for the protection of PSWs and woodlands on-site is sufficient to protect Blanding's turtle from the proposed commercial/industrial re-zoning and future activities.

7.4.1 SAR Bats

No critical/regulated habitat (i.e. overwintering caves or crevasses, or maternity roosts) were identified on-site or within the study area. It is understood that no development or tree clearing is proposed as part of the re-zoning.

Should tree clearing become necessary, in accordance with MECP best management practices, tree removal where required shall take place outside of the spring and summer active season (typically March 15 to November 30), when bats are more likely to be using forest habitat. To further protect bat species during vegetation removal, trees and vegetation (during the appropriate timing window) should be cleared in stages, working from the outer edge, in towards the centre, in order to provide wildlife in the forest time to migrate out.

In GEMTECs experience on similar development applications and consultation with the MECP for projects and properties of similar size and scale, the above mitigation/avoidance measures are sufficient to ensure no negative impacts to SAR bats. In eastern Ontario habitat is not a limiting factor, as such the MECP recommends the use of avoidance timing window for clearing of trees (less than 10 cm in diameter) in order to avoid impacts to SAR bat species. As long as timing windows can be adhered to, the project will not impact SAR bats, and it is GEMTECs opinion that no further consultation with the MECP is required.

Should any components of the proposed project require tree clearing between March 15 and November 30, further consultation with the MECP is required.

7.5 Wildlife

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

- Vegetation removal if required should occur outside of March 15 - November 30 to avoid the key breeding bird period and bat summer active season. The timing windows provides protection of migratory birds, roosting bats and avoids contravention of the Migratory Bird Convention Act and Endangered Species Act. If vegetation clearing activities must take place during the aforementioned timing window than a nest and roost survey shall be conducted by a qualified professional.
- To minimize impacts on the natural, forested area surrounding the proposed development, outdoor lighting within the development should be limited. To minimize light pollution following construction, the use of bright, external lighting (e.g. flood lights) should be avoided. Development plans should incorporate dark night lighting in order to minimize light pollution.
- Cover all stock piled material with a geotextile to prevent turtles from nesting in the material between May 1 and August 1 of any year.
- Should any species at risk be discovered throughout the course of the proposed works, the species at risk biologist with the local MECP district shall be contacted immediately and operations ceased to avoid any negative impacts to species at risk or their habitat until further direction is provided by the MECP.

7.6 Best Practice Measures for Mitigation of Cumulative Impacts

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

- To protect trees identified to be retained during future activities, the Critical Root Zone (CRZ) should be identified and fenced. The CRZ is defined as 10 cm from the base of the tree for every centimetre in diameter of the tree trunk measured at breast height.

- Maintain as much permeable surface as possible in future development plans to minimize the generation of stormwater runoff.
- Silt fencing should be installed along all setbacks to provide visual demarcation of the setbacks and to prevent machinery encroachment and sediment transport.
- Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized.
- In effort to offset the effect of vegetation clearing, consideration should be given to landscape planting with native tree species indicative of the Great Lakes – St. Lawrence Forest Region, such as White Cedar, White Spruce, Red Maple, and Red Oak.

8.0 CONCLUSIONS

The proposed project supported by this EIS is the proposed zoning by-law amendment. It is understood that the proponent is seeking to re-zone part of the property from Rural Countryside to Rural Commercial or Industrial, with the natural heritage features areas of the site re-zoned to environmental protection or equivalent. It is understood that no future development is proposed at this time.

Based on the results of the impact analysis, impacts to the natural environment are anticipated to be minimal. Provided that mitigation measures recommended in Section 7 are implemented as proposed, no significant residual negative impacts are anticipated from the proposed zoning by-law amendment.

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

- No significant negative impacts to natural heritage features identified on-site, including PSWs, significant woodlands, significant wildlife habitat, or habitats of species at risk from the proposed zoning by-law amendment are anticipated.
- The proposed project complies with the natural heritage policies of the Provincial Planning Statement.
- The proposed development complies with the natural heritage policies of the City of Ottawa Official Plan (2022).

9.0 LIMITATION OF LIABILITY

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

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

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

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

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

Sincerely,

Luca Fiorindi, B.A., G.Cert.
Junior Biologist

Zachary Anderson, B.Sc., CAN-CISEC
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10.0 REFERENCES

Beacon Environmental. 2012. Ecological Buffer Guideline Review – Prepared for Credit Valley Conservation Authority. December.

Cadman M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier. 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature. Toronto.

Canada, Government of (Canada). 1985. Fisheries Act. R.S.C. 1985, c. F-14.

Chapman, L.J., and Putnam, D.F. 1984. The Physiography of Southern Ontario. Ontario Geological Survey, Special Volume 2.

COSEWIC. 2012b. COSEWIC assessment and status report on the Eastern Wood-Pewee *Contupus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 39 pp.

COSEWIC. 2012c. COSEWIC assessment and status report on the Wood Thrush *Hylocichla mustelina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.

COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis *Myotis lucifugus*, Northern Myotis *Myotis septentrionalis* and Tri-coloured Bat *Perimyotis subflavus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.

COSEWIC. 2023. Hoary Bat (Lasiurus cinereus) Eastern Red Bat (Lasiurus borealis) Silver-haired Bat (Lasionycteris noctivagans): COSEWIC assessment and status report 2023

Crins, J., William., P. A. Grey, P. W. Uhlig, and M.C. Wester. 2009. The Ecosystems of Ontario, Part I: Ecozones and Ecoregions. Ontario Ministry of Natural Resources, Peterborough, Ontario.

Department of Fisheries and Oceans (DFO). 2023. Aquatic Species at Risk Map. Available online: http://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html

Dobbyn, J.S. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists, Toronto.

Downes, C.M., and B.T. Collins, Canadian Breeding Bird Survey, 1967-2003. National Wildlife Research centre, Canadian Wildlife Service, Ottawa.

Fraser E., MacKenzie, A., and Davy, C. 2007. Photo Field Guide to the Bats of Ontario. Published by St. Thomas Field Naturalists Club Incorporated.

Humphrey, C. 2017. Recovery Strategy for the Eastern Small-footed Myotis (*Myotis leibii*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. Vii + 76 pp.

Lee, H. T. 2008. Draft Southern Ontario Ecological Land Classification. Ministry of Natural Resources: London, Ontario.

