Environmental Impact Study for National Capital Business Park Block E, 4055 Russell Road, Ottawa

Draft Report

February 27, 2026

Submitted To:

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File: AVE 866.10

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List of Acronyms and Abbreviations

BBS – Breeding Bird Survey
CEAA – *Canadian Environmental Assessment Act*
EA – Environmental Assessment
ECCC – Environment and Climate Change Canada
EIS – Environmental Impact Statement
ELC – Ecological Land Classification
ESA – *Endangered Species Act*
FLUDTA – Federal Land Use, Design, and Transaction Approval
IAA – *Impact Assessment Act*
KAL – Kilgour & Associates Ltd.
MMP – Marsh Monitoring Protocol
NCC – National Capital Commission
OWES – Ontario Wetland Evaluation System
RVCA – Rideau Valley Conservation Authority
SAR – Species at Risk
SARA – *Species at Risk Act*
TCR – Tree Conservation Report

1.0 INTRODUCTION

Kilgour and Associates Ltd. (KAL) was retained by Avenue 31 to provide an Environmental Impact Study (EIS) for Block E (Building E) within the broader Site 3 of the National Capital Business Park (NCBP) on lands leased from the National Capital Commission (NCC) at 4055 Russell Road in Ottawa, Ontario (the "Site"; **Error! Reference source not found.**). A Zoning By-Law Amendment to permit the transition of the subject lands from Agricultural/Industrial to a Commercial designation has previously been approved. The development of Site 3 was reviewed through a Federal Land use, Design and Transaction Approval (FLUDTA) process by the National Capital Commission (NCC), and was determined to be consistent with the requirements of the Canadian Environmental Assessment Act (CEAA, 2012) and the Impact Assessment Act (IAA, 2019), as documented in a previous EIS (KAL, 2020). This EIS is written to support a Site Plan Control application for the Site.

The purposes of an EIS are to:

1. Identify natural heritage features on or adjacent to the Site;
2. Assess potential impacts of the proposed development to existing features;
3. Recommend mitigation measures to minimize or eliminate identified impacts (including follow-up monitoring); and
4. Provide a professional opinion on the likelihood or nature of residual impacts on natural heritage and their overall significance.

This EIS is supported by a Tree Conservation Report (TCR) and a Headwater Drainage Feature Assessment (HDFA). These reports may be submitted or otherwise used independently as may be required to support other permit applications associated with the overall development project.

Legend

- Site Boundary (NCBP Block E - Building E)
- Site 3
- Mather Award Drain

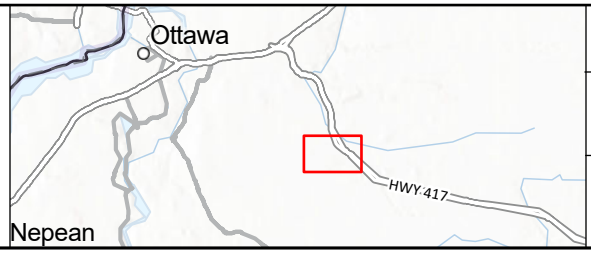

Figure 1. Site context

0 85 170 340 m

N W E S

Spatial Reference:
PCS: WGS 1984 UTM Zone 18N
Map Units: Meter

Project: AVE 866.10
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2.0 ENVIRONMENTAL POLICY CONTEXT

Natural heritage policies and legislation relevant to the EIS are outlined below.

2.1 Federal Regulations

2.1.1 Species at Risk Act, 2002

The federal Species at Risk Act (SARA; Government of Canada, 2002) is administered by Environment and Climate Change Canada (ECCC) and provides direction to protect and ensure the survival of wildlife species in Canada. The purpose of the SARA is to prevent populations of wildlife from becoming Extirpated, Endangered, or Threatened, provide recovery for Endangered or Threatened species, and manage other species to prevent them from becoming Endangered or Threatened.

All species listed on Schedule 1 of SARA are afforded protection on federal lands. Aquatic species and species of migratory birds protected by the Migratory Birds Convention Act (MBCA; Government of Canada, 1994) and listed as Endangered, Threatened, or Extirpated under Schedule 1 of SARA are protected wherever they occur in Canada, regardless of land ownership. SARA protections do not typically apply for other species groups on non-federal properties. However, the Federal Minister of ECCC can impose SARA protections on private projects where habitat is deemed "…necessary for the survival or recovery of the species…" in the area of concern.

2.1.2 Fisheries Act, 1985

The federal Fisheries Act (Government of Canada, 1985a) is administered by Fisheries and Oceans Canada (DFO) and provides protections to fish, fish habitat, and fisheries. Specifically, the Fisheries Act in its current version provides protection for all fish and fish habitat, and prohibits the harmful alteration, disruption, or destruction of fish habitat.

Projects with a scope that does not fall within DFO's defined standards and codes of practice require submission of a request for review to DFO.

2.1.3 Migratory Birds Convention Act, 1994

Nesting migratory birds are protected under the MBCA (Government of Canada, 1994). No work is permitted that would result in the destruction of active nests or the wounding or killing of bird species protected under the MBCA and/or associated regulations (e.g., SARA). The "incidental take" of migratory birds and the disturbance, destruction, or taking of the nest of a migratory bird is prohibited. "Incidental take" is the killing or harming of migratory birds due to actions that are not primarily focused on taking migratory birds (e.g., economic development) where no permits otherwise exist. These prohibitions apply throughout the year. The Government of Canada has compiled nesting calendars that apply across Canada that can be used to greatly reduce the risk of harming/destroying active nests by ensuring works that may impact nests are performed outside of the nesting period.

2.1.4 Impact Assessment Act, 2019

The *Impact Assessment Act* (IAA; Government of Canada, 2019) outlines a process for assessing the impacts of major projects and projects carried out on federal lands or outside of Canada. The Impact Assessment Agency of Canada is responsible for conducting impact assessments under the IAA. The IAA enables the Agency to support participant engagement through funding programs; defines the impact assessment process and timelines; identifies factors that must be considered; provides tools to support collaboration and compliance; and requires transparency through publicly available information. The purpose of the IAA is to:

- Foster sustainability, ensure respect of Government's commitments with respect to the rights of Indigenous peoples;
- Include environmental, social, health, and economic factors within the scope of assessments;
- Establish a fair, predictable and efficient impact assessment process that enhances Canada's competitiveness and promotes innovation;
- Consider positive and adverse effects;
- Include early, inclusive, and meaningful public engagement;
- Promote nation-to-nation, Inuit-Crown, and government-to-government partnerships with Indigenous peoples;
- Ensure decisions are based on science, Indigenous knowledge, and other sources of evidence; and
- Assess cumulative effects within a region.

2.1.5 National Capital Act, 1985

The federal *National Capital Act* (Government of Canada, 1985b) governs the NCC, as well as development and improvement of the National Capital Region. The NCC coordinates the development of public lands in the National Capital Region, including development proposals where any department or person proposes to erect, alter, extend, or demolish a building or change the use of public lands.

2.1.6 Capital Urban Lands Plan

The Capital Urban Lands Plan was prepared to support the NCC's vision to create an inspiring and dynamic capital region (National Capital Commission, 2025). It applies to urban lands that extend to the Greenbelt boundary on the Ontario side and those located within the urban perimeter on the Quebec side. The plan is a land-use plan that provides detailed direction and guidance for the use and stewardship of federal lands for which the NCC has jurisdiction, pursuant to the *National Capital Act* described in Section 2.1.2 above.

2.1.7 The Plan for Canada's Capital, 2017-2067

The Plan for Canada's Capital, 2017-2067 provides a long-term vision for the capital region's evolution over 50 years (National Capital Commission, n.d.). This planning document presents long-term planning goals, with targets coinciding with Canada's bicentennial in 2067. The Plan emphasizes the distinctiveness

of the capital region and focuses on federal lands, consistent with the commitments under the National Capital Act. Specific to natural features in the capital region, the Plan reinforces the Greenbelt's role as an ecological, agricultural, and recreational asset, and encourages development that is environmentally responsible and supports biodiversity and climate resilience.

2.1.8 Sustainable Development Strategy, 2023-2027

The NCC's Sustainable Development Strategy 2023-2027 aims to demonstrate national leadership in achieving an environmentally sustainable and climate-resilient capital region (National Capital Commission, 2023). The strategy is consistent with the Federal Sustainable Development Strategy. The NCC's Strategy promotes climate-smart and low-impact development, and supports habitat protections, ecological restoration, and sustainable construction practices. It encourages integration of social and environmental perspectives in planning and decision-making.

2.2 Provincial Regulations

While federal projects, such as those led by the NCC are not directly constrained by or subject to provincial policy or legislation, proposed development within the City of Ottawa (the "City") is subject to municipal review if that development would interact with City infrastructure (e.g., roads, sewer, etc.). As City reviews must be completed in accordance with Provincial Policy, these policies become *indirectly* applicable.

2.2.1 Planning Act

The Ontario *Planning Act* Planning Act (Government of Ontario, 1990b) establishes the legislative framework for land use planning and development in Ontario and governs how development applications are reviewed and approved by municipalities. Under the Act, all planning decisions must have regard for matters of provincial interest and be consistent with the Provincial Planning Statement, which is issued under Section 3 of the Act and provides province-wide direction on growth, infrastructure, housing, and the protection of natural heritage resources. The *Planning Act* authorizes municipalities to regulate development through Official Plans, zoning by-laws, plans of subdivision, consents, minor variances, and site plan control, and requires that development applications conform to these instruments. It also sets out procedural requirements for public notice, consultation, decision-making, and appeals, ensuring that development proposals are reviewed in a transparent, coordinated, and policy-led manner that balances local decision-making with provincial oversight.

2.2.2 Provincial Planning Statement, 2024

The Provincial *Policy* Statement, previously issued under Section 3 of the *Planning Act* (MMAH, 2020), was updated to become the Provincial *Planning* Statement (PPS) on August 20, 2024. The PPS came into effect on October 20, 2024 (MMAH, 2024). Under the PPS, natural features are afforded protection through Section 4. The included protections address the maintenance, restoration, and improved function of diversity, connectivity, ecological function, and biodiversity of natural heritage systems. These protections restrict development and site alteration in significant natural areas (e.g., woodlands, wetlands, wildlife habitat) except where it can be demonstrated that there will be no negative effects on the features and ecological functions of those natural areas. Technical guidance for implementing the natural heritage policies of the PPS is found within the second edition of the *Natural Heritage Reference Manual for*

Natural Heritage Policies of the Provincial Policy Statement, 2005 (MNR, 2005). This manual recommends the approach and technical criteria for protecting natural heritage features and areas in Ontario.

2.2.3 Endangered Species Act, 2007

The provincial Endangered Species Act (ESA; Government of Ontario, 2007) in effect at the time of this EIS is administered by the Ministry of Environment, Conservation, and Parks (MECP) and provides protection for species at risk (SAR) and their habitat. The ESA states that it is illegal to harm the habitat of species listed as Extirpated, Endangered, and Threatened. It is also illegal to kill, harm, harass, possess, transport, buy, or sell Extirpated, Endangered, and Threatened species, whether it is living or dead. Species listed as Endangered, Threatened, or Extirpated and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation, and migration) are automatically afforded legal protection under the ESA. The ESA includes provisions that may authorize development activities to proceed where the impacts of such development on protected species and/or their habitat would otherwise be prohibited. The associated permitting processes typically work to limit the potential for harm to the subject species through mitigation measures and to achieve an overall net benefit for the species through offsetting measures.

Significantly, Ontario's Bill 5: *Protect Ontario by Unleashing our Economy Act, 2025*, was enacted on June 5, 2025. This Act introduced numerous changes to the ESA, including altering the definition of "habitat" for various species groups. At the time of writing for this EIS, however, many standing policies managing the implementation of the ESA have not yet been updated. As such, recommendations within this report related to the ESA consider existing ESA-related policies but also recognize upcoming changes to the extent feasible. Such changes will eventually include the full replacement of the ESA with the *Species Conservation Act,* likely in early 2026 (Species Conservation Act, 2025). While the *Species Conservation Act* was enacted as part of Bill 5, it is not yet in force as of the date of this EIS. However, it must be recognized that, if permitting processes were to be required/employed to ensure a net benefit for SAR under future site works, they may ultimately be managed considering the *Species Conservation Act* rather than the ESA.