Ontario Geological Survey 2019. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV

Ontario Legislative Assembly (Ontario). 2007. Endangered Species Act.

Ontario Ministry of Municipal Affairs and Housing (MMAH). 2024, Provincial Planning Statement – Under Planning Act, Toronto. May.

Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Technical Guide.

Ontario Ministry of Natural Resources (OMNR). 2011a. Bats and Bat Habitats Guidelines for Wind Power Projects. Second Edition.

Ontario Ministry of Natural Resources (OMNR). 2011b. Land Information Ontario (LIO).

Ontario Ministry of Natural Resources (OMNR). March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2013a. Natural Heritage Information Centre (NHIC) Biodiversity Explorer.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2013b. Reptile and Amphibian Exclusion Fencing: Best Practices, Version 1.0. Species at Risk Branch Technical Notes. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario, 11 pp.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2014a. Make a Map: Natural Heritage Areas.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2014b. Significant Wildlife Habitat Mitigation Support Tool.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2015. Significant Wildlife Habitat Ecoregion 6E Criterion Schedules.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2018. Natural Heritage Information Request Guide.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2020a. Wildlife Values Area.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2020b. Wildlife Values Site.

Ontario Nature. 2019. Ontario Reptile and Amphibian Atlas. Accessed November 07, 2023.

Ontario, Government of (Ontario). 1990. Conservation Authorities Act. R.S.O. 1990. Chapter C.27. Last amendment: 2011, C.9 Sched. 27, S. 22.

Ontario, Government of (Ontario). 2021a. Eastern small-footed Myotis. Accessed November 07, 2023. Available online: https://www.ontario.ca/page/eastern-small-footed-myotis

Ontario, Government of (Ontario). 2021b. Little Brown Myotis. Accessed November 07, 2023. Available online: https://www.ontario.ca/page/little-brown-myotis

https://www.ontarioinsects.org/herp/index.html?Sort=1&area2=squaresCounties&records=all&myZoom=5&Lat=42.95&Long=-81.01

Ottawa, City of (Ottawa). Undated a. City of Ottawa Natural Landscape Linkage Analysis. Document 11.

Ottawa, City of (Ottawa). Undated b. Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment. Draft.

Ottawa, City of (Ottawa). 2023, Environmental Impact Statement Guidelines – 3rd Edition. June.

Ottawa, City of (Ottawa). 2022, City of Ottawa Official Plan.

Ottawa, City of (Ottawa). 2015. City of Ottawa Protocol for Wildlife Protection During Construction. August 2015.

Rowe, J.S. 1972. Forest Regions of Canada. Canadian Forestry Service Publication no. 1300.

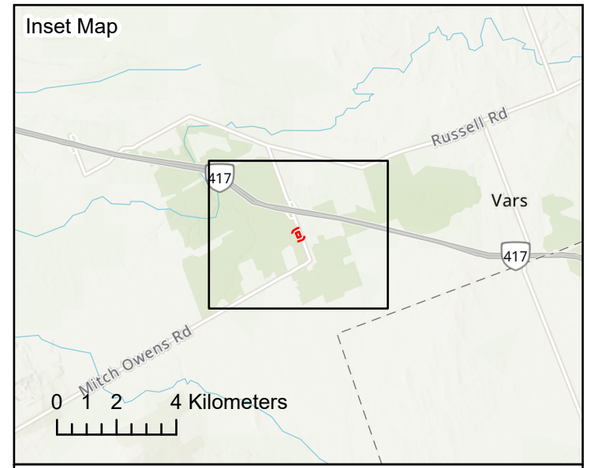
APPENDIX A

Report Figures

Legend

- Property Boundary
- Study Area

Inset Map



Scale
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0 150 300 600 900 1,200 Meters

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www.gemtec.ca
ottawa@gemtec.ca

Client:	Project:
Novatech	100011.122

Location
5384 Boundary Road
Ottawa, Ontario

Drwn By:	Chkd By:	
LF	ZA	Site Location

Date: August 2025	Rev.	
© Queen's Printer for Ontario	0	Figure: A.1

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Street Map: City of Ottawa, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada
World Topographic Map: Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, NRCan, Parks Canada

Legend

- Property Boundary
- Study Area
- Provincially Significant Wetland Boundary (GEMTEC, 2025)
- Provincially Significant Wetland Boundary (2025 City of Ottawa Mapping)

Scale
1:2,500
0 20 40 80 120 160 Meters

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Client:	Project:
Novatech	100011.122

Location
5384 Boundary Road
Ottawa, Ontario

Drwn By:	Chkd By:	
LF	ZA	Site Layout

Date: August 2025	Rev.	Figure: A.2
	0	

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Imagery: Maxar, Microsoft
Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada

Legend

- Property Boundary
- Study Area
- Provincially Significant Wetland Boundary (GEMTEC, 2025)
- Ecological Land Classification

FOD6-5 - Fresh to Moist Sugar Maple Deciduous Forest
SWD3 - Maple Mineral Deciduous Swamp
CVR_4 - Rural Property

Scale
1:2,500
0 20 40 80 120 160 Meters

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Novatech	100011.122

Location
5384 Boundary Road
Ottawa, Ontario

Drwn By:	Chkd By:	
LF	ZA	Ecological Land Classification

Date: August 2025	Rev.	
	0	Figure: A.3

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Imagery: Maxar, Microsoft
Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada

Legend

- Property Boundary
- Study Area
- Provincially Significant Wetland Boundary (GEMTEC, 2025)
- Significant Woodlands