2.2.4 Conservation Authorities Act, 1990

Conservation Authorities were created to address erosion, flooding, and drought concerns regionally by managing at the watershed level. Conservation Authorities were given the ability to regulate under Section 28 of the Conservation Authorities Act (Government of Ontario, 1990a). The Act obliges Conservation Authorities to implement Ontario Regulation (O.Reg.) 41/24, Prohibited Activities, Exemptions and Permits (formerly O.Reg. 174/06, Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) under Section 28.1 of the Conservation Authorities Act for relevant works. This project falls under the jurisdiction of the Rideau Valley Conservation Authority (RVCA).

Bill 23, which was passed on November 28, 2022, and received Royal Assent the same day, introduced a series of legislative and proposed regulatory changes affecting conservation authorities. Among the changes under Bill 23, the definition of "watercourse" was updated from an identifiable depression to a defined channel, having a bed, and banks or sides.

2.2.5 Fish and Wildlife Conservation Act, 1997

The provincial Fish and Wildlife Conservation Act (FWCA; Government of Ontario, 1997) governs the hunting and trapping of a variety of wildlife, including mammals, birds, reptiles, amphibians, and fish in Ontario, thereby facilitating the protection of wildlife and their habitat. The FWCA outlines the prohibition of hunting or trapping specially protected species and the requirement for provincially issued licenses for the hunting or trapping of "furbearing" or "game" animals. Examples of specifically protected animals include Southern Flying Squirrel (*Glaucomys volans*), Northern Harrier (*Circus cyaneus*), American Kestrel (*Falco sparverius*), Blue Jay (*Cyanocitta cristata*), Midland Painted Turtle (*Chrysemys picta marginata*), Northern Watersnake (*Nerodia sipedon*), and Gray Treefrog (*Hyla versicolor*). In particular, raptors that are not protected under the MBCA (including Peregrine Falcon) are protected under the FWCA.

2.3 Municipal/Local Regulations

2.3.1 The City of Ottawa Official Plan (2021)

The City of Ottawa Official Plan (OP; City of Ottawa, 2021) was updated and approved by the Ministry of Municipal Affairs and Housing as part of a comprehensive review. Pursuant to subsections 17(36.5) and (38.1) of the Planning Act, the decision of the Minister of Municipal Affairs and Housing regarding an official plan adopted in accordance with section 26 of the Planning Act is final and not subject to appeal. Accordingly, the new City of Ottawa Official Plan, as approved with modifications by the Minister, came into effect on November 4, 2022. The OP provides a vision for the future growth of the city and a policy framework to guide the city's physical development. With respect to natural heritage considerations addressed under an EIS, the OP provides a framework through which species at risk and other wildlife (and their habitats), forested areas, wetlands and surface water features must be reviewed. Key portions of the OP to be considered include:

The Environmental Impact Study Guidelines (City of Ottawa, 2023) - which outlines study requirements of the EIS;

OP Schedule C11 – which identifies Natural Heritage Features and Natural Heritage System Core Areas and Linkages as an overlay;

OP Section 4.8.1 - under which the City recognizes the following natural heritage features, as defined in Ottawa's Environmental Impact Study Guidelines:

a) Significant wetlands;
b) Habitat for endangered and threatened species;
c) Significant woodlands;
d) Significant valleylands;
e) Significant wildlife habitat;
f) Areas of Natural and Scientific Interest;
g) Urban Natural Features;
h) Natural Environment Areas;
i) Natural linkage features and corridors;
j) Groundwater features;

k) Surface water features, including fish habitat; and
l) Landform features.

Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment (City of Ottawa, 2022c) - which identifies wooded areas within the urban boundary that are > 0.8 hectares (ha) and have been continuously forested for > 60 years as "Significant Woodland'';

OP Section 4.9.3 – which provides policies for development and site alteration near surface water features through the provision of minimum setbacks and directives to retain wetland areas and the requirement to complete headwater drainage feature assessments (HDFA) to provide management recommendations for headwater features; and

The Protocol for Wildlife Protection during Construction (City of Ottawa, 2022b) – which identifies best management practices to be employed through construction to reduce the direct impacts of development on wildlife.

2.3.2 City of Ottawa Site Alteration By-law

The City of Ottawa *Site Alteration By-law* (By-law No. 2024-448) regulates activities such as the placement or removal of fill, alteration of grades, and the clearing or stripping of vegetation in order to protect agricultural resources, natural heritage features, and existing drainage patterns, and to prevent adverse impacts to neighbouring properties. The by-law applies broadly across the City, except in areas regulated by Conservation Authorities, and establishes requirements to avoid erosion, sedimentation, and drainage impacts during site alteration activities. In the context of development applications, the by-law operates alongside the Planning Act approval process by requiring that site alteration associated with development be undertaken in accordance with approved plans and municipal standards, including the implementation of erosion and sediment control measures and adherence to setback and notification requirements where applicable. Compliance with the Site Alteration By-law is typically addressed during development review and construction, and does not replace the need for planning approvals, but rather provides additional controls to manage site works in a manner that protects the natural and built environment.

2.3.3 City of Ottawa Tree Protection By-law

The City of Ottawa *Tree Protection By-law* regulates the injury and removal of trees to protect the City's urban forest, natural areas, and tree canopy during development and other land-altering activities. Under the by-law, permits are required for the removal or injury of City-owned trees and for private trees that meet specified size thresholds, including trees 10 cm or greater in diameter on properties subject to a *Planning Act* application and larger "distinctive trees" on private lands. In the context of development applications, the by-law requires proponents to identify protected trees, assess potential impacts, and demonstrate how trees will be retained, protected, or appropriately replaced through supporting arborist studies and approved tree conservation measures. Compliance with the Tree Protection By-law is addressed alongside planning approvals and construction permitting and provides an additional mechanism to manage tree impacts without replacing or superseding the broader *Planning Act* review process.

3.0 PROPERTY IDENTIFICATION

The Site is within the broader Site 3 area of the NCBP, leased from the NCC, located at 4055 Russell Road, Ottawa, Ontario (Figure 1). The Site consists of a 3.3 ha parcel located south of the Mather Award Drain, zoned IH – Heavy Industrial Zone. This zoning designation is intended for industrial development with a wide range of uses. Land cover on the Site is dominated by former agricultural fields (Figure 1).

The Site is bordered by:

- The Mather Award Drain, existing buildings within the broader Site 3 area, and Highway 417 to the north;
- Hunt Club Road to the east;
- Russell Roads and existing buildings within the broader Site 3 area to the south, and
- Industrial buildings to the west.

4.0 METHODOLOGY

4.1 Desktop and Background Data Review

4.1.1 General Records Review

Background information was obtained from online databases and geographic information system mapping applications to review relevant information. Aerial imagery from Google Earth, the RVCA Geoportal and the City's geoOttawa systems was used to identify existing features and confirm information found in the background review.

4.1.2 Species at Risk Screening

The review of existing information included a preliminary SAR screening for species listed under the federal SARA and provincial ESA having some record of occurrence within the broader vicinity of the Site. The screening was completed following the *Draft Client's Guide to Preliminary Screening for Species at Risk*. Species at Risk in Ontario (SARO; Ministry of Environment, Conservation, and Parks (MECP, 2023). The results of the preliminary screening process inform the list of species considered in the context of this EIS in the assessment of potential development impact(s) to SAR or SAR habitat (Appendix B). Please note that, while this Guide is a provincially developed protocol, it nevertheless provides an effective process for the general gathering and review of SAR records, regardless of the specific jurisdictional level of oversight for those species.

Where it is determined through the EIS process that there is an anticipated impact of the development on SAR, an Information Gathering Form (IGF) is typically submitted to MECP for further review. The IGF process, however, is not generally necessary where the SAR management process may be handled through a Notice of Activity process associated with the Ontario Conservation Fund under O.Reg. 829/21. The preliminary screening considered data sources including:

- Species at Risk Public Registry (Government of Canada, 2026);

- Natural Heritage Information Centre (NHIC; Ministry of Natural Resources, and Forestry (MNRF, 2025b);
- Land Information Ontario (MNRF, 2025a);
- Aquatic Species at Risk Map (DFO, 2023);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019);
- Ontario Breeding Birds Atlas (Birds Canada et al., 2009);
- Ontario Butterfly Atlas (Toronto Entomologists' Association, 2025);
- eBird (The Cornell Lab of Ornithology, 2025);
- iNaturalist (California Academy of Sciences and National Geographic Society, 2025);
- Bumble Bee Watch (Wildlife Preservation Canada et al., 2025);
- Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*) in Ontario (Humphrey & Fotherby, 2019);
- Recovery Strategy for the Eastern Small-footed Myotis (*Myotis leibii*) in Ontario (Humphrey, 2017);
- Fish ON-Line (MNRF, 2024);
- Rideau Valley Conservation Authority. 2013. Ramsay Creek 2013 Summary Report;
- Rideau Valley Conservation Authority. 2016. McEwan Creek 2016 Summary Report; and
- Kilgour & Associates Ltd. 2020. Environmental Impact Statement for 4055 and 4120 Russell Road.

4.1.3 Agency Consultation

The Site is located within the jurisdictions of the City of Ottawa and the Rideau Valley Conservation Authority (RVCA). The scope of this EIS was developed considering consultation with Mark Elliott (Environmental Planner, City of Ottawa, personal communication, December 18, 2025). Mr. Elliott indicated the need for a final EIS to include updated field reviews of SAR considered as having potential to occur on the Site (i.e. several species of bats, birds, and trees). This current EIS details the recommendations/requirements for such studies.

4.2 Field Surveys

4.2.1 Site Work Summary

Detailed field studies were performed throughout the spring and early summer of 2019 to document the existing ecological conditions of Block E. These field studies included core surveys of flora and fauna. Standard and accepted methods were employed for all surveys (described below). A summary of the field visits I outlined in Table 1.

Table 1. Field Study Dates

Date	Purpose	Conditions	Personnel
April 9, 2019	• HDFA #1	• 10°C • Ligh rain, 75-100% cloud cover • Low wind	• Katherine Black • Robert Hallett
May 6, 2019	• Turtle survey #1	• 23°C • 0-25% cloud cover • Low wind	• Claire Kilgour
May 7, 2019	• Turtle survey #2	• 16°C • 25-50 cloud cover • Low wind	• Anthony Francis • Heather Lindsay
May 8, 2019	• Turtle survey #3	• 14°C • 0-25% cloud cover • Low wind	• Heather Lindsay
May 21, 2019	• Turtle survey #4	• 12°C • 25-50% cloud cover • Low wind	• Heather Lindsay
May 22, 2019	• Turtle survey #5	• 16°C • 0-25% cloud cover • Low wind	• Claire Kilgour
May 31, 2019	• Bird survey #1 • HDFA #2 • ELC	• 15°C • 75-100% cloud cover • Low wind	• Anthony Francis • Katherine Black • Ken Allison
June 17, 2019	• Bird survey #2	• 12°C • 0-25% cloud cover • Low wind	• Ken Allison
July 1, 2019	• Bird survey #3	• 18°C • 0-25% cloud cover • Low wind	• Ken Allison
July 10, 2019	• HDFA #3	• 19°C • 0-25% cloud cover • Low wind	• Katherine Black • Heather Lindsay
August 29, 2019	• Tree Survey	• 22°C • 0% cloud cover • Medium wind	• Katherine Black • Heather Lindsay
November 25, 2025	• Tree Survey	• 6°C • 50-75% cloud cover • Low wind	• Nicholas Schulz

Legend

- Site Boundary (NCBP Block E - Building E)
- Site 3
- Turtle Survey Station
- Bird Survey Station
- Drainage Feature

ELC

- CUM1-1
- CUT1
- THDM3-1

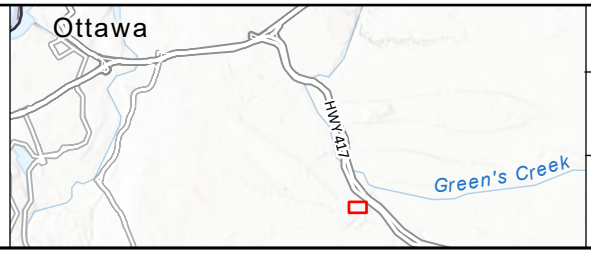

Figure 2. Survey Stations and Existing Site Conditions

0 15 30 60 m

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PCS: WGS 1984 UTM Zone 18N
Map Units: Meter

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4.2.2 Surface Water Characterization

A Headwater Drainage Feature Assessment (HDFA) was conducted for the Site following the methods per the *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (Toronto and Region Conservation Authority & Credit Valley Conservation, 2014). Major watercourses were characterized following the HDFA field program, which is based on standard OSAP methodologies (though the HDFA decision matrix for management decisions is not applicable to these features)

A brief visual inspection of the Site was performed on April 9th, 2019, to document existing conditions of water features (feature types, physical characteristics of features, and riparian conditions) at their maximal extent under spring freshet conditions. During our second and third site visits on May 31st and July 10th, 2019, respectively, both reaches on Site (Reach 1 (Mather Award Drain) and Reach 2) remained wet and were characterized by defined channel forms. Since Reach 1 has perennial flow, the HDF Guidelines would call for a detailed "Diagnostic" level survey type for this reach. However, since Reach 1 is not to be altered under the proposed development, Diagnostic surveys were not performed for this reach.

Following the headwaters sampling protocol (Ontario Stream Assessment Protocol (OSAP) S4.M10), a brief assessment was performed on April 9th, 2019, by KAL Biologists, Katherine Black and Robert Hallett, to characterize the amount of water and sediment transport and storage capacity within the HDFs on Site as well as their riparian and feature vegetation. Although the Standard survey type calls for an assessment of fish and fish habitat using OSAP S3.M1, electrofishing techniques were not employed since Reach 1, the only reach likely to support perennial fish habitat, is not to be altered under the proposed development plan. A fish species list for this reach was still obtained from publicly available data collected by RVCA to provide insight into the type of fish that have the potential to occur on Site. KAL Biologist, Anthony Francis, briefly re-visited all reaches on May 31st, 2019, to qualitatively assess late spring water levels and Ms. Black re-visited the site again on July 10th, 2019, to investigate summer water levels.

4.2.3 Ecological Land Classification

All of the natural vegetation communities on Site were visited on May 31st, 2019, and again on July 1st, 2019. Each community was identified and mapped in the field using the standard Ecological Land Classification (ELC) methods for Ontario (Lee et al., 1998). This method results in a standardized description of each vegetation community, giving information on vegetation type and soils. Where possible, communities were mapped to the most detailed level of 'vegetation type'. In some cases, where a suitable vegetation type did not exist, or mapping to this level did not provide a great deal of additional information, communities are described using the higher level of 'ecosite' type. Representative photos of each vegetation community were taken and are included with the community descriptions in this report.

During the visits to each vegetation community throughout the spring and summer, a detailed vegetation inventory of all vascular plants was developed. Where identification was uncertain, specimens were collected and identified later using conventional taxonomic literature and detailed examination as required. Species and communities of significance (federal, provincial, or regional) were determined using accepted status lists and publications, including the federal Species at Risk Public Registry (Government of Canada, 2019), the Ontario Species at Risk List (MECP, 2019), the Natural Heritage Information Centre (MNRF, 2016).

On August 29th, 2019, all treed areas on Site were surveyed to assess the potential for bat presence based on the presence of wildlife trees (e.g., those with cavities, dead leaf cluster, and/or snags ideal for bat roosting), and to document trees that may be impacted by the proposed development. On November 25, 2025, KAL biologist Nicholas Schulz completed a follow-up Site visit to update the tree inventory. Trees in areas that fell within the initial (broad) footprint of Block E were surveyed. Trees with a diameter at breast height (DBH) ≥ 10 cm within open areas were individually recorded and mapped.

Incidental wildlife observations were recorded while conducting vegetation work on Site.

4.2.4 Butternut Health Assessment

A formal Butternut Health Assessment (BHA) survey was conducted on August 29, 2019, to map and assess the condition of Butternuts (*Juglans cinerea*; listed as Endangered under ESA and SARA) on the Site. Butternuts assessed as being poor health and unlikely to survive are not subject to protections under the ESA.

4.2.5 Breeding Birds

Breeding bird surveys were performed via point count surveys following the Ontario Breeding Bird Atlas Guide for Participants (2001; Appendix A). Breeding bird surveys are to be completed from survey stations that, combined, provide suitable viewing of all habitats across the broader Site 3 on calm weather days with light wind (less than 3 on the Beaufort scale) and no precipitation. One breeding bird survey station was established in a representative habitat on the Site (Figure 2). All other stations were located off of the Site/Block E, and within the broader Site 3 of NCBP.

As per the Ontario Breeding Bird Atlas, surveys must take place between sunrise and five hours after sunrise between May 24 and July 10, with a minimum of 15 days between survey dates. This protocol calls for two surveys per year during the breeding bird window. However, an additional (third) bird survey is required under MNRF protocols for at-risk birds that use field habitats. Since we believed the site had the potential for SAR birds that use field habitats (Barn Swallow, Bobolink, and Eastern Meadowlark), KAL biologists conducted three rounds of breeding bird surveys. Specific dates and weather conditions for bird surveys are shown in Table 1. All incidental observations were recorded while traveling across the Site. Birds were identified by song and/or direct visual observation. Bird species were classed as regionally rare based on an analysis of data from the Atlas of Breeding Birds of Ontario. The federal and provincial significance of bird species were classed based on species' listings under Schedule 1 of SARA and the ESA, and species tracked by NHIC (MNRF, 2023c; for non-SAR species considered provincially significant).

4.2.6 Anurans

No formal frog surveys were conducted on the Site. While frog presence could be possible in the Mather Award Drain (i.e., Reach 1, though unlikely given the fish community known to occur there), this feature was not specifically targeted for frog surveys because it would not be altered under any proposed development plan. While no formal frog surveys were conducted here, incidental observations were still possible as KAL crews walked past the area while accessing other areas of the Site throughout the field campaign. No frogs were observed near or in Reach 1 during any visits to the Site in 2019.

4.2.7 Turtles

Due to the presence of surface water on and directly adjacent to the Site, five rounds of basking turtle surveys were performed to assess the potential presence of at-risk turtles. Visual encounter surveys were completed following MNRF's Survey Protocol for Blanding's Turtle in Ontario (2015; Appendix A). Although this protocol is intended primarily for Blanding's Turtle, all turtle species generally occurring in the area would be detectable under this protocol.

This protocol requires that potential habitat for turtles be visited under the following conditions:

- After ice off, and no later than June 15th;
- If air temperature is between 5 and 15˚C, surveys are to take place during sunny periods, between 10:00am and 5:00pm, when basking sites are receiving full sunlight;
- If air temperature is between 15 and 25˚C, surveys are to take place during sunny periods between 8:00am and 12:00pm, when basking sites are receiving full sunlight or during overcast periods from 9:00am until 4:00pm if air temperature is higher than water temperature; and
- Five surveys must be spread over a period of at least three weeks, at sites with no previous documentation of the species.

Turtle surveys were completed via foot along all surface water features that were considered across Site 3, at a minimum, marginal turtle habitat and/or travel corridors (stations T-A and T-D; Figure 2).

The survey route included two survey stations where surveyors stopped and scanned the area with binoculars from a distance of ~50 m to prevent any turtles from being startled before being observed. The limited vegetation present along these surface water features in the spring and early summer allowed these features to be effectively scanned with binoculars from a distance. Specific dates and weather conditions of turtle surveys are shown in Table 1.

4.2.8 Bats

The potential presence of bats was assessed during the tree inventory conducted on August 29th, 2019, by actively looking for trees with cavities and snags ideal for bat roosting.

During these inspections, there were no signs of bat presence (bats, guano, etc.), but the Site contains several large dying/dead trees with snags, cavities, and/or peeling bark that may be suitable for bat roosting habitat. However, suitable trees are in low density and not in suitable forest forms.

5.0 RESULTS

5.1 Landforms, Soils, and Geology

The surficial geology of the Ramsay Creek catchment consists of 53% clay, 44% sand, and 3% organic deposits (RVCA, 2013). Soils adjacent to the Mather Award Drain are associated with eroded gullies, steep valley walls, and narrow creek, corresponding to the Soil Landscape Unit. The remainder of the Site is

characterized by dominantly poorly drained Alendale soil series (Orthic Humic Gleysol) found on level to very gently sloping terrain (0-2%; Soil Landscape Unit M6).

5.2 Ecological Land Classification

Three distinct terrestrial landcovers or ELC units were delineated on the Site (Figure 2). Much of the Site is characterized as a meadow with scattered trees. Dominant species in each community are included in the description below.

5.2.1 Dry-Moist Old Field Meadow Type (CUM1-1)

This vegetation type is the most dominant classification on Site; it consists of the fallow fields that make up the majority of both the northern and southern parcels (**Error! Reference source not found.**6). This vegetation community is on unconsolidated mineral substrates with tree and shrub cover < 25%. These open communities originated from anthropogenic and culturally based disturbances (agriculture) and include a large proportion of introduced species. The dominant species here are Quack Grass (*Elymus repens*), Reed Canary Grass (*Phalaris arundinacea*), Kentucky Bluegrass (*Poa pratensis*), Common Dandelion (*Taraxacum officinale*), Smooth (Common) Brome Grass (*Bromus inermis*), Goldenrod (*Solidago*) spp., and White Clover (*Trifolium repens*).

Figure 3 Dry-Moist Old Field Meadow Type (CUM1-1; photo taken on May 31, 2019)

5.2.2 Buckthorn Deciduous Hedgerow Thicket Type (THDM3-1)

This vegetation type makes up one hedgerow in the middle of the Site, composed mainly of tall deciduous shrubs (Figure 4). The hedgerow existed prior to 1976 and was left intact during historical and recent agricultural operations. It is currently regenerating with woody species (tall shrub cover greater than 60%)

dominated by European Buckthorn (*Rhamnus cathartica*), Glossy Buckthorn (*Rhamnus frangula*), and Manitoba Maple (*Acer negundo*).

Figure 4 Buckthorn Deciduous Hedgerow Thicket Type (THDM3-1; photo taken on May 31, 2019)

5.2.3 Mineral Cultural Thicket Ecosite (CUT1)

This ecosite consists of the riparian zone of Reach 1 (Figure 5). It contains mainly Willows (*Salix sp.*), Speckled Alder (*Alnus incana*), and White Poplar (*Populus alba*) on the banks with cattails and Common Reed (*Phragmites australis*) on the edges of the channel. Based on historical imagery, it appears this area may have been altered through historical agricultural operations on Site, but not to the extent that most of the Site has been altered (i.e., the banks were not directly cropped or grazed but were likely mowed/maintained up until the early 2000s). Sometime prior to 2005 the areas just beyond the banks (outside of this ecosite, falling under Dry-Moist Old Field Meadow Type (CUM1-1) were sparsely planted with trees. It appears that the banks were left to naturally re-vegetate, as shrub cover in this ecosite becomes more evident in the imagery at this time. The soils here are shallow, with clay loam to a depth of 60-75 cm underlain by rock. It is possible that riprap was added around the same time that the areas just beyond the banks were planted with trees (prior to 2005), which may explain the shallow rock in this ecosite, but it is not clear from the imagery if this is the case.

Figure 5 Mineral Cultural Thicket Ecosite (CUT1; photo taken on May 31, 2019

5.3 Tree Inventory

A detailed inventory of the Site trees was performed on August 17, 2021, and repeated on November 25, 2025, following guidelines set forth by the City of Ottawa (2020). At the request of the NCC, all trees with a diameter at breast height (DBH) ≥ 10 cm having potential to be removed under the proposed development were identified, enumerated, mapped, their DBH measured, and their general health and condition documented. A total of 259 trees with DBH ≥ 10 cm from 19 species were identified on Block E. The majority of the trees were dominated by five species, including White Cedar (*Thuja occidentalis*), Scots Pine (*Pinus sylvestris*), White Ash (*Fraxinus americana*), American Elm (*Ulmus americana*), and Black Alder (*Alnus glutinosa*).

5.4 Surface Water, Groundwater and Fish Habitat

The Site is located within the Rideau River watershed and the Jock River subwatershed (Ministry of Natural Resources and Forestry – Government of Ontario, 2023; Rideau Valley Conservation Authority, 2023). The Site includes one major water feature, the Mather Award Drain.

5.4.1 Headwater Drainage Feature Assessment

Dimensions of the HDFs evaluated in this report are shown in Table 2 and photos of each HDF are shown in-text below. Mean bankfull width, mean wetted width, and mean depth were estimated in the field on April 9th, 2019. Approximate feature length was estimated using desktop mapping tools (geoOttawa, 2019 and Manifold GIS).

Table 2 Dimensions of water features on Site on April 12, 2019 (during spring freshet)

Water feature	Length (m)	Mean Bankfull Width (m)	Mean Wetted Width (m)	Mean Depth (cm)
Reach 1	354*	4.3	3.3	22
Reach 2	380	6.7	1	10

Table Notes: *Length of portion of Reach 1 occurring on Site. All other lengths indicate total length.