Scale
1:2,500
0 20 40 80 120 160 Meters

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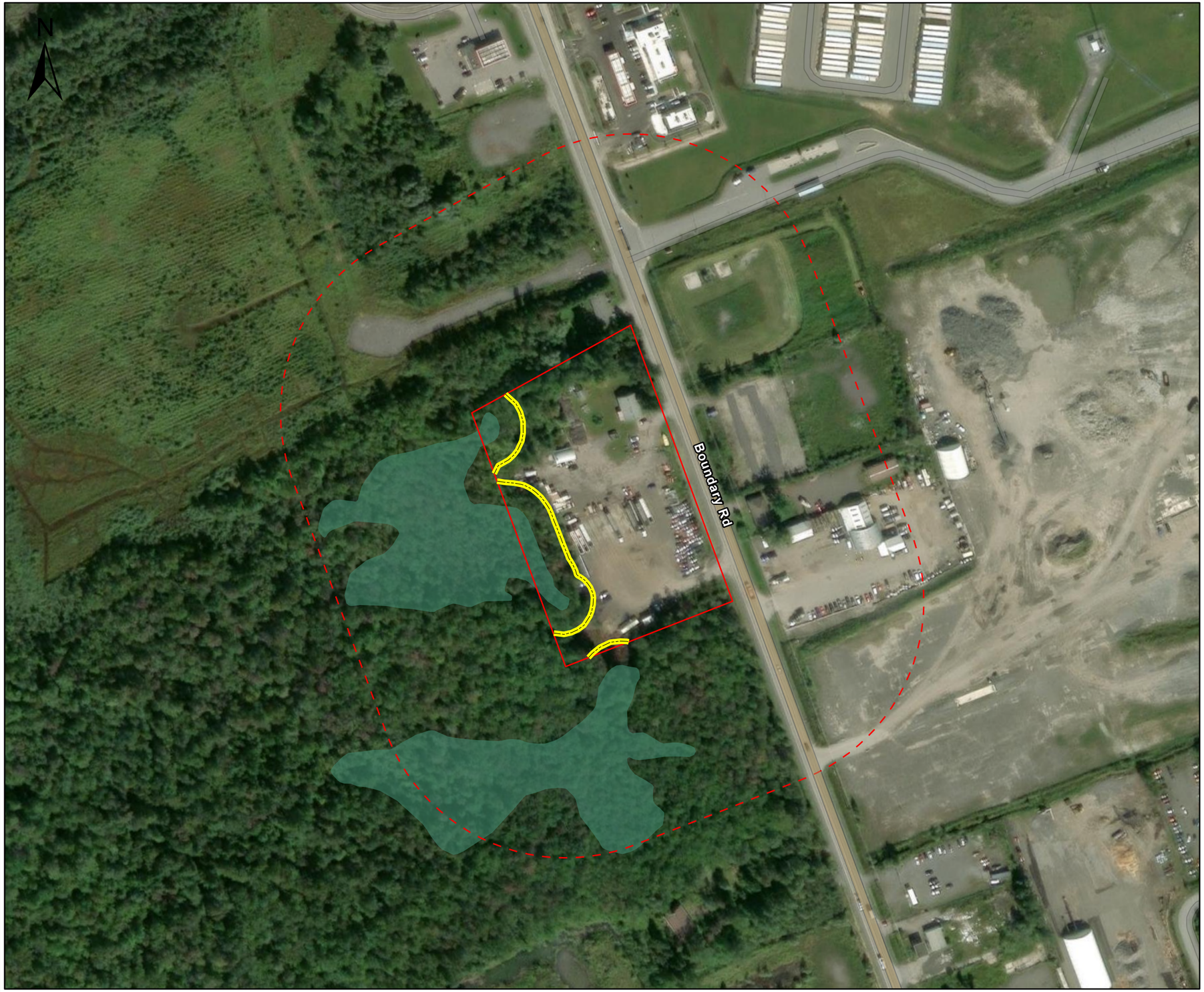
Client:	Project:
Novatech	100011.122

Location
5384 Boundary Road
Ottawa, Ontario

Drwn By:	Chkd By:	
LF	ZA	Natural Heritage Features

Date: August 2025	Rev.	
	0	Figure: A.4

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Imagery: Maxar, Microsoft
Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada



Legend

- Property Boundary
- Study Area
- Provincially Significant Wetland Boundary (GEMTEC, 2025)
- 15m Setback (GEMTEC, 2025)

Scale
1:2,500
0 20 40 80 120 160 Meters

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Client:	Project:
Novatech	100011.122

Location
5384 Boundary Road
Ottawa, Ontario

Drwn By:	Chkd By:	
LF	ZA	Mitigation Measures

Date: August 2025	Rev.	
	0	Figure: A.5

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Imagery: Maxar, Microsoft
Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada

APPENDIX B

Site Photographs

Site Photograph 1: Rural Property (CVR_4)

Site Photograph 2: Rural Property (CVR_4)

Site Photograph 3: Fresh to Moist Sugar Maple Deciduous Forest (FOD6-5)

Site Photograph 4: Fresh to Moist Sugar Maple Deciduous Forest (FOD6-5)

Site Photograph 5: Maple Mineral Deciduous Swamp (SWD3)

Site Photograph 6: Maple Mineral Deciduous Swamp (SWD3)

Site Photograph 7: Maple Mineral Deciduous Swamp (SWD3)

Site Photograph 8: Maple Mineral Deciduous Swamp (SWD3)

APPENDIX C

Report Summary Tables

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

Common Name	Scientific Name	S-Rank	Evidence
Avian Species			
American crow	*Corvus brachyrhynchos*	S5	Heard calling
Blue jay	*Cyanocitta cristata*	S5	Heard calling
Song sparrow	*Melospiza melodia*	S5	Heard calling

Notes:

Subnational Conservation Status Ranks:

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

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

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

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

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

Qualifiers:

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

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

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

TABLE C.2
SCREENING RATIONAL FOR SIGNIFICANT WOODLANDS

Woodland Criteria	Further Considered in	Rationale
Woodland Size	Yes	The woodlands on-site and which extend into the greater study area meet the minimum size threshold for the rural planning area (20 ha).
Ecological Functions		
a) Woodland Interior	Yes	The woodlands of the greater study area provide interior habitat above the minimum area threshold for the rural planning area ().
b) Proximity	Yes	The woodlands are proximate to the South Bear Brook Wetland PSW.
c) Linkages	Yes	The woodlands on-site provide linkages between the South Bear Brook Wetland PSW and off-site
d) Water Protection	Yes	The woodlands are proximate to the South Bear Brook Wetland PSW.
e) Diversity	No	Woodlands on-site do not exhibit significant species diversity.
Uncommon Characteristics	No	Woodlands on-site do not exhibit unconmmon or significant characteristics.
Economical and Social Functional Values	No	The woodlands on-site do not exhibit economical and social functional values of importance.

TABLE C.3
SCREENING RATIONALE FOR HABITATS OF SEASONAL CONCENTRATION AREAS

Wildlife Habitat	Further Considered in EIS	Rationale
Waterfowl Stopover and Staging Areas	No	No suitable terrestrial or wetland habitat on-site or within the study area to support waterfowl stopover SWH. No watefowl stopover areas are mapped within the greater study area by the NHIC.
Shorebird Migratory Stopover Area	No	No suitable habitat within the study area to support shorebird migratory concentration areas. No shorebird migratory concentration areas are mapped on-site by the NHIC. Shorebird stopover sites are typically well-known and have a long history of use.
Raptor Wintering Area	No	The site does not provide a combination of forest and field habitats. No woodlands within study area.
Bat Hibernacula	No	Cave and crevice habitat is not present on-site or within the study area.
Bat Maternity Colonies	Yes	The woodlands along the periphery of the site and within the greater study area may provide suitable bat maternity roost habitat.
Turtle Wintering Area	No	No suitable aquatic habitat within the study area to support turtle wintering habitat. Swamp habitat within the study area does not provide suitable depths and permanency.
Reptile Hibernaculum	No	No structures such as large rock piles, bedrock outcrops, cervices or other karstic features have been identified on-site.
Colonial Bird Nesting Habitat	No	No suitable habitat located on-site or within the study area to support colonial bird nesting.
Migratory Butterfly Stopover Area	No	The site is not located within 5 km of Lake Ontario and therefore does not meet the defining criteria.
Landbird Migratory Stopver Area	No	The site is not located within 5 km of Lake Ontario and therefore does not meet the defining criteria.
Deer Yarding Areas and Winter Congregation Areas	No	No suitable stands of forested habitat present on-site, furthermore, as outlined in the Significant Wildlife Habitat Criteria Schedules (OMNRF, 2015) winter deer yards and deer management are an MNRF responsibility. Based on review of publically available data from the UCLG OP and the OMNRF on Land Information Ontario Geo-hub, no Stratum I or Stratum II deer yards has been identified on-site or within the broader study area.

TABLE C.4
SCREENING RATIONALE FOR SPECIALIZED WILDLIFE HABITATS

Specialized Wildlife Habitat	Further Considered in EIS	Rationale
Waterfowl Nesting Area	Yes	The South Bear Brook Wetland PSW and surrounding deciduous forested habitat may support SWH presence.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No	No suitable nesting, foraging, or perching habitat observed on-site. Nesting sites for these species are uncommon in Ecoregion 6E (MNRF, 2012).
Woodland Nesting Raptor Habitat	Yes	On-site woodlands contribute to forested habitat of sufficient contiguous area (30 ha) and with the minimum area of interior habitat (10 ha)
Turtle Nesting Habitat	No	No suitable sandy, sunny areas adjacent to appropriate ELC code habitats or water features to support turtle nesting habitat.
Seeps and Springs	No	No seeps or springs are present on-site.
Woodland Amphibian Breeding Habitat	Yes	The South Bear Brook Wetland PSW is likely to support woodland amphibian breeding SWH.
Wetland Amphibian Breeding Habitat	No	No wetland habitat on-site to support wetland amphibian breeding SWH.
Woodland Area-Sensitive Bird Breeding Habitat	Yes	On-site woodlands contribute to forested habitat of sufficient contiguous area (30 ha) and interior habitat.

TABLE C.5
SCREENING RATIONALE FOR HABITAT FOR SPECIES OF CONSERVATION CONCERN

General Habitats of Species of Conservation Concern	Further Considered in EIS	Rationale
Marsh Breeding Bird Habitat	No	No suitable wetland habitat on-site to support marsh breeding bird habitat.
Open Country Breeding Bird Habitat	No	No suitable meadow habitat on-site to support open country bird breeding.
Shrub/Early Successional Breeding Bird Habitat	No	Candidate early successional breeding bird habitat typically includes fallow fields transitioning to early successional forest habitats that are > 10 ha but have not been actively used for farming. No habitat on-site to support Shrub/Early Successional Breeding Bird Habitat.
Terrestrial Crayfish Habitat	No	Terrestrial crayfish are only found within southwestern Ontario (MNRF, 2012).
Special Concern and Rare Wildlife Species	Yes	Occurrence data from the NHIC indicates the following species of special concern as potentially present within 1 km of site; wood thrush, eastern wood-pewee, and snapping turtle. No species of special concern were observed within the study area during the field investigation.

TABLE C.6
SCREENING RATIONALE FOR ANIMAL MOVEMENT CORRIDORS

General Habitats of Species of Conservation Concern	Further Considered in EIS	Rationale
Amphibian Movement Corridor	No	No wetland amphibian breeding habitat present on-site.
Deer Movement Corridor	No	No stratum I or II winter deer yards have been identified on-site by the OMNRF.