Reach 1 (Mather Award Drain; Figure 6) is the only perennially flowing reach on the Site and is a headwater of Ramsay Creek. It flows from the west through industrial parks, enters the property through a box culvert under Russell Road, and continues east through the Site and under Highway 417 until its confluence with Ramsay Creek. The portion of this HDF running through the Site is approximately 354 m long and is slightly sinuous. The substrate consists primarily of cobble rocks with larger rocks dispersed throughout, underlain by finer gravel and coarse sand. The channel is well-defined, with evidence of sedimentation and a sorted substrate. It has minimal submerged aquatic vegetation; the channel is predominantly open flowing water. The banks consist mainly of scrubland (Willow (*Salix*), Alder (*Alnus*), and White Poplar (*Populus alba*) shrubs) along with cattails (*Typha* spp.) and Common Reed (invasive *Phragmites australis*) on the edges of the channel. The lands to the north and south (beyond the riparian vegetation line) are fallow fields previously used for soybean crop.

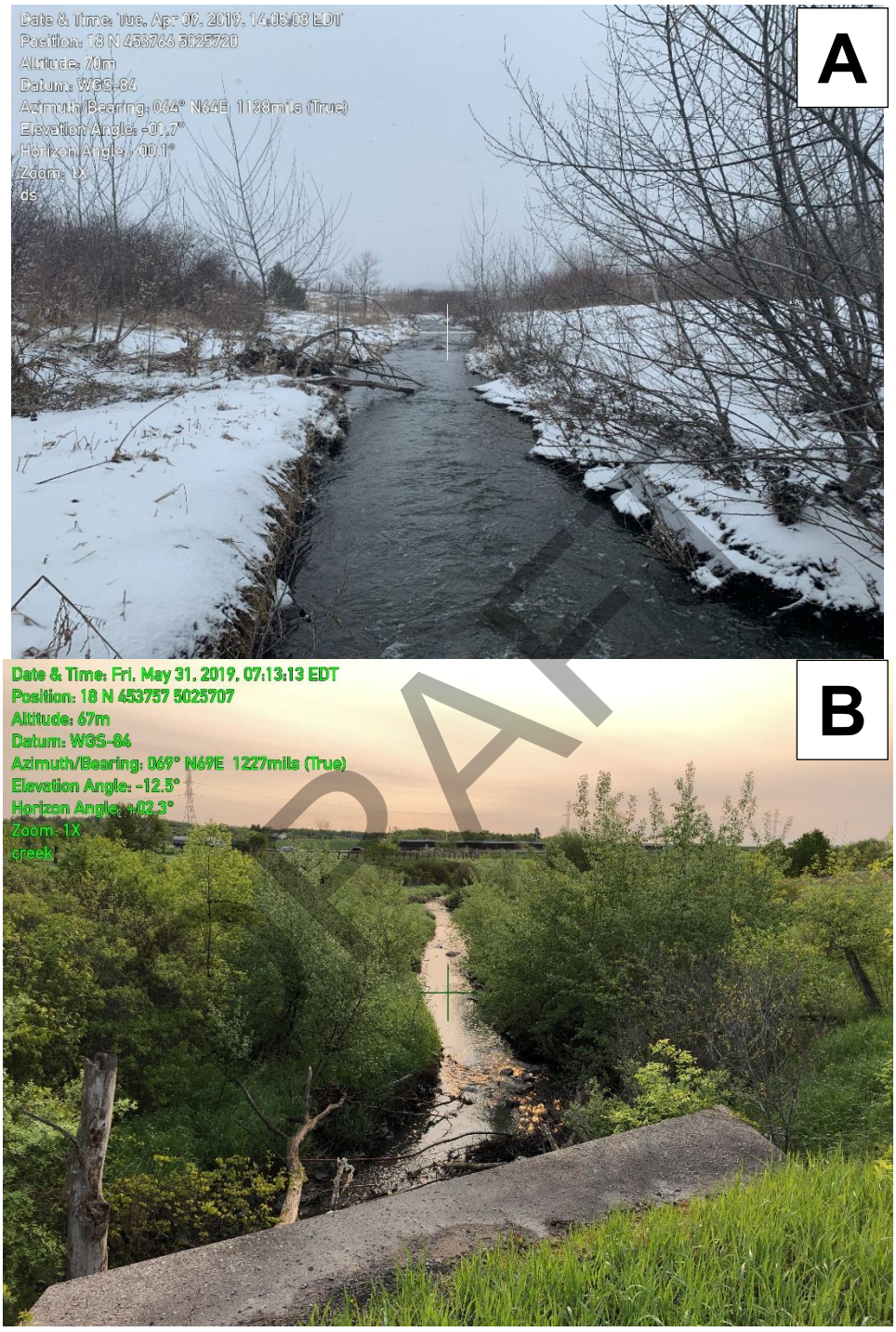


Figure 6 Photo showing Reach 1 looking downstream on (A) April 9 and (B) May 31, 2019

Reach 2 (Figure 7) is part of a ditch with a defined channel that was presumably constructed to capture stormwater runoff from Highway 417. It drains from north to south and connects with Reach 1 on the Site. Only a very small length of Reach 2 (~15 m) actually falls on the Site; most of it is outside of the

property line. There is a small check dam in Reach 2 upstream of where it crosses the Site, and further upstream, there is a small culvert where the feature then straightens out (running parallel to Highway 417) along the northeastern edge of the northern parcel. However, the portion of this reach northwest of the culvert was dry in the early spring and summer, and so only the wetted portion is considered in this report (i.e., the length in Table 2 reflects the length of the wetted portion of the feature during our first spring visit). Reach 2 had standing water in the spring and scattered patches of puddles in the summer that were intermittently connected by narrow trickles of interstitial flow. The channel has dense patches of cattails and Common Reed throughout. The substrate is cobble rock and the banks have rip-rap with some Willow and Buckthorn (*Rhamnus* spp.) shrubs scattered higher up on the banks. Lands to the west are fallow fields previously used for soybean crop and the Hunt Club Road off-ramp from Highway 417 is directly to the east.

Figure 7 Photo showing Reach 2 (taken from each bank near confluence with Reach 1) on April 9, 2019

5.4.2 Classification of Water Features

The purpose of this section of the report is to apply the appropriate classifications to the water features being assessed and identify the functions provided by these features. The individual/segmented classifications (hydrology, riparian, fish and fish habitat, terrestrial habitat) for each reach, as outlined in the following tables, are combined in Table 7 below to include the composite results based on the highest level of function observed in a reach.

Table 3 Hydrology classification of reaches on Site in 2019

Reach	Hydrology Classification				
	Assessment Periods	**Flow Conditions**	**Flow Classification**	**Comments/modifiers**	**Hydrological Function**
Reach 1	-April 9th, 2019 -May 31st, 2019 -July 10th, 2019	-Flowing water -Flowing water -Flowing water	Perennial	Flowing creek that is a headwater feature of Ramsay Creek.	**Important functions**
Reach 2	-April 9th, 2019 -May 31st, 2019 -July 10th, 2019	-Standing water -Scattered puddles connected by interstitial flow -Scattered puddles	Intermittent	Defined channel that was presumably constructed to capture stormwater runoff from the Hunt Club Road off-ramp from Highway 417.	**Valued functions**

Table 4 Riparian classification of reaches on Site in 2019

Reach	Riparian Classification			
	OSAP Description	**OSAP Riparian Code**	**ELC Code**	**Riparian Condition**
Reach 1	RUB – Scrubland LUB – Scrubland	RUB – 5 LUB - 5	Thicket (CUT)	**Important Functions**
Reach 2	RUB – Meadow LUB – Meadow	RUB – 4 LUB - 4	Meadow (CUM)	**Valued Functions**

Table Notes: RUB – Right upstream bank
LUB – Left upstream bank

Table 5 Fish and fish habitat classification of reaches on Site in 2019

Drainage Feature	Fish and Fish Habitat Classification		
	Fish Observation	**Fish and Fish Habitat Designation**	**Comments/modifiers**
Reach 1	Fish species likely to be present based on RVCA's Ramsay Creek 2013 Summary Report*: Bluegill, Bluntnose Minnow, Brassy Minnow, Brook Stickleback, Carps and Minnows, Central Mudminnow, Common Shiner, Creek Chub, *Etheostoma* spp., Fathead Minnow, *Lepomis* spp., Largemouth Bass, Longnose Dace, Logperch, Northern Redbelly Dace, Pumpkinseed, Rock Bass, Trout-Perch, and White Sucker. No species at risk (SAR) observed.	**Important Functions**	This reach provides suitable habitat for spawning/rearing, feeding, cover, refuge, and migration for several not-at-risk fish species and contributes to downstream habitat in Ramsay Creek.
Reach 2	Scattered puddles were too small to effectively electro-fish in the late spring and early	**Contributing Functions**	The downstream end of this reach (near its confluence with Reach 1) could be accessible to fish during the spring freshet

Drainage Feature	Fish and Fish Habitat Classification		
	Fish Observation	Fish and Fish Habitat Designation	Comments/modifiers
	summer. No fish were incidentally observed.		but is quickly reduced to isolated small puddles in the late spring. Reach 2 likely conveys some water and allochthonous material to downstream habitat in Reach 1.

Table Notes: Fish observation data shown for Reach 1 are those collected from RVCA's 2013 sampling site located just upstream of the confluence of Reach 1 and Ramsay Creek. Therefore, the data shown above for Reach 1 are representative of fish species that have a high potential of occurring in Reach 1. Note that electrofishing techniques were not employed since Reach 1, the only reach likely to support perennial fish habitat, is not to be altered under the proposed development plan. The HDF Guidelines only require a classification of fish and fish habitat if an alteration to a feature is proposed.

Table 6 terrestrial habitat classification of reaches on Site in 2019

Drainage Feature	Description	Amphibians*	Terrestrial Classification
Reach 1	Very small (<0.2 ha cumulatively) wetland areas within the corridor. There are no upstream forest or wetland features, thus the riparian zone does not provide a corridor connection.	No frogs were observed in the vicinity of the feature.	**Contributing Functions**
Reach 2	No adjacent wetland areas. No upstream forest or wetland features, thus the riparian zone does not provide a corridor connection.	No frogs were observed in the vicinity of the feature.	**Limited Functions**

Table 7 Summary of functional classification of reaches on Site in 2019

Drainage Feature	Hydrology Classification	Riparian Classification	Fish Habitat	Terrestrial Habitat
Reach 1	Important Functions	Important Functions	Important Functions	Contributing Functions
Reach 2	Valued Functions	Valued Functions	Contributing Functions	Limited Functions

5.5 Wildlife Surveys

5.5.1 Breeding Birds

Three rounds of morning breeding bird surveys were conducted on June 17, July 1, and July 10, 2019. One breeding bird survey station was established in a representative habitat on the Site (Figure 2). A summary of the weather conditions during the bird surveys are provides in Table 8.

Table 8 Summary of dates and weather conditions of morning breeding bird surveys, 2023

Date and Time	Cloud Cover (%)	Air Temperature (°C)	Wind (Beaufort Scale)	Precipitation
June 17, 2019 7:53 am	5	10	1	none
July 1, 2019 6:30 am	20	16	2	none
July 10, 2023 7:09 am	0-25	19	1	none

A total of 20 bird species were detected through vocalization and/or direct visual observations during morning breeding bird surveys and incidental observations (Table 9). The most commonly observed species during breeding bird surveys were Song Sparrow, Common Yellowthroat, and European Starling.

No listed at-risk bird species were observed during the morning breeding bird surveys.

Table 9 Breeding bird survey results

Common Name	Scientific Name	Date(s) Observed
American Crow	*Corvus brachyrhynchos*	2019-05-31
American Goldfinch	*Carduelis tristis*	2019-05-31; 2019-6-17; 2019-07-01
American Redstart	*Setophaga ruticilla*	2019-05-31
American Robin	*Turdus migratorus*	2019-07-01
Blue Jay	*Cyanocitta cristata*	2019-05-31
Cedar Waxwing	*Bombycilla cedrorum*	2019-07-01
Common Yellowthroat	*Geothlypis trichas*	2019-6-17; 2019-07-01
Eastern Phoebe	*Sayornis phoebe*	2019-07-01
European Starling	*Sturnus vulgaris*	2019-05-31; 2019-6-17; 2019-07-01
Gray Catbird	*Dumetella carolinensis*	2019-05-31; 2019-6-17; 2019-07-01
Killdeer	*Charadrius vociferus*	2019-07-01
Mallard	*Anas platyrhynchos*	2019-05-31
Mourning Dove	*Zenaida macroura*	2019-6-17
Ring-billed Gull	*Larus delawarensis*	2019-05-31; 2019-6-17
Rock Dove	*Columba livia*	2019-6-17; 2019-07-01
Red-winged Blackbird	*Agelaius phoeniceus*	2019-6-17; 2019-07-01
Savannah Sparrow	*Passerculus sandwichensis*	2019-6-17
Song Sparrow	*Melospiza melodia*	2019-05-31; 2019-6-17; 2019-07-01
Willow Flycatcher	*Empidonax traillii*	2019-6-17
Yellow Warbler	*Setophaga petechia*	2019-05-31; 2019-6-17; 2019-07-01

5.5.2 Anurans

Two Gray Tree Frogs (*Dryophytes versicolor*) were heard calling (calling Code 1) on June 7, 2019, within the upstream portion of Reach 1 on the west side of Russell Road. No frogs were heard or observed directly on the Site. Given the very low abundance of frogs (and other amphibians) on Site, the Site does not qualify as Significant Amphibian Breeding Habitat per the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015a).