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

Species	ESA Status	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Avian				
Bank Swallow	Threatened	Colonial nester, burrows in eroding silt, to sand banks, sand pit walls, etc.	Low	Suitable habitat not present on-site or within study area. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Barn Swallow	Special Concern	Nests in barns and other semi-open structures. Forages over open fields and meadows.	Low	Suitable anthropogenic structures within the study area. No occurrence records for species within 1 km of site. Species was not observed during site investigations. .
Bobolink	Threatened	Nests in dense tall grass fields and meadows, low tolerance for woody vegetation.	Low	No suitable field habitat within study area to support species presence. No occurrence records for species within 1 km of site. Species was not observed during site investigations. .
Canada Warbler	Special Concern	Prefers wet forests with dense shrub layers	Low	Suitable wet forest habitat on-site and within the study area to support species. No occurrence records for species within 1 km of site. Species was not observed during site investigations. .
Cerulean Warbler	Threatened	Prefers mature deciduous forest habitat.	Low	No suitable habitat on-site to support species presence. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Chimney Swift	Threatened	Nests in traditional-style open brick chimneys.	Low	No suitable nesting structures on-site or within broader study area.
Common Nighthawk	Special Concern	Nests in a variety of open sites: beaches, fields and grave rooftops.	Low	No suitable habitat conditions on-site to support species presence. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Eastern Meadowlark	Threatened	Nests and forages in dense tall grass fields and meadows, higher tolerance to woody vegetation.	Low	No suitable field habitat within study area to support species presence. No occurrence records for species within 1 km of site. Species was not observed during site investigations. .
Eastern Whip-poor-will	Threatened	Nests on the ground in open deciduous or mixed woodlands with little underbrush, and bedrock outcrops.	Low	No suitable habitat conditions on-site to support species presence. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Eastern Wood-Pewee	Special Concern	Woodland species, often found near clearings and edge habitat.	Moderate	Suitable woodland and wooded edge habitat on-site. NHIC indicates species occurrence within 1 km of site. Species was not observed during site invesitgations.
Evening Grosbeak	Special Concern	Nests in trees or large shrubs, preference to large coniferous forests, will use deciduous. Overwinters in Ottawa.	Low	No suitable habitat on-site to support the species. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Golden Eagle	Endangered	Nests on remote, bedrock cliffs, overlooking large burns, lakes or tundras	Low	Suitable nesting habitat does not occur on-site.
Golden-winged Warbler	Special Concern	Ground nesting, edge species. Breeds in successional scrub habitats surrounded by forests.	Low	No suitable habitat on-site to support the species. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Grasshopper Sparrow	Special Concern	Ground-nesting grassland species. Prefers fields with low sparse vegetation on sand, alvars or poor soils.	Low	No suitable grassland habitat within the study area. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Henslow's Sparrow	Endangered	Prefers open, moist, tallgrass fields.	Low	No suitable grassland habitat within the study area. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Least Bittern	Threatened	Prefers marshes, shrub swamps, usually near cattails	Low	No suitable marsh habitat present on-site. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Loggerhead Shrike	Endangered	Prefers grazed pastures with short grass and scattered shrubs, especially hawthorn.	Low	No suitable shrub habitat within the study area. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Northern Bobwhite	Endangered	Inhabits open areas, such as agricultural fields and grasslands.	Low	No suitable shrub habitat within the study area. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Olive-sided Flycatcher	Special Concern	Forest edge species, forages in open areas from high vantage points in trees.	Low	Suitable woodland edge habitat within the study to support species presence. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Peregrine Falcon	Special Concern	Nests on cliffs near water and on more anthropogenic structures such as tall buildings, bridges, and smokestacks.	Low	Suitable nesting habitat does not occur on-site. Site lacks suitable high topography component.

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

Species	ESA Status	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Red-headed Woodpecker	Special Concern	Prefers open deciduous woodlands, particularly those dominated by oak and beech.	Low	Suitable woodland edge habitat on-site to support species. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Rusty Blackbird	Special Concern	Wet wooded or shrubby areas (nests at edges of Boreal wetlands)	Low	No suitable wet wooded habitat present on-site. No occurrence records for species within 1 km of site. Species was not observed during site investigations.
Short-eared Owl	Special Concern	Ground nester, prefers open habitats, fields and marshes.	Low	No suitable open field habitat present on-site. No occurrence record for species within 1 km of site. Species was not observed during site investigations.
Wood Thrush	Special Concern	Prefers deciduous or mixed woodlands.	Moderate	Suitable woodland and wooded edge habitat on-site. NHIC indicates species occurrence within 1 km of site. Species was not observed during site invesitgations.
Mammalian				
Eastern Red Bat	Endangered	Inhabits coniferous and mixed forests. Roosts near the tops of trees and forage next to clearing or open water	Moderate	Suitable forested habitat on-site and within the study area. Species not observed during the field investigations.
Eastern small-footed Myotis	Endangered	Roosts in rock crevices, barns and sheds. Overwinters in abandoned mines. Summer habitats are poorly understood in Ontario, elsewhere prefers to roost in open, sunny rocky habitat and occasionally in buildings (Humphrey, 2017).	Moderate	Suitable forested habitat on-site and within the study area. Species not observed during the field investigations.
Hoary Bat	Endangered	Occupies confierous and deciduours forest habitats. Roosts near the tops of trees and forage next to clearing or open water. Females do not congregate in maternal roost colonies.	Moderate	Suitable forested habitat on-site and within the study area. Species not observed during the field investigations.
Little Brown Myotis	Endangered	Maternal colonies known to use buildings, may also roost in trees during summer. Affinity towards anthropogenic structures for summer roosting habitat and exhibit high site fidelity (Environment Canada, 2015).	Moderate	Suitable forested habitat on-site and within the study area. Species not observed during the field investigations.
Northern myotis (Northern Long-eared Bat)	Endangered	Occurs throughout eastern North America in associated with Boreal forests. Roosts mainly in trees, occasionally anthropogenic structures during summer (Environment Canada, 2015). Overwinters in caves and abandoned mines.	Low	Species affinity is for Boreal forests and rarely roosts in anthropogenic structures.
Silver-haired Bat	Endangered	Prefers edge habitats in forested regions near water. Roosts alone or in small groups near tops of trees, under bark, or in woodpecker holes.	Moderate	Suitable forested habitat on-site and within the study area. Species not observed during the field investigations.
Tri-colored Bat	Endangered	Roosts in trees, rock crevices and occasionally buildings during summer. Overwinters in caves and mines.	Moderate	Suitable forested habitat on-site and within the study area. Species not observed during the field investigations.
Reptilian				
Blanding's Turtle	Threatened	Inhabits quiet lakes, streams and wetlands with abundant emergent vegetation. Frequently occurs in adjacent upland forests.	Low	South Bear Brook Wetland PSW may provide suitable foraging and dispersal habitat. NHIC indicates species occurrence within 1 km of site. Species was not observed during site invesitgations.
Eastern Musk Turtle	Special Concern	Wetlands. Highly aquatic habtiats.	Low	No suitable aquatic habitat present on-site to support species presence. No historical occurences of species in study area. Species not observed.
Eastern Ribbonsnake	Special Concern	Marshy edges of wetlands and watercourses.	Low	South Bear Brook Wetland PSW may provide suitable foraging and dispersal habitat.. No historical occurences of species in study area. Species not observed.
Northern Map Turtle	Special Concern	Highly aquatic species, found only in lakes and large rivers.	Low	No suitable aquatic habitat present on-site to support species presence. No historical occurences of species in study area. Species not observed.
Snapping Turtle	Special Concern	Highly aquatic species, found in a wide variety of wetlands, water bodies and watercourses.	Low	South Bear Brook Wetland PSW may provide suitable foraging and dispersal habitat. NHIC indicates species occurrence within 1 km of site. Species was not observed during site invesitgations.
Spotted Turtle	Endangered	Secretive wetland species.	Low	No suitable aquatic habitat present on-site to support species presence. No historical occurences of species in study area. Species not observed.
Wood Turtle	Endangered	Primarily terrestrial forest species. Associated with clear, gravelly streams.	Low	No suitable aquatic habitat present on-site to support species presence. No historical occurences of species in study area. Species not observed.