5.5.3 Turtles

No turtles were observed on Site during any field visits. The only area on Site with some potential (albeit very low) for turtles to occur is within Reach 1 (Mather Award Drain) on the northern parcel. This tributary could potentially act as a travel corridor, but this is very unlikely given that the Site is bordered by a 400 highway, major roads, and industrial parks (travel barriers). The rocky/gravel substrate of this drain is not suitable for turtle overwintering. Regardless, this feature is not to be altered under the proposed development plan, thus retaining any travel corridor function it may provide

5.5.4 Bats

Based on our tree inventory, the Site contains several large dying/dead trees with snags, cavities, and/or peeling bark that may be suitable for bat roosting habitat. However, suitable trees are in low density and not in suitable forest forms. Note that habitats with the FOD (Deciduous Forest) ELC code are considered candidate Significant Wildlife Habitat for bat maternity colonies per MNRF (2011, 2015a). No FOD vegetation communities are present on the Site. As such, there is very low potential for maternity roosting colonies to occur in treed areas on Site.

5.6 Species at Risk

The initial desktop review of occurrence records species listed under SARA and ESA identify 41 species having potential to occur in the broader vicinity of the Site, including Extirpated, Endangered, Threatened, and Special Concern species (Appendix B).

Species listed as Extirpated, Endangered, and Threatened are afforded species and habitat protection under the ESA. Federal protections under SARA are also in force for listed species of fish and migratory birds. For species of other groups, SARA normally only applies on federal lands or on projects having some level of participation with or oversight by the federal government. However, SARA-based protections can be imposed by ministerial order on a case-by-case basis in situations where provincial-level protections are deemed inadequate to otherwise protect a species.

The SAR assessment for this EIS (Appendix B) evaluated whether the Site provides suitable habitat for SAR and whether SAR are likely to interact with future development of the Site. An assessment of the potential for SAR and their habitat was completed based on the results of the site visit and a desktop review that considered known species ranges, historic observation records, preferred habitat requirements of these species and general project considerations (e.g. intrinsic timing but not imposed mitigation measures).

Of the 41 SAR initially flagged for review, only 7 were considered to have greater than a “low” potential for interactions between proposed works on Site and listed individuals or their protected habitats: Eastern Red Bat (*Lasiurus borealis*), Eastern Small-footed Myotis (*Myotis leibii*), Hoary Bat (*Lasiurus cinereus*), Little Brown Myotis (*Myotis lucifugus*), Northern Long-eared Bat (*Myotis septentrionalis*), Silver-haired Bat (*Lasionycteris noctivagans*), Tri-colored Bat (*Perimyotis subflavus*), and Suckley’s Cuckoo Bumble Bee (*Bombus suckleyi*). The Site contains several large dying/dead snags that may be suitable for roosting habitat. However, suitable trees are in low density and not in suitable forest forms. Although the meadow on the Site may provide suitable habitat for Suckley’s Cuckoo Bumble Bee, no individuals were observed

during 2019 surveys, and the Site does not provide critical habitat relative to surrounding areas. As Such, the Site is not considered to support any SAR habitat.

Common Name	Taxonomic Name	ESA Status	SARA Status	Observed On Site	Assessed Potential for Future Project Interaction
Mammals					
Eastern Red Myotis	*Lasiurus borealis*	Endangered (January 2025)	Not Listed	No observations on site (targeted surveys not undertaken)	The Site contains several large dying/dead snags that may be suitable for roosting habitat. However, suitable trees are in low density and not in suitable forest forms. The Meadow on Site may provide suitable foraging habitat. Potential for project interaction is Low if work is completed outside the active period for bats.
Eastern Small-footed Myotis	*Myotis leibii*	Endangered	Not Listed		
Little Brown Myotis	*Myotis lucifugus*	Endangered	Endangered		
Hoary Bat	*Lasiurus cinereus*	Endangered (January 2025)	Not Listed		
Northern Myotis	*Myotis septentrionalis*	Endangered	Endangered		
Silver-haired Bat	*Lasionycteris noctivagans*	Endangered (January 2025)	Not Listed		
Tri-colored Bat	*Perimyotis subflavus*	Endangered	Endangered		
Arthropods					
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*	Endangered	No Status	Surveyed not required	Suckley's Cuckoo Bumble Bee is a habitat generalist. With no part of the Site more suitable than surrounding lands, the potential for occurrence directly on the Site is Low.

Two Barn Swallow (*Hirundo rustica*; Threatened under the Species at Risk Act) were observed foraging over fields on Site 3 in 2019 (Kilgour & Associates Ltd, 2020). However, these were observed on the broader Site 3 lands and not directly within the Site (Block E). Nonetheless, further surveys in 2021 did not observe Barn Swallow nest directly on the Site or in the vicinity of the Site (Kilgour & Associates Ltd, 2021). Similarly, three Bobolink (*Dolichonyx oryzivorus*; Threatened under the Species at Risk Act) were observed on Site 3 by NCC staff in the spring of 2019. Their presence was deemed transient as they were not observed during subsequent surveys in 2019 or 2020 (Kilgour & Associates Ltd, 2020, 2021). Site conditions in 2025 indicate increased shrub encroachment relative to 2021, further reducing the suitability of the Site for these hayfield-associated species.

5.7 Significant Natural Heritage Features

5.7.1 Significant Woodlands

The Site does not contain any Significant Woodlands based on the City of Ottawa's (2022c) Significant Woodland Policy, which defines Significant Woodlands within the urban boundary as any area 0.8 hectares in size or larger, supporting woodland 60 years of age and older at the time of evaluation. Although the Site contains several trees that are older than 40 years old (based on publicly available aerial imagery) and several specimen (large, high quality) trees, none of the treed areas individually make up 0.8 ha.

5.8 Significant Wildlife Habitat

The Significant Wildlife Habitat (SWH) Criteria Schedule for Ecoregion 6E (MNRF, 2015a) identifies four main types of significant wildlife habitat: seasonal concentration areas, rare vegetation communities, specialized habitat for wildlife and habitats of Species of Conservation Concern.

5.8.1 Seasonal Concentration Areas

The background information reviewed for the Site did not identify any seasonal concentration areas. No obvious signs or evidence of use as a seasonal concentration area were observed and none are likely to occur on the Site.

5.8.2 Rare Vegetation Communities or Specialized Habitat for Wildlife

Rare Vegetation Communities

Rare vegetation communities typically include those that have developed on cliff and talus slopes, sand barrens, shallow soils over limestone bedrock (alvar), old growth forests, savannahs, and tallgrass prairies.

No rare vegetation communities were observed on the Site.

Specialized Wildlife Habitat

Specialized Wildlife Habitat includes waterfowl nesting areas, Bald Eagle and Osprey nesting, foraging and perching habitat, woodland raptor nesting habitat, turtle nesting areas, seeps and springs, woodland amphibian breeding habitat, wetland breeding habitat, and woodland area-sensitive bird breeding habitat.

No Specialized Wildlife Habitats were identified or observed on the Site.

Habitats of Species of Conservation Concern

Habitats of Species of Conservation Concern include marsh bird breeding habitat, open country bird habitat, shrub/early successional bird breeding habitat, terrestrial crayfish and special concern and rare wildlife species. Habitats of Species of Conservation Concern do not include habitats of Endangered or Threatened species as identified by the ESA.

No habitats of species of conservation concern were identified or observed on the Site.

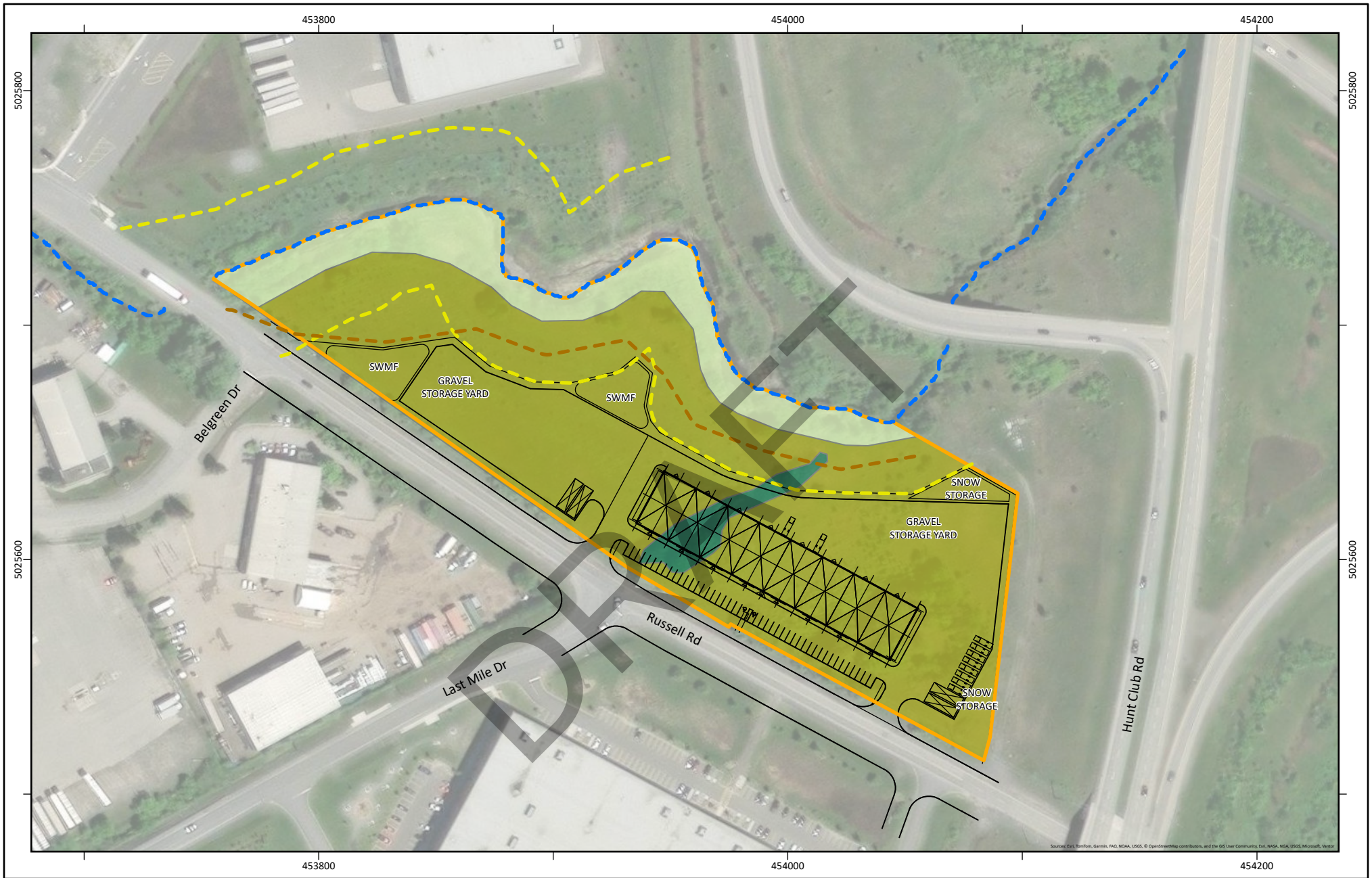
5.9 Other Natural Heritage Features

The Site does not contain significant wetlands, significant coastal wetlands, ANSIs (life/earth science), significant valleylands, greenspace linkages, or urban natural areas (UNAs). No other significant natural heritage features are located within 120 m of the Site.

6.0 DESCRIPTION OF THE PROPOSED PROJECT

The proposed NCBP is a business and industrial park intended to service the warehousing, data communications centers, distribution, and employment needs of the National Capital Region by providing over 100,000 m^2 of new build-to-suit office, warehouse, and industrial space on approximately 40 ha of urban land spanning 4120 and 4055 Russell Road. The NCBP is comprised of three phases: Site 1, Site 2, and Site 3 with subsection E (building E). Developments are planned and designed as a cohesive industrial park through urban design, landscape architecture, and architecture. Block E includes the construction of an industrial building and associated infrastructure.