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

Species	ESA Status	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Plants				
American Ginseng	Endangered	Rich, moist, relatively mature deciduous forests.	Low	Species was not observed during site investigation. Suitable habitat present within the study area.
Black Ash	Endangered	Predominantly a wetland species, found in swamps, floodplains and fens.	Low	Species was not observed during site investigation. Suitable habitat present within the study area.
Butternut	Endangered	Inhabits a wide range of habitats including upland and lowland deciduous and mixed forests.	Low	Species was not observed during site investigation. Suitable habitat present within the study area.
Lichens				
Pale-bellied Frost Lichen	Endangered	Grows on the bark of hardwood trees such as white ash, black walnut, American elm and ironwood. Can also be found growing on fence posts and boulders.	Low	Species believed to be extirpated from the study area.
Fish				
American Eel	Endangered	Primarily nocturnal, hiding in soft substrate or submerged vegetation during the day.	Low	No suitable aquatic habitat present on-site to support species presence
Bridle Shiner	Special Concern	Prefers clear water with abundant vegetation over silty or sandy vegetation	Low	No suitable aquatic habitat present on-site to support species presence
Channel Darter	Special Concern	Prefers clear water with abundant vegetation over silty or sandy vegetation	Low	No suitable aquatic habitat present on-site to support species presence
Cutlip Minnow	Threatened	Lives in warmer rivers and creeks with clear, slow-moving water and rocky or gravel bottoms.	Low	No suitable aquatic habitat present on-site to support species presence
Lake Sturgeon	Endangered	Large lakes and rivers. Forages in cool water, 4-9m deep over soft substrates. Spawns in shallower, fast-flowing areas over rocks or gravel.	Low	No suitable aquatic habitat present on-site to support species presence
Northern Brook Lamprey	Special Concern	Prefers shallow areas with warm water. Larvae burrows in soft substrate for up to 7 years.	Low	No suitable aquatic habitat present on-site to support species presence
River Redhorse	Special Concern	Prefers fast-flowing, clear rivers over rocky substrate	Low	No suitable aquatic habitat present on-site to support species presence
Silver Lamprey	Special Concern	Larvae live 4-7 years in burrows, preference to soft substrate.	Low	No suitable aquatic habitat present on-site to support species presence
Insects				
Bogbean Buckmoth	Endangered	Preferred food plant is bog bean, present in a variety of wetlands including bogs, swamps and fens.	Low	No suitable wetland habitat within the study area. Prefered food species not observed. Species not observed during site investigations.
Gypsy Cuckoo Bumble Bee	Endangered	Inhabits a wide range of habitats: open meadows, agricultural and urban areas, boreal forests and woodlands.	Low	Currently the only known population is in Pinery Provincial Park.
Monarch Butterfly	Special Concern	Caterpillars require milkweed plants confined to meadow and open areas. Adult butterflies use more diverse habitat with a variety of wildflowers	Low	Potentially suitable foraging habitat available for Monarch within the study area. Species not observed during site investigations.
Mottled Duskywing	Endangered	Larval food plant (New Jersey Tea) found in sandy areas and alvars.	Low	Sandy areas and alvars not present in the study area.
Nine-spotted Lady Beetle	Endangered	Habitat generalist	Low	No recent occurrence reports in the area, thought to be locally extirpated
Rusty-patched Bumble Bee	Endangered	Habitat generalist	Low	Currently the only known population is in Pinery Provincial Park.
Traverse Lady Beetle	Endangered	Habitat generalist	Low	No new records of Traverse Lady Beetle in Ontario, species thought to be absent in former habitats.
West Virginia White Butterfly	Special Concern	Requires mature moist deciduous woods with larval host plant toothwort.	Low	Necessary vegetation and toothwort plant not present on-site or within study area.
Yellow-banded Bumble Bee	Special Concern	Habitat generalist; mixed woodlands, variety of open habitat	Low	Potentially suitable foraging habitat available for yellow-banded bumble bee within the study area. No recent occurrence records for species within 1 km of site.

APPENDIX D

Wetland Boundary Delineation Report (GEMTEC 2025)

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August 20, 2025

File: 100011.122

Novatech
240 Michael Cowpland Drive, Suite 200
Ottawa, Ontario
K2M 1P6

Attention: Ryan Poulton, MCIP, RPP, Project Manager

Re: Novatech - Wetland Boundary Assessment
5384 Boundary Road, Carlsbad Springs, Ontario

Please accept this letter as the GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) memo summarizing the results of the wetland boundary assessment completed for the property located on 5384 Boundary Road, 0.2 km southeast of Thunder Road, in Carlsbad Springs, Ontario.

BACKGROUND

As part of a zoning amendment application, the proponent is seeking, to identify and delineate previously mapped wetland features, as well as any additional wetlands that have not been previously mapped, on the 5384 Boundary Road property, hereafter referred as the “subject property”. The existing wetland boundary for the subject property is identified by NHIC and on City of Ottawa online mapping (2025). The wetland within and adjacent to the subject property is a provincially significant wetland (PSW) identified as the South Bear Brook Wetland. The entire PSW was initially evaluated in 2022 by Parsons and then updated in 2023 to comply with revised Ontario Wetland Evaluation System (OWES) methodology (Figure A.1). Through correspondence with the client and owner of the subject property, it is understood that Parsons was not granted permission in 2022/2023 to access the subject property and evaluate the on-site wetland portion; however, Parsons did receive permission from over 200 other landowners whose property abutted the PSW.

To assist with the re-zoning application for the subject property, a wetland boundary assessment was completed on the subject property to determine the extent of the PSW on-site and/or adjacent to site. This letter serves to summarize the methodologies and results of the wetland boundary assessment for this property. This letter and the results described herein are not intended to change the classification of the South Bear Brook Wetland as PSW as it is our opinion that this classification remains valid given the work completed by Parsons in 2023.