The first stage of construction requires the regrading of the Site, requiring the removal of 212 trees, including 166 live trees and 46 dead trees (**Error! Reference source not found.**; **Error! Reference source not found.**). A total of 47 trees will be retained, that fall outside of the development areas. A 30 m watercourse setback will be maintained for the Mather Award Drain (Figure 8).



Legend

- Site Boundary (NCBP Block E - Building E)
- Mather Award Drain

Setbacks

- 30 m Watercourse Setback
- Hazard Land Limit

ELC

- CUM1-1
- CUT1
- THDM3-1

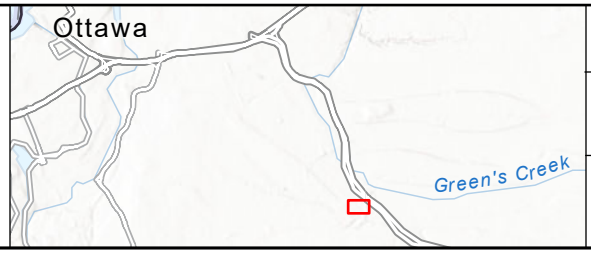


Figure 8. Proposed development plan of NCBP Block E (Building E)

0 20 40 80 m

N W E S

Spatial Reference:
PCS: WGS 1984 UTM Zone 18N
Map Units: Meter

Project: AVE 866.10
Map File Name: AVE866.10
Date Exported: 2/24/2026 2:35 PM

KILGOUR & Associates

7.0 IMPACT ASSESSMENT AND MITIGATION

7.1 Surface Water

The Mather Award Drain (Reach 1) will not be altered under the proposed development plan, and a 30 m setback will be respected. It is recommended that unvegetated areas within the 30 m setback lands are planted with suitable native vegetation to protect this water feature, provide filtration, shading, and habitat improvements along the drain corridor. Recommended native vegetation species are discussed in Section 6.2 below.

To protect the Mather Award Drain and other HDFs on-site and adjacent to the Site, its associated habitats, and the broader catchment area during future development of the Site, an erosion and sediment control (ESC) plan will be required and must be developed to the satisfaction of RVCA. The ESC plan should include:

- A multi-faceted approach to provide ESC;
- Silt fencing paired with sturdy construction fence along the project perimeter to protect adjacent habitats, and the Mather Award Drain. This fencing can also act as a wildlife exclusion measure for smaller and less mobile animals that may occupy or traverse through the Site, such as turtles, snakes, and amphibians;
- Regularly inspecting and maintaining the ESC measures during all phases of the project;
- Retention of existing vegetation and stabilization of exposed soils with native vegetation where possible;
- Keeping the ESC measures in place until all disturbed ground has been permanently stabilized;
- Using biodegradable ESC materials where possible and removing all exposed non-biodegradable ESC materials once the Site is stabilized;
- Limiting the duration of soil exposure and phasing project works;
- Limiting the size of disturbed areas by minimizing nonessential clearing and grading;
- Minimizing the total slope length and the gradient of disturbed areas;
- Refueling of machinery should occur >30 m from surface water features and all machinery will remain on the project-side of silt and construction fence;
- Maintaining overland sheet flow and avoiding concentrated flows;
- Storing/stockpiling materials >30 m away from the wetland and other surface water features;
- Fencing or tarping all stockpiled material (<150 millimeter gravel) during the turtle nesting period (late May to early July) (MECP, 2021a) to prevent turtles from nesting in stockpiles. If the stockpile is

within a properly fenced area (i.e., the project footprint) additional fencing is not necessary for turtle management, but is recommended for ESC if piles will be left unused for extended periods;

- Regularly inspecting the Site for signs of sedimentation during all phases of work and taking corrective action if required;
- Developing a response plan to be implemented immediately in the event of a spill of a deleterious substance;
- Keeping an emergency spill kit on the Site;
- Stopping work and containing deleterious substances to prevent dispersal; and
- Reporting any spills of sewage, oil, fuel, or other deleterious material whether near or directly into a surface water feature.

7.2 Vegetation/Trees

Tree compensation requirements are set out in Schedule B of the Tree Protection By-law (No. 2020-340). To offset vegetation loss, native tree and shrub species must be planted. Tree planting must follow the NCC's tree planting compensation ratio: plant three trees for every live tree removed with a DBH greater than or equal to 30 cm, plant two trees for every live tree removed with a DBH between 10 and 29 cm, and plant one tree for every dead tree removed. Based on this compensation requirement, 420 trees must be planted. If all of the compensation trees cannot be planted on Block E, they may be planted in other areas within the broader NCBP or on other lands owned by the NCC (e.g., potentially paired with off-site wetland compensation on the east side of Highway 417).

As discussed in Section 6.1 above, it is recommended that unvegetated areas within the 30 m setback lands of the Mather Award Drain are planted with suitable native vegetation to protect this water feature.

Landscaping and planting plans must be submitted to the NCC for review and approval. Marine clay soils are present on the Site. Tree planting should follow the guidelines provided in *Tree Planting in Sensitive Marine Clay Soils* (City of Ottawa, 2017) by using trees with low water demand and planting trees at a distance equivalent to the full mature height of a tree from a building or foundation structure. Tree and shrub species tolerant of fluctuating water regimes shall be planted within the shallow stormwater retention areas intended to provide redundancy to the rooftop stormwater detention system. Trees and shrubs may be proposed to be planted within the corridor of the Mather Award Drain to further stabilize the slope of the banks here and to improve the riparian area (to be determined in consultation with the City of Ottawa and RVCA). As such, there will be no net loss of canopy cover.

The following tree and shrub species are recommended for planting for Block E and should be used to direct the development of the landscape plan. The following species are appropriate given site conditions and are native and non-invasive: Alternate-leaf Dogwood (*Cornus alternifolia*), American Beech (*Fagus grandifolia*), Balsam Poplar (*Populus balsamifera*), Basswood (*Tilia americana*), Bitternut Hickory (*Carya cordiformis*), Black Cherry (*Prunus serotina*), Black Walnut (*Juglans nigra*), Bur Oak (*Quercus macrocarpa*), Chokecherry (*Prunus virginiana*), Eastern White Cedar (*Thuja occidentalis*), Eastern White Pine (*Pinus strobus*), Hawthorns

(*Crataegus* sp.), Ironwood (*Ostrya virginiana*), Largetooth Aspen (*Populus grandidentata*), Peachleaf Willow (*Salix amygdaloides*), Red Maple (*Acer rubrum*), Red Oak (*Quercus rubra*), Serviceberries (*Amelanchier* spp.), Silver Maple (*Acer saccharinum*), Speckled Alder (*Alnus incana*), Sugar Maple (*Acer saccharum*), Tamarack (*Larix laricina*), Trembling Aspen (*Populus tremuloides*), White Birch (*Betula papyrifera*), and White Oak (*Quercus alba*). The final selection of trees within the landscape plan for the project, however, must be in compliance with the City of Ottawa's Clay Soils Policy.

The following mitigation measures must be applied during site preparation and construction:

- A landscape plan must be designed to meet the requirements of the City Forester.
- Tree removal on Block E should be limited to that which is necessary to accommodate construction.
- Tree and vegetation clearing will not take place during sensitive times of the year for wildlife (breeding season; early spring throughout summer) unless mitigation measures are implemented and/or the habitat has been inspected by a qualified Biologist.
    - The *Migratory Birds Convention Act* (1994) protects the nests and young of migratory breeding birds in Canada. The NCC recognizes April 1 to August 31 as the breeding bird period for the Ottawa area (KAL personal communication with the NCC (T. Zukerman), February 5, 2020). Combining the breeding bird window with the bat roosting season (March 15 to November 30; MECP, 2026), no clearing of vegetation shall occur between March 15 and November 30 inclusive to prevent impacts to both birds and bats, unless a qualified Biologist has determined that no nesting/roosting is occurring within 24 hours prior to the clearing.
- To minimize impacts to remaining trees during development:
    - Erect a fence beyond the critical root zone (CRZ; equivalent to ten times the diameter of trunk) of retained trees. This can be achieved in conjunction with the site perimeter fence. The fence should be highly visible (orange construction fence) and paired with erosion and sediment control fencing. Pruning of branches is recommended in areas of potential conflict with construction equipment;
    - Signage attached to the CRZ fence every 6.0 m indicating:
        a) The fencing is to protect the trees CRZ; and
        b) That the fence is not to be moved.
    - Do not place any material or equipment within the CRZ of trees;
    - Do not attach any signs, notices, or posters to any trees;
    - Do not raise or lower the existing grade within the CRZ of trees;
    - Do not extend any hard surface or significantly change landscaping within the CRZ of trees;

- Do not damage the root system, trunk, or branches of any remaining trees;
- Use tunneling or boring when digging within the CRZ of a tree; and
- Ensure that exhaust fumes from equipment are not directed towards any tree's canopy.

7.3 Species at Risk

The SAR review in Section 5.4 identified the Site as having low potential to support SAR. Site studies and observations from 2025 continue to be supportive of this assessment, given that no habitat changes have occurred since the faunal surveys were last completed in 2021. Nonetheless, targeted breeding bird and bat surveys are now out of date; additional wildlife surveys will be conducted to reassess the potential for at-risk bats and birds to interact directly with the proposed project. Surveys for these groups are to be conducted in 2026.

7.4 General Wildlife Mitigation

The following mitigation measures shall be implemented during future construction to generally protect wildlife and potential SWH areas:

- Areas shall not be altered or cleared during sensitive times of year for wildlife unless mitigation measures are implemented and/or the habitat has been inspected by a qualified Biologist;
    - Clearing of trees and/or vegetation should not take place March 15 to November 30 inclusive unless a qualified Biologist has determined that no birds are nesting or suitable bat roosting trees are present. The bird nest sweep would be valid for five days:
        - The MBCA protects the nests and young of migratory breeding birds in Canada. The timing of nesting for birds in the area spans April 1 to August 31 (Government of Canada, 1994);
        - As acoustic bat surveys were not completed, it is recommended that surveys be undertaken in 2026 to confirm the presence or absence of SAR bats and their habitat on Site. To eliminate and mitigate any possibility of impacts to at-risk bats directly, tree clearing is recommended to take place outside of the roosting season (March 15 to November 30 inclusive; MECP, 2026).
- Temporary exclusion fence should be installed prior to the turtle active season (April through October) (MECP, 2021a) and should follow recommendations in Reptile and Amphibian Exclusion Fencing: Best Practices (MECP, 2021b). Temporary exclusion fence (e.g., silt fence) may be paired with ESC measures and should be installed along the perimeter of the project area. Temporary exclusion measures should be inspected and repaired weekly by a qualified biologist during the turtle active season;
- Develop an ESC plan. Install sediment control fence and inspect/maintain it periodically and after each rain event to ensure its integrity and continued function;

- Ensure that a qualified biologist develops a wildlife management plan for the construction process and delivers environmental compliance and biodiversity training to all site workers to implement the plan. The plan should include (but not be limited to) requirements to:

    - Utilize silt fence paired with sturdy construction fence along the project perimeter and around soil stockpiles to serve as a wildlife exclusion measure to prevent smaller animals from accessing/utilizing temporary habitats on the Site (e.g., prevent turtles from nesting in stockpiles on the Site);

    - Check the entire work site for wildlife prior to beginning work each day;

    - Do not harm, feed, or unnecessarily harass wildlife;

    - Manage waste to prevent attracting wildlife to the work site. Effective mitigation measures include litter prevention and keeping all trash secured in wildlife-proof containers and promptly removing it from the work site, especially during warm weather;

    - Enforce a speed limit of 20 km/h during the active season (April 1 to September 30) to reduce wildlife mortality; and

    - Manage stockpiles and equipment at the work site to prevent wildlife from being attracted to artificial habitat. Cover and contain any piles of soil, fill, brush, rocks, and other loose materials and cap ends of pipes where necessary to keep wildlife out. Ensure that trailers, bins, boxes, and vacant buildings are secured at the end of each workday to prevent access by wildlife.

8.0 CONCLUSION AND RECOMMENDATIONS

This report provides a series of initial mitigation measures and recommendations for implementation in the design and management of the proposed development. Our assessment within this report regarding the potential for impacts to the natural heritage system is based on the recommendations detailed in the 2020 EIS (KAL, 2020), and the implementation of these mitigation measures.

It is recommended that targeted field studies, including breeding bird surveys, acoustic bat monitoring, and an updated Ecological Land Classification, be undertaken in spring and summer 2026 to understand existing site conditions, confirm or deny the presence of natural heritage features, species at risk, and candidate SWH on the Site. The updated EIS will provide mitigation measures and recommendations for the construction and management of the proposed development as appropriate.

9.0 CLOSURE

This is a draft report and has been prepared only for internal review by Kilgour & Associates Ltd. and the Client. Kilgour & Associates Ltd. assumes no liability for use of the contents of this report by the Client or by third parties.

Respectfully submitted,

KILGOUR & ASSOCIATES LTD.

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Appendix A Qualifications of Report Authors

Véronique Landriault, MSc

Véronique is a Biologist with over four years of experience in aquatic and terrestrial sciences. She holds an undergraduate degree in Environmental with Honours from the University of Ottawa and Master of Science in Physical Geography from Queen's University. Véronique has two years of environmental consulting experience, supporting a wide range of development projects across Ontario. She has conducted field investigations and contributed to technical report writing for Environmental Impact Statements (EIS), Environmental Constraints Reports (ECR), Headwater Drainage Feature Assessments (HDFA), tree inventories and surveys, vegetation community assessments, and Species at Risk (SAR) monitoring programs. Her aquatic experience includes conducting fish community and benthic invertebrate surveys in the Ottawa region and Northern Ontario in support of environmental monitoring and impact assessments. In addition to fieldwork and reporting, Véronique conducts spatial analysis and mapping using GIS to support environmental assessments and natural heritage evaluations.

Maren Nielsen, BES, EMA

Maren is a Biologist and Project Manager with over five years of professional experience with expertise in terrestrial and aquatic ecology, natural heritage policy, and impact assessment. She has worked extensively in the environmental sector with government agencies and private industry, guiding land development, ecological restoration, Species at Risk, and fisheries permitting and approvals processes, delivering adaptive solutions and ensuring compliance with key environmental regulations. She carries out field programs for the collection, analysis, and monitoring of water, fish, benthos, sediment, and soils as well as a variety of vegetation, wetland, Species at Risk, and wildlife surveys, and construction monitoring.

Since joining Kilgour & Associates Ltd. in 2023, Maren has supported the delivery of high-quality assessments, including environmental impact studies, federal and municipal environmental assessments, Species at Risk assessments, headwater drainage feature assessments, community design plans and environmental constraints analyses. Maren is a certified wetland evaluator under the Ontario Wetland Evaluation System (OWES).

Anthony Francis, PhD

Dr. Francis is a Senior Ecologist with 20 years' consulting experience to both government agencies and private industry. He has worked on a diversity of projects relating to species at risk (SAR), invasive species, terrestrial and aquatic habitat, environmental effects monitoring and mitigation, and fate/effects of contaminants. Within each of these subject areas, Dr. Francis has completed projects addressing specific site concerns and broader policy initiatives. Dr. Francis' academic background is in spatial ecology with a focus on tree species diversity. As a Senior Ecologist at KAL, he regularly completes TCRs, Environmental Impact Statements, and Integrated Environmental Reviews for land development projects throughout Ottawa and eastern Ontario. He is also a certified Butternut Health Assessor (BHA #104).

Appendix B Species at Risk Assessment

Species Name (*Taxonomic Name*)	Status under *Endangered Species Act* (ESA)	Status under Schedule 1 of the *Species at Risk Act* (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements[1]		Potential for Negative Interactions with Protected Elements[2]
						Habitat	Individuals	
Birds								
Bank Swallow (*Riparia riparia*)	**Threatened**	**Threatened**	Cornell Lab of Ornithology (2023) – 3.3 km of Site in 2023	Colonial nester; burrows in eroding silt or sand banks, sand pit walls, and human-made sand piles. Often found on banks of rivers and lakes.	Open fallow fields across the Site (CUM1-1) may provide suitable foraging habitat. No available nesting habitat on Site. The banks of Ramsay Creek may provide nesting habitat (<1 km away).	Low	Low	Low
Barn Swallow (*Hirundo rustica*)	**Special Concern**	**Threatened**	Cornell Lab of Ornithology (2023) – 300 m of Site in 2025	Nests on barns and other structures. Forages in open areas for flying insects. Lives in close association with humans and prefers to nest on structures such as open barns, under bridges, and in culverts.	Open fallow fields across the Site (CUM1-1) may provide suitable habitat.	Low	Low	Low: This species was not observed on Site during targeted bird surveys in 2019.
Black Tern (*Chlidonias niger*)	**Special Concern**	**Not at Risk**	Cornell Lab of Ornithology (2023) – 3.1 km of Site in 1994	Build floating nests in loose colonies in shallow marshes with abundant emergent vegetation, especially in cattails.	The Site does not provide suitable wetland habitat.	Negligible	Negligible	Negligible
Bobolink (*Dolichonyx oryzivorus*)	**Threatened**	**Threatened**	Cornell Lab of Ornithology (2023) – 650 m of Site in 2024	Breeds in hayfields, pastures, agricultural fields, and abandoned fields with tall grass that are ≥5 ha, and preferably >30 ha.	Open fallow fields across the Site (CUM1-1) may provide suitable nesting and foraging habitat, though the habitat is marginal at best.	Low	Low	Low: Three Bobolink were observed by NCC Biologists on May 16th, 2019. No Bobolink were observed during KAL's three rounds of breeding bird surveys in 2019. As such, the individuals observed by NCC Biologists were likely just passing through on their way to better habitat as it was relatively early in the breeding season during a late spring (Bobolink in the area were likely establishing territories and breeding later than 'normal' in 2019). Given their transient presence, we can confidently conclude that Bobolink were not using the Site as breeding or nesting habitat in 2019. However, it is still not impossible that a nest could occur in the fallow fields.

Species Name (*Taxonomic Name*)	Status under *Endangered Species Act* (ESA)	Status under Schedule 1 of the *Species at Risk Act* (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements[1]		Potential for Negative Interactions with Protected Elements[2]
						Habitat	Individuals	
Chimney Swift (*Chaetura pelagica*)	**Threatened**	**Threatened**	Cornell Lab of Ornithology (2023) – 500 m of Site in 2023	Nests in traditional-style open brick chimneys (and rarely in hollow trees). Tends to stay close to water.	The Site does not provide suitable habitat.	Negligible	Negligible	Negligible: This species was not observed during targeted bird surveys in 2019.
Common Nighthawk (*Chordeiles minor*)	**Special Concern**	**Threatened**	Cornell Lab of Ornithology (2023) – 2 km of Site in 2024	Nests in a wide variety of open sites, including beaches, fields, and gravel rooftops with little to no ground vegetation. They also nest in cultivated fields, orchards, urban parks, mine tailings and along gravel roads/railways but tend to occupy more natural sites.	The Site does not provide suitable habitat.	Negligible	Negligible	Negligible
Eastern Meadowlark (*Sturnella magna*)	**Threatened**	**Threatened**	Cornell Lab of Ornithology (2023) – 750 m of Site in 2023	Breeds in hayfields, pastures, agricultural fields, and abandoned fields with tall grass that are ≥5 ha, and preferably >30 ha.	Open fallow fields across the Site (CUM1-1) may provide suitable nesting and foraging habitat, though the habitat is marginal at best. This species was not observed during targeted bird surveys in 2019.	Low	Low	Low: This species was not observed during targeted bird surveys in 2019.
Eastern Whip-poor-will (*Antrostomus vociferus*)	**Threatened**	**Threatened**	Cornell Lab of Ornithology (2023) – 1.2 km of Site in 1972	Suitable breeding habitats generally include open and half treed areas and often exhibit a scattered distribution of treed and open space. Lays eggs directly on the forest floor. Roosts are typically located in forest habitat on a low branch or directly on the ground. Home range size varies from 20 to 500 ha (mean 136 ha) (ECCC, 2018a).	The Site does not provide suitable habitat.	Negligible	Negligible	Negligible
Eastern Wood-Pewee (*Contopus virens*)	**Special Concern**	**Special Concern**	Cornell Lab of Ornithology (2023) – 550 m of Site in 2025	Woodland species often found in the mid-canopy layer near clearings and edges of intermediate age and mature deciduous and mixed forests with little understory.	The Site does not provide suitable habitat.	Negligible	Negligible	Negligible
Evening Grosbeak (*Coccothraustes vespertinus*)	**Special Concern**	**Special Concern**	Cornell Lab of Ornithology (2023) – 2 km of Site in 2025	Nests in trees or large shrubs. Prefers mature coniferous forests (fir and/or spruce dominated), but will also use deciduous forests, parklands, and orchards. Its abundance is	The Site does not provide suitable habitat.	Negligible	Negligible	Negligible

Species Name (*Taxonomic Name*)	Status under *Endangered Species Act* (ESA)	Status under Schedule 1 of the *Species at Risk Act* (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements[1]		Potential for Negative Interactions with Protected Elements[2]
						Habitat	Individuals	
				strongly linked to the cycle of Spruce Budworm.				
Golden Eagle (*Aquila chrysaetos*)	**Endangered**	**Not at Risk**	Cornell Lab of Ornithology (2023) – 3.1 km of Site in 2024	Nests in remote, undisturbed areas, usually building their nests on ledges on a steep cliff/riverbank or large trees if needed. Most hunting is done near open areas such as large bogs or tundra. Migration only; no reported nests in Ottawa.	The Site does not provide suitable habitat.	Negligible	Negligible	Negligible
Golden-winged Warbler (*Vermivora chrysoptera*)	**Special Concern**	**Threatened**	Cornell Lab of Ornithology (2023) – 1.1 km of Site in 2023	Ground-nests in areas of young shrubs surrounded by mature forest. Often found in areas that have recently been disturbed such as field edges, hydro or utility right-of-ways, or logged areas. Requires >10 ha of habitat (OMNR, 2000).	The Site does not provide suitable habitat.	Negligible	Negligible	Negligible
Grasshopper Sparrow (*Ammodramus savannarum*)	**Special Concern**	**Special Concern**	Cornell Lab of Ornithology (2023) – 1.7 km of Site in 2012	Lives in open grassland areas with well-drained sandy soil. Will also nest in hayfields and pastures, as well as alvars, prairies, and occasionally grain crops such as barley. It prefers areas that are sparsely vegetated, and its nests are well hidden in the field, woven from grasses in a small cup-like shape.	Open fallow fields across the Site (CUM1-1) may provide suitable foraging habitat.	Low	Low	Low: This species was not observed during targeted bird surveys in 2019.
Henslow's Sparrow (*Ammodramus henslowii*)	**Endangered**	**Endangered**	Cornell Lab of Ornithology (2023) – 4.3 km of Site in 1980	Prefers poorly drained grasslands with tall, dense grass where it can easily conceal its small ground nest. Tends to avoid fields that have been grazed or are crowded with trees and shrubs. Prefer ≥50 ha areas, but can inhabit ≥5 ha.	Breeding was not reported in eastern Ontario during the second (most recent) OBBA from 2001 to 2005 (Birds Canada et al., 2009).	Negligible	Negligible	Negligible
Least Bittern (*Ixobrychus exilis*)	**Threatened**	**Threatened**	Cornell Lab of Ornithology (2023) – 3.1 km of Site in 2017	Found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels. They prefer larger marshes >5 ha in size and are intolerant of loss of habitat and human disturbance (OMNR, 2000).	The Site does not provide suitable wetland habitat.	Negligible	Negligible	Negligible

Species Name (*Taxonomic Name*)	Status under *Endangered Species Act* (ESA)	Status under Schedule 1 of the *Species at Risk Act* (SARA)	Closest Species Occurrence Record to the Site	General Habitat Requirements	Site Suitability	Potential for Protected Elements[1]		Potential for Negative Interactions with Protected Elements[2]
						Habitat	Individuals	
Lesser Yellowlegs (*Tringa flavipes*)	**Threatened**	**No Status**	Cornell Lab of Ornithology (2023) – 300 m of Site in 2018	Breeds in boreal wetlands. Nests on dry ground or forest openings near peatlands, marshes, and ponds in the boreal forest and taiga (Government of Canada, 2021). Migrant only; nests in far north.	The Site does not provide suitable wetland habitat.	Negligible	Negligible	Negligible
Loggerhead Shrike (*Lanius ludovicianus*)	**Endangered**	**Endangered**	Cornell Lab of Ornithology (2023) – 3.1 km of Site in 1970	Prefers grazed pastures or other grasslands with scattered low trees and shrubs, especially hawthorns. Lives in fields or alvars (areas of exposed bedrock) with short grass, which makes it easier to spot prey.	Open fallow fields across the Site (CUM1-1) may provide suitable foraging habitat.	Low	Low	Low: This species was not observed during targeted bird surveys in 2019.
Olive-sided Flycatcher (*Contopus cooperi*)	**Special Concern**	**Threatened**	Cornell Lab of Ornithology (2023) – 2 km of Site in 2024	Found along coniferous or mixed forest edges and openings. Will use forests that have been logged or burned if there are ample tall snags and trees to use for foraging perches.	The Site does not provide suitable forested habitat.	Negligible	Negligible	Negligible
Peregrine Falcon (*Falco peregrinus*)	**Special Concern**	**Special Concern**	Cornell Lab of Ornithology (2023) – 3.1 km of Site in 2025	Nests on tall, steep cliff ledges close to large bodies of water. Urban peregrines raise their young on ledges of tall buildings, even in busy downtown areas.	The Site does not provide suitable habitat.	Negligible	Negligible	Negligible
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	**Endangered**	**Endangered**	Cornell Lab of Ornithology (2023) – 1.2 km of Site in 2019	Lives in open woodland and woodland edges and is often found in parks, golf courses, and cemeteries. These areas typically have many dead trees, which the birds use for nesting and perching.	The Site does not provide suitable forested habitat.	Negligible	Negligible	Negligible
Rusty Blackbird (*Euphagus carolinus*)	**Special Concern**	**Special Concern**	Cornell Lab of Ornithology (2023) – 300 m of Site in 2025	Prefers wet wooded or shrubby areas. Nests at edges of boreal wetlands and coniferous forests. These areas include bogs, marshes, and beaver ponds.	The Site does not provide suitable forested habitat.	Negligible	Negligible	Negligible
Short-eared Owl (*Asio flammeus*)	**Threatened**	**Special Concern**	Cornell Lab of Ornithology (2023) – 2.2 km of Site in 1975	Prefer a mosaic of grasslands and wetlands. Lives in open areas such as grasslands, marshes, and tundra where it nests on the ground and hunts for small mammals (Environment Canada, 2016c).	The Site does not provide suitable wetland habitat.	Negligible	Negligible	Negligible
Wood Thrush (*Hylocichla mustelina*)	**Special Concern**	**Threatened**	Cornell Lab of Ornithology (2023) – 300 m of Site in 2024	Lives in mature deciduous and mixed forests. They seek moist stands of trees with well-developed undergrowth and tall trees for singing and perching. Prefers nesting in large forest mosaics, but will also use	The Site does not provide suitable forested habitat.	Negligible	Negligible	Negligible

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						Habitat	Individuals	
				fragmented forests. Usually build nests in Sugar Maple or American Beech.				
Yellow Rail (*Coturnicops noveboracensis*)	**Special Concern**	**Special Concern**	Cornell Lab of Ornithology (2023) – 3 km of Site in 1970	Lives deep in the reeds, sedges, and marshes of shallow wetlands, where they nest on the ground. The marshy areas used by Yellow Rails have an overlying dry mat of dead vegetation that is used to make roofs for nests.	The Site does not provide suitable wetland habitat.	Negligible	Negligible	Negligible
Mammals								
Eastern Red Bat (*Lasiurus borealis*)	**Endangered**	**No Status**	COSEWIC (2023) – in region	During the day they roost in the foliage of trees and occasionally shrubs in deciduous and coniferous forests of any age class.	Tree clusters on the Site may provide suitable habitat.	Moderate	Moderate	Moderate
Eastern Small-footed Myotis (*Myotis leibii*)	**Endangered**	**No Status**	Humphrey (2017) – in region	In the spring and summer, Eastern Small-footed Myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. Overwinters in caves and abandoned mines.	Tree clusters on the Site may provide suitable habitat.	Moderate	Moderate	Moderate
Hoary Bat (*Lasiurus cinereus*)	**Endangered (January 2025)**	**No Status**	COSEWIC (2023) – in region	Typically roost among foliage, selecting areas that have overhead foliage for cover and open flight space below. Use both deciduous and coniferous forests of any age class. Maternity roosts tend to be in large diameter, tall trees	Tree clusters on the Site may provide suitable habitat.	Moderate	Moderate	Moderate
Little Brown Myotis (*Myotis lucifugus*)	**Endangered**	**Endangered**	Humphrey and Fotherby (2019) – in region	During the day they roost in trees and buildings. They often select attics, abandoned buildings, and barns for summer colonies where they can raise their young. They can squeeze through very tiny spaces (as small as six millimetres across) allowing them access to many different roosting areas.	Tree clusters on the Site may provide suitable habitat.	Moderate	Moderate	Moderate

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						Habitat	Individuals	
Northern Myotis / Northern Long-eared Bat (*Myotis septentrionalis*)	**Endangered**	**Endangered**	Humphrey and Fotherby (2019) – in region	Associated with deciduous and mixed forests, choosing to roost under loose bark and in the cavities of trees. They forage along and within forests as well as in hayfields and pastures adjacent to mixed forests.	Tree clusters on the Site may provide suitable habitat.	Moderate	Moderate	Moderate
Silver-haired Bat (*Lasionycteris noctivagans*)	**Endangered (January 2025)**	**No Status**	COSEWIC (2023) – in region	Typically roost under bark and in tree cavities, typically in large, decaying coniferous and deciduous trees. May roost in or on buildings.	Tree clusters on the Site may provide suitable habitat.	Moderate	Moderate	Moderate
Tri-colored Bat / Eastern Pipistrelle (*Perimyotis subflavus*)	**Endangered**	**Endangered**	Humphrey and Fotherby (2019) – in region	Roosts mainly in trees during summer; overwinters in caves and mines along with other species, but often uses deeper parts of the hibernaculum. Foraging occurs in forested riparian areas, over water, and within gaps in forest canopies.	Tree clusters on the Site may provide suitable habitat.	Moderate	Moderate	Moderate
Amphibians								
Western Chorus Frog (*Pseudacris triseriata*)	**Not Listed**	Great Lakes/ St. Lawrence population: **Threatened**	Ontario Nature (2019) - Within 10 km of Site	Inhabits forest openings around woodland ponds but can also be found in or near damp meadows, marshes, bottomland swamps, and temporary ponds in open country, or even urban areas.	The Mather Award Drain on the Site could provide suitable habitat.	Low	Low	Low: This specie was not observed on the Site with targeted anuran surveys.
Reptiles								
Blanding's Turtle (*Emydoidea blandingii*)	**Threatened**	**Endangered**	Ontario Nature (2019) – 1.7 km of Site in 2022	Quiet lakes, streams, and wetlands with abundant emergent vegetation. Also frequently occurs in adjacent upland forests.	The Mather Award Drain on the Site could provide suitable habitat.	Low	Low	Low: Reach 1 (Mather Award Drain) may act as a travel corridor, but this is unlikely given that the Site is bordered by highway 417, major roads, and industrial parks (travel barriers). Reach 1 also has a cobble/rocky bottom unsuitable for turtle overwintering. This species was not observed during targeted turtle surveys in 2019.
Midland Painted Turtle (*Chrysemys picta marginata*)	**Not Listed**	**Special Concern**	Ontario Nature (2019) – 2.5 km of Site in 2020	Inhabits waterbodies, such as ponds, marshes, lakes, and slow-moving creeks that have a soft bottom and provide abundant basking sites and	The Mather Award Drain on the Site could provide suitable habitat.	Low	Low	Low: Reach 1 (Mather Award Drain) may act as a travel corridor, but this is unlikely given that the Site is bordered by

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						Habitat	Individuals	
				aquatic vegetation. Often bask on shorelines or on logs and rocks that protrude from the water.				highway 417, major roads, and industrial parks. This tributary also has a cobble/rocky bottom unsuitable for turtle overwintering. This species was not observed during targeted turtle surveys in 2019.
Snapping Turtle (*Chelydra serpentina*)	**Special Concern**	**Special Concern**	Ontario Nature (2019) – 1.8 km of Site in 2022	Spend most of their lives in the water. Prefer shallow waters so they can hide under the soft mud and leaf litter with only their noses exposed to the surface to breathe.	The Mather Award Drain on the Site could provide suitable habitat.	Low	Low	Low: Reach 1 (Mather Award Drain) may act as a travel corridor, but this is unlikely given that the Site is bordered by highway 417, major roads, and industrial parks. This tributary also has a cobble/rocky bottom unsuitable for turtle overwintering. This species was not observed during targeted turtle surveys in 2019.
Arthropods								
American Bumble Bee (*Bombus pensylvanicus*)	**Special Concern**	**No Status**	COSEWIC (2018) – in region	Habitat generalist. Requires a variety of habitat throughout it's life stages. Often found in or adjacent to open fields and meadows, grasslands, farmlands, and other undisturbed open habitats (Government of Canada, 2019).	Fields and meadows on Site could provide suitable habitat	Moderate	Moderate	Moderate
Monarch (*Danaus plexippus*)	**Special Concern**	**Special Concern**	Ontario Nature (2019) – 1.1 km of Site in 2024	Milkweeds are the sole food plant for Monarch caterpillars. These plants predominantly grow in open and periodically disturbed habitats such as roadsides, fields, wetlands, prairies, and open forests.	The Site does not provide suitable habitat due to the lack of Milkweed present.	Low	Low	Low
Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*)	**Endangered**	**No Status**	COSEWIC (2019) – in region	Habitat generalist. Host nests occur in meadows, old fields, farmlands, croplands, urban areas, and woodlands (COSEWIC, 2019).	Fields and meadows on Site could provide suitable habitat	Moderate	Moderate	Moderate

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						Habitat	Individuals	
Yellow-banded Bumble Bee (*Bombus terricola*)	**Special Concern**	**Special Concern**	ECCC (2022) – in region	This species is a forage and habitat generalist, able to use a variety of nectaring plants and environmental conditions. Can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands, and urban areas.	Fields and meadows on Site could provide suitable habitat	Moderate	Moderate	Moderate
Vascular Plants								
Black Ash (*Fraxinus nigra*)	**Endangered**	**No Status**	MNRF (2023a) - Within 5 km of Site	Predominantly a wetland species found in swamps, floodplains, and fens.	No Black Ash were observed on the Site with targeted surveys.	None	None	None
Butternut (*Juglans cinerea*)	**Endangered**	**Endangered**	Ontario Nature (2019) – 1.6 km of Site in 2020	Commonly found in riparian habitats but is also found on rich, moist, well-drained loams and well-drained gravels, especially those of limestone origin.	No Butternut were observed on the Site with targeted surveys.	None	None	None

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1 The potential for occurrence of protected habitats and individuals within the project area is estimated based on the following considerations:

	Habitat	Individuals
None	It is not possible for the habitat of the species to occur in proximity to the project site	The species is documented as no longer occurring in the ecoregion or could not occur in proximity to the project area.
Negligible	The usage of the project site as habitat is possible but would be highly unlikely/unusual.	Transient occurrence near the project area is possible but is very unlikely.
Low	The project site includes areas that could be used by the species as habitat, but such usage is considered unlikely given the quality of the feature, a lack of individuals in the broader area, or other (relative) site considerations.	Transient occurrence near the project area possible, but the species would be unlikely to use or require the area.
Moderate	The project site includes areas that could reasonably be expected to provide confirmed or defined habitat within a time frame relevant to the project.	The species occurs in the vicinity and could actively use the site, or transient occurrence should be anticipated.
High	The project site includes areas confirmed to actively provide habitat or to constitute habitat based on official habitat description guidance documents.	The species is confirmed as present on, and actively using the site.

2 The potential for negative project interaction with species and/or their habitat is estimated considering both the likelihood of presence and the general details of the project (e.g., timing, extent), and following the definitions below. If the potential differs for habitat and individuals, the higher value is reported, unless otherwise justified

	Habitat	Individuals
None	It is not possible for the species to occupy the site area due to access barriers.	The species is documented as no longer occurring in the ecoregion
Negligible	Negligible habitat potential, or low habitat potential and the project would not be anticipated to alter the habitat.	Negligible occurrence potential for presence, or absence during the entire span of the project.
Low	Low habitat potential, or medium habitat potential and the project would not be anticipated to alter the habitat.	Low occurrence potential for presence, or the project design excludes individuals in a non-harassing manner by default.
Moderate	Medium habitat potential, or high habitat potential and the project would not be anticipated to alter the habitat (as expressed by MECP).	Medium occurrence potential for presence, or the project design excludes individuals in accordance with agency guidelines/directives by default (i.e., outside of mitigation measures prescribed in this report).

High	The project area will alter identified habitat.	The project will interact with individuals.