METHODOLOGY

To complete the wetland boundary assessment, a single field investigation was completed on July 3, 2025, from 9:00 to 11:00 to provide field verification of vegetation communities delineated during the desktop review. The conditions at the time of the field investigation were overcast (100% cloud cover) with moderate precipitation, 20°C and light wind (Beaufort 1). The field investigation was completed by a biologist certified under OWES.

A desktop evaluation of the subject property and the immediate surrounding property was completed using available historic aerial imagery and other online mapping resources. This was completed to determine areas of interest prior to completing field investigations and to scope the area of investigation to features that displayed visual differences to surrounding features on aerial imagery.

Field verification of vegetation communities was completed by walking linear transects along the soil moisture gradient from drier to wetter ecosites while documenting dominant vegetation species within the various vegetation community forms. The boundary between wetland ecosites and terrestrial ecosites was determined using the *50/50 Vegetation Rule* as outlined in the Ontario Wetland Evaluation System for Southern Ontario (OMNRF, 2014), where the wetland boundary is determined to be the point along each transect when 50% of the vegetation becomes comprised of hydrophilic or obligate wetland species.

RESULTS

As described above, the wetland boundary was determined by identifying the point along each transect when 50% of the vegetation becomes wetland obligate species. Field data points were collected via Arc GIS Field Maps application in the field to create an updated wetland boundary line. Figure A.2 in the attachments illustrates all wetland features that are mapped on publicly available databases and the boundaries of wetlands field confirmed by GEMTEC staff. Table 1 below provides a summary of the single wetland community assessed.

GEMTEC staff identified two areas that were dominated by wetland vegetation, both meeting the minimum size requirement of 0.5 hectares (ha). These wetland communities are illustrated on Figure A.2 and are labelled with their dominant vegetation form code using OWES methodology. The identified wetland areas aligned with the information collected during the background review phase of the delineation. As the upland areas surrounding the wetlands were evaluated using Ecological Land Classification (ELC) methodology, the hS1 community was similarly assigned an ELC form for consistency, with the feature being classified as a Maple Mineral Deciduous Swamp (SWD3).

Table 1 - Evaluated Vegetation Community Forms and Dominant Species

Map Code	Dominant Form	Other Forms	# Forms	Dominant Species	Area (ha)
S1	h	ts,ls,gc	4	*Acer rubrum, Acer x freemanii*	2.05 ha

The hS1 (SWD3) community was dominated by a combination of red maple (*Acer rubrum*) and Freeman's maple (*Acer x freemanii*) in the canopy, with a higher percentage of red maple. The sub canopy was also predominantly comprised of younger red maples. The understorey was dominated almost entirely by alder buckthorn (*Frangula alnus*). The ground layer was comprised of several fern species including sensitive fern (*Onoclea sensibilis*), ostrich fern (*Matteuccia struthiopteris*), and royal fern (*Osmunda regalis*) as well as a variety of sedge species (*Carex spp.*).

The forest community surrounding the hS1 (SWD3) wetland pockets is best described as a Fresh-Moist Sugar Maple Deciduous Forest (FOD6-5). This community is characterized as containing uncommon associations with sugar maple (*Acer saccharum*) on moist soils including red maple. FOD6 communities typically represent the transition from terrestrial to wetland, often containing both wetland and upland species. This community was similarly dominated by red maple in the canopy and sub-canopy, with some sugar maple constituents found. The understorey was comprised again of alder buckthorn. The ground layer contained species that were more indicative of an upland area including wild sarsaparilla (*Aralia nudicaulis*), avens species (*Geum spp.*), aster species (*Symphiotrichum spp.*), goldenrod species (*Solidago spp.*), and lily of the valley (*Convallaria majalis*) with a notably lower concentration of sedges and ferns.

By applying the 50% vegetation rule for wetland delineation, the presence of the listed fern and sedge species was the factor used to identify the boundaries of the identified wetlands. Based on field observations, there is a clear upland transition when moving from the hS1 (SWD3) to the FOD6-5 community on-site and the dominance of ferns and sedges in the ground layer ceases at this transition point.

Site photographs taken during the wetland boundary assessment are provided in Appendix B.

CONCLUSION

Based on the site investigation detailed above, it is GEMTEC's professional opinion that the existing Bear Brook PSW boundary that is identified within the subject property is out of date and that the wetland boundary revisions described in this report are more reflective of current site conditions. The wetland boundary revision completed for the subject property has resulted in a loss of 0.52 ha of PSW area from within the subject property.

We trust that this report is sufficient to revise the boundaries of the PSW within the subject property, however, should you require clarification of the information present above, please do not hesitate to contact the undersigned.

Sincerely,

Zachary Anderson, B.Sc., CAN-CISEC
Biologist, OWES Wetland Evaluator

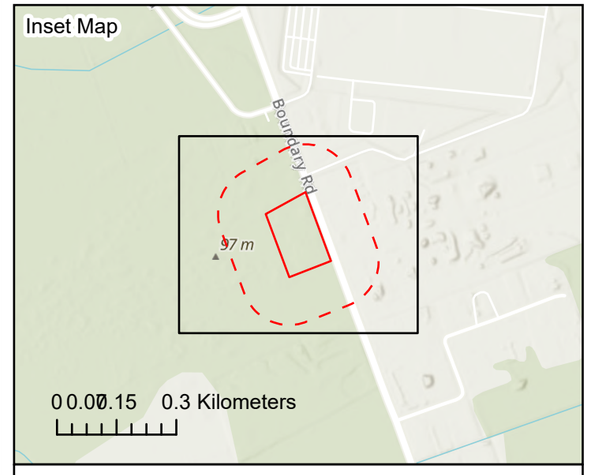
Taylor Warrington, B.Sc.
Biologist, OWES Wetland Evaluator

ATTACHMENTS

Attachment A: Figure A.1 – Existing Wetland Boundary Mapping (City of Ottawa 2025)
Figure A.2 – GEMTEC Delineated Wetland Boundaries
Attachment B: Site Photographs

Legend

- Property Boundary
- Study Area
- Provincially Significant Wetland (NHIC)



Scale
1:2,000
0 20 40 80 120 Meters

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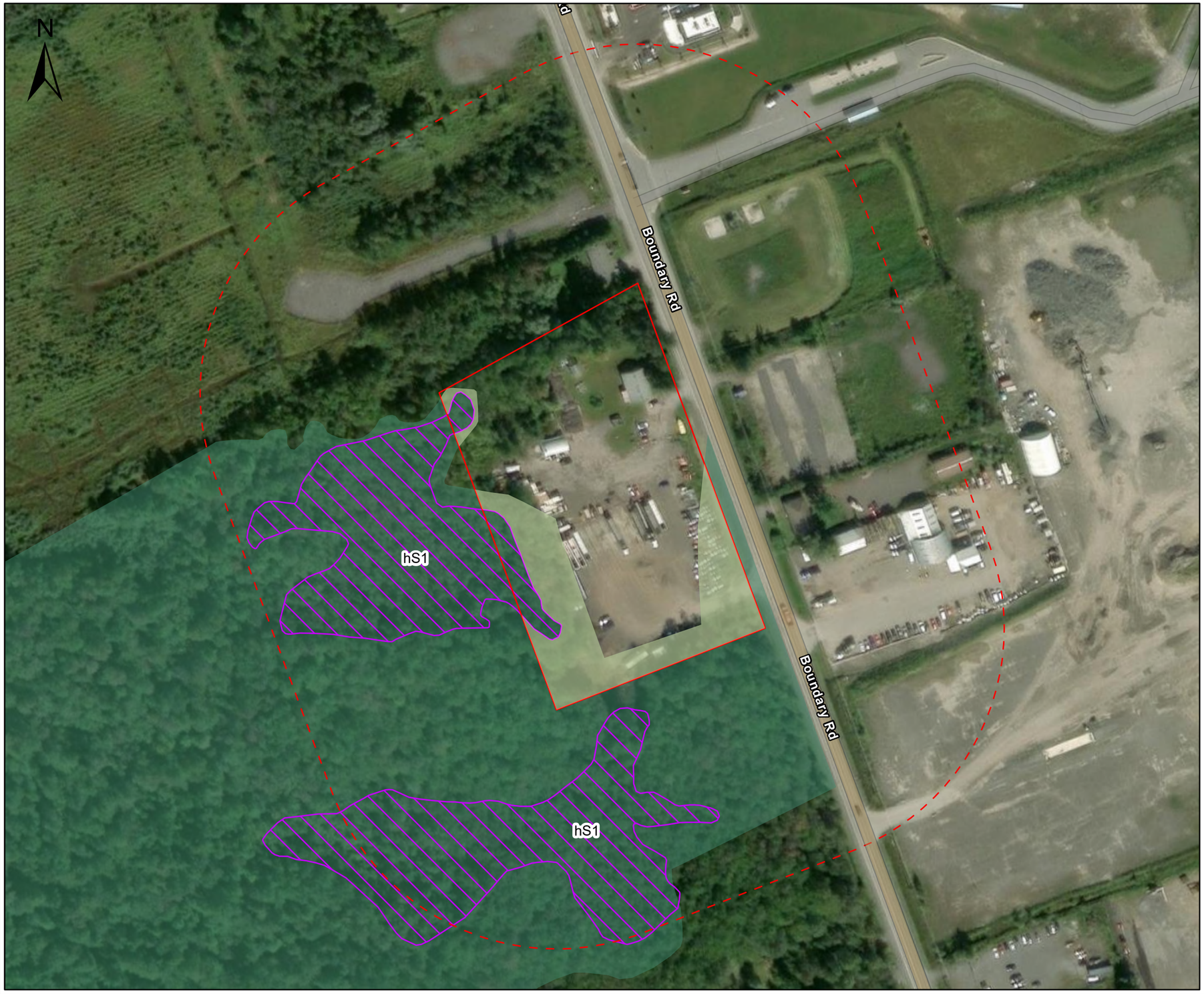
Client:	Project:
Novatech	100011.122

Location
5384 Boundary Road
Ottawa, Ontario

Drwn By:	Chkd By:	
EP	ZA	NHIC Wetland Boundary

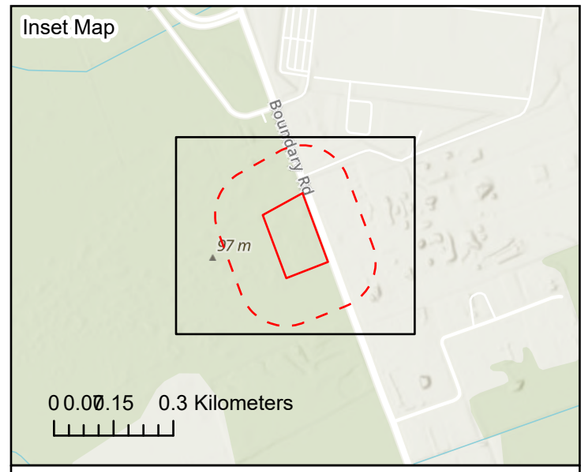
Date: August 2025	Rev.	
© Queen's Printer for Ontario	0	Figure: A.1

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Imagery: SDG Counties, Maxar, Microsoft



Legend

- Property Boundary
- Study Area
- Provincially Significant Wetland (NHIC)
- Wetland Boundary (GEMTEC, 2025)
- Lost Wetland (0.52 ha)



Scale
1:2,000
0 20 40 80 120 Meters

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Client:	Project:
Novatech	100011.122

Location
5384 Boundary Road
Ottawa, Ontario

Drwn By:	Chkd By:	
EP	ZA	Proposed Wetland Boundary Revision
Date: August 2025	Rev. 0	Figure: A.2

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Imagery: SDG Counties, Maxar, Microsoft

Site Photograph 1 – View facing west within the hS1 wetland

Site Photograph 2 – Dominant vegetation present within the upland community on-site (FOD6)

Site Photograph 3 – Areas of saturated soil and wetland plant species within hS1

Site Photograph 4 – View of anthropogenic and disturbed areas on-site with upland species

GEMTEC Consulting Engineers and Scientists	Project: Wetland Delineation Memo Proposed Re-Zoning Application, 5384 Boundary Road, Ontario	**APPENDIX B**	**Site Photographs**
		File No. 100011.122	

experience • knowledge • integrity

civil	civil
geotechnical	géotechnique
environmental	environnement
structural	structures
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité