11034936 Canada Inc.

ENVIRONMENTAL IMPACT STUDY UPDATE

100 STEACIE DRIVE, OTTAWA, ONTARIO

CIMA+

CIMA+ file number: A001489
July 11, 2025 – Review 002

11034936 Canada Inc.

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100 STEACIE DRIVE, OTTAWA, ONTARIO

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Confidentiality and ownership

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Review and submission register			
Review No.	**Reviewed by**	**Date**	**Description of the change or submission**
001	AS, SDL, ML	10-07-2024	Updated with 2024 data and to address City comments Phase 2
002	AS, AQ, ML	11-07-2025	Updated to incorporate new Grading Plan

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Glossary of Terms

Adjacent lands	Typically 120 m, or wider to address other guidelines (i.e., MECP with respect to endangered or threatened species)
Site	all areas impacted by the proposed works (i.e., grading, lot creation, infrastructure)
Property	Refers to 100 Steacie Drive.

List of Acronyms and Definitions

BHA	Butternut Health Assessment
BHE	Butternut Health Expert
CC	Coefficient of Conservation
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
DBH	Diameter-at-breast Height
DFO	Fisheries and Oceans Canada
EAB	Emerald Ash Borer
ECCC	Environment and Climate Change Canada
ESA	*Endangered Species Act, 2007*(Provincial)
FWCA	*Fish and Wildlife Conservation Act, 1997* (Provincial)
GPS	Global Positioning System
NAD 83	North American Datum 1983
UTM	Universal Transverse Mercator
LIO	Land Information Ontario
NHIC	Natural Heritage Information Centre
NHRM	Natural Heritage Reference Manual
MBCA	*Migratory Bird Convention Act, 1994* (Federal)
MBR	Migratory Bird Regulation
MECP	Ministry of Environment, Conservation and Parks
MNRF	Ministry of Natural Resources and Forestry
OMNR/MNRF	Ontario Ministry of Natural Resources (old name) Ministry of Natural Resources and Forestry (old name)
OBBA	Ontario Breeding Bird Atlas
NASAR	National Aquatic Species at Risk
OP	Official Plan
OSAP	Ontario Stream Assessment Protocol
SAR	Species at Risk (in this report they refer to species that are provincially or federally listed as endangered or threatened and receive protection under ESA or SARA)
SARA	*Species at Risk Act* (Federal)

SARO Species at Risk in Ontario
SWH Significant Wildlife Habitat

SRANK Definitions

S1 Critically Imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
S2 Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
S3 Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 Apparently Secure; uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 Secure; Common, widespread, and abundant in the nation or state/province.
? Inexact Numeric Rank—Denotes inexact numeric rank
SNA Not Applicable – A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#B Breeding
S#N Non-Breeding

SARA Status Definitions

END Endangered: a wildlife species facing imminent extirpation or extinction.
THR Threatened: a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
SC Special Concern: a wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.

SARO Status Definitions

END Endangered: A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.
THR Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.
SC Special Concern: A species with characteristics that make it sensitive to human activities or natural events.

Coefficient of Conservatism Ranking Criteria

0 Obligate to ruderal areas.
1 Occurs more frequently in ruderal areas than natural areas.
2 Facultative to ruderal and natural areas.
3 Occurs less frequent in ruderal areas than natural areas.

4	Occurs much more frequently in natural areas than ruderal areas.
5	Obligate to natural areas (quality of area is low).
6	Weak affinities to high-quality natural areas.
7	Moderate affinity to high-quality natural areas.
8	High affinity to high-quality natural areas.
9	Very high affinity to high-quality natural areas.
10	Obligate to high-quality natural areas

1. INTRODUCTION

11034936 Canada Inc. (Brigil), the Client, is planning to begin construction on a residential development located at 100 Steacie Drive, part of Lot 6, Concession 3 in the City of Ottawa (formerly Kanata Township) (the "Property"). Bowfin Environmental Consulting (Bowfin) previously completed a combined Environmental Impact Study / Tree Conservation Report (EIS/TCR) for this project (Bowfin, 2021). As of 2022, Bowfin merged its services with **CIMA+** who has taken over the mandate of updating this EIS.

1.1 Purpose

The purpose of this report is to document changes to the EIS assessment based on the new site plans, provide information from inventories conducted in 2023/2024, and to update the avoidance and mitigation measures, as needed. The report is divided into four parts, introduction (including review of changes), site investigations (2023-2025), a review of legislations, evaluation of any new features (i.e., species at risk (SAR)) from the 2023-2025 surveys, and updated avoidance and mitigation measures. A review and update to the potential endangered or threatened species and their habitats is found in Appendix A. The Tree Conservation Report will be updated as a separate report, but its mitigation measures are included here.

1.2 Summary of Project Activities

As described in the EIS/TCR (Bowfin, 2021), the development of the residences will include the following activities:

- Clearing of terrestrial vegetation
- Excavation, blasting, grading, and backfilling
- Construction of residences and services
- Construction of the stormwater management facility, its outlet, headwall and erosion protection.

The preliminary design considered the natural heritage features and was able to avoid or minimize impacts to many. From the original EIS (Bowfin, 2021) and the updated report (CIMA+, 2023) the following was identified:

- The buildings, parking and access road were not situated within any of the identified natural heritage features.
- Much of the stormwater management (SWM) facility was situated within the Category 3 habitat for Blanding's turtle but is entirely outside of the Blanding's turtle Category 2 habitat, the significant valleyland, and the fish habitat setback (30 m).

- A portion of the outlet was in the Category 2 habitat for Blanding's turtle, the 30 m setback from fish habitat, and within the identified valleyland.
- The rip rap and headwall were also in the Category 2 habitat for Blanding's turtle, the 30 m setback from fish habitat and within the identified valleyland.
- The site was to be fully serviced and is expected to take 36 months to construct.

Since that time, the site plan and design has been further refined. This updated EIS Report is based on the new design as per the drawings provided by Stantec dated 2025-06-16. The above remains applicable except for the following changes:

- The stormwater management (SWM) facility is now reduced in size and consists of a dry pond.
- The extent of grading will no longer encroach upon the identified valleyland.
- The SWM facility's outlet no longer discharges directly to Kizell Drain. Instead, it travels north under the railroad and discharges into a ditch running between the north side of the railroad and Station Road. The associated rip rap and headwall are now in this north railroad ditch. The footprint of the rip rap will be < 60 m2 and the headwall will be <1 m2.
- The overall area of impact, which is the maximum extent of the area to be graded, has decreased. It was previously estimated at 2,100m2 and is now roughly 1,030m2.

1.3 Changes to Analysis of Impact

The Site was re-visited in 2023 and 2024 by CIMA+ staff and the description of the natural environment from the previous EIS/TCR (Bowfin, 2021) remains appropriate as the habitats remain the same and that EIS assumed significance of significant wildlife habitat unless the appropriate surveys were carried out. The potential impacts to the identified natural features has been updated, herein, to reflect the changes of the design, and changes to the list of species protected under the *Endangered Species Act* (ESA). A summary of the identified features, if any additional site investigations were required, and if there are changes to the potential impact are discussed for the identified natural heritage features in the subsections below.

1.3.1 Endangered or Threatened Species and/or their Habitats

As noted in CIMA+ report (CIMA+, 2023), black ash was listed as endangered in January 2024. Furthermore, one species was downlisted to Special Concern (Eastern Whip-poor-will) and has therefore been excluded in this update, while three additional bat species are now protected as of January 2025 (Eastern Red Bat, Silver-haired Bat, Hoary Bat). No other changes to the protected species has occurred (see Appendix A).

A list of potential endangered and threatened species was compiled using various sources and is provided in Appendix A. The NHIC database provides information available to the public on those SAR documented as occurring within the general area. It should be noted that not all information for all species is available to the public. Furthermore, the absence of a record does not necessarily indicate that the species is absent from the area. The purpose of the NHIC database is to help determine what species may occur within the project area. The background review included looking at the list of birds observed as part of the Ontario Breeding Bird Atlas (OBBA) and any SAR species listed on these lists were considered as potentially occurring within the subject lands. Added to this list were species that often occur within the general area based on personal experience or observations.

For some species, the federal and/or provincial governments provide guidelines on what habitats should receive automatic protection. This is usually based on distances from known sightings or suitable habitat. Federally, the habitat is typically classed based on function and provincially it is either regulated or general habitat. Regulated habitat has detailed description and is prescribed in an Ontario Regulation. General habitat often splits the habitat needs into up to three categories, listed as Categories 1-3 with 1 being the most sensitive to disturbances. Note the exception with Butternuts where Category 1 individuals are least sensitive. In the table below, the candidate SAR for the Site are listed along with their habitat needs. Where guidance is provided by the government, this is used, to evaluate whether to bring the species forward to assessment. When there is no guidance available, the available literature is used to evaluate the suitability of the habitat on-site for that species.

The list of species is now:

- 1 reptile (Blanding's Turtle);
- 7 mammals (SAR Bats with potential for woodland maternity and day-roosts); and,
- 2 plants (Butternuts, Black Ash)

Note that ESA is currently being amended, and is anticipated to be replaced by a new act entitled *Species Conservation Act* (SCA) around 2026.

Changes to Impacts

The reduction in size of the SWM facility results in the reduction of impact from the earlier analysis to Blanding's turtle, as well as to butternut and their habitats. The area to be graded is approximately 16,060 m^2, which is smaller than the previous area of approximately 17,800 m^2.

The Blanding's turtle habitat Category 2 will no longer be impacted by the outlet or its associated rip rap and headwall. The amount of Category 3 habitat impacted will be reduced as the area to be graded has also decreased. The distance between the SWM facility and the butternut to be retained now meets the requirements of Ontario Regulation 830/21 with respect to the placement of permanent infrastructure over 25 m from a butternut to be

retained. The Butternut Health Assessment (BHA) was updated in 2024 by a Butternut Health Expert (BHE) and will be submitted to the Ministry of Environment, Conservation and Parks (MECP). That survey measured the diameter at breast height (dbh) to be 7 cm. As such, the root harm prevention zone for this individual is 9 m and with the 5 m buffer stipulated in the regulation, this results in a total setback of 14 m from the trunk. The butternut is not impacted by the proposed grading, as that will occur approximately 31 m from the butternut individual.

The addition of black ash to the protected species required an inventory to be completed in 2024. This inventory was completed as per the provincial guidelines and no black ash individuals meeting the province's criteria for protection were found.

Overall, the new design has reduced impacts to endangered or threatened species and their habitats. No further surveys are required if the clearing of vegetation is completed prior to June 3, 2026. Information on the methods and results of the 2024 surveys are included in Sections 2.2 and 2.3. The avoidance and mitigation measures has been updated, as necessary in Section 4.1.

1.3.2 Valleylands

The valleyland associated with Kizell Drain was assumed to be significant (Bowfin, 2021). The previous design included the outlet, rip rap and headwall disturbances to this feature. The realignment of this infrastructure to the north has eliminated these impacts. The area to be graded is now approximately 49 m from the edge of the valleyland. No new surveys were required. The avoidance and mitigation measures has been updated, as necessary in Section 4.2.

1.3.3 Significant Wildlife Habitat

The original EIS did not identify any significant wildlife habitat in the project's footprints and noted that the potential for significant wildlife habitat to be in the adjacent lands was limited. It noted that the most likely candidate habitat was amphibian breeding habitat (wetlands) along Kizell Drain. The potential habitat for amphibians was not anticipated to be impacted as the location of the suitable wetland habitat was not within the footprint of the previous alignment of the outlet, rip rap or headwall. There is no longer any works in the valleyland or within 30m of Kizell Drain. The new design continues to ensure that there are no impacts to significant wildlife habitat. No new surveys were required. The avoidance and mitigation measures has been updated, as necessary in Section 4.5.

1.3.4 Fish Habitat

Previously, Kizell Drain was the only potential fish habitat to be impacted by the proposed project. As already noted, the impacts the SWM facility's outlet no longer discharges directly to Kizell Drain. Instead, it travels north under the railroad and discharges into the ditch running along between the north side of the railroad and Station Road. This eliminates any direct

impacts to fish habitat and to the 30 m setback of Kizell Drian. The potential for the railroad ditch to provide direct fish habitat was reviewed in 2024. That work determined that this ditch did not provide direct fish habitat; the ditch provides indirect fish habitat. The requirement to ensure that no indirect impacts to fish habitat results from water quality, water quantity as a result of the SWM discharge remains the same. The design will continue to ensure 80% total suspended solids removal and that the discharge does not result in erosion. Information on the methods and results of the 2024 surveys of the ditch are included in Sections 2.2 and 2.3. The avoidance and mitigation measures have been updated, as necessary in Section 4.3.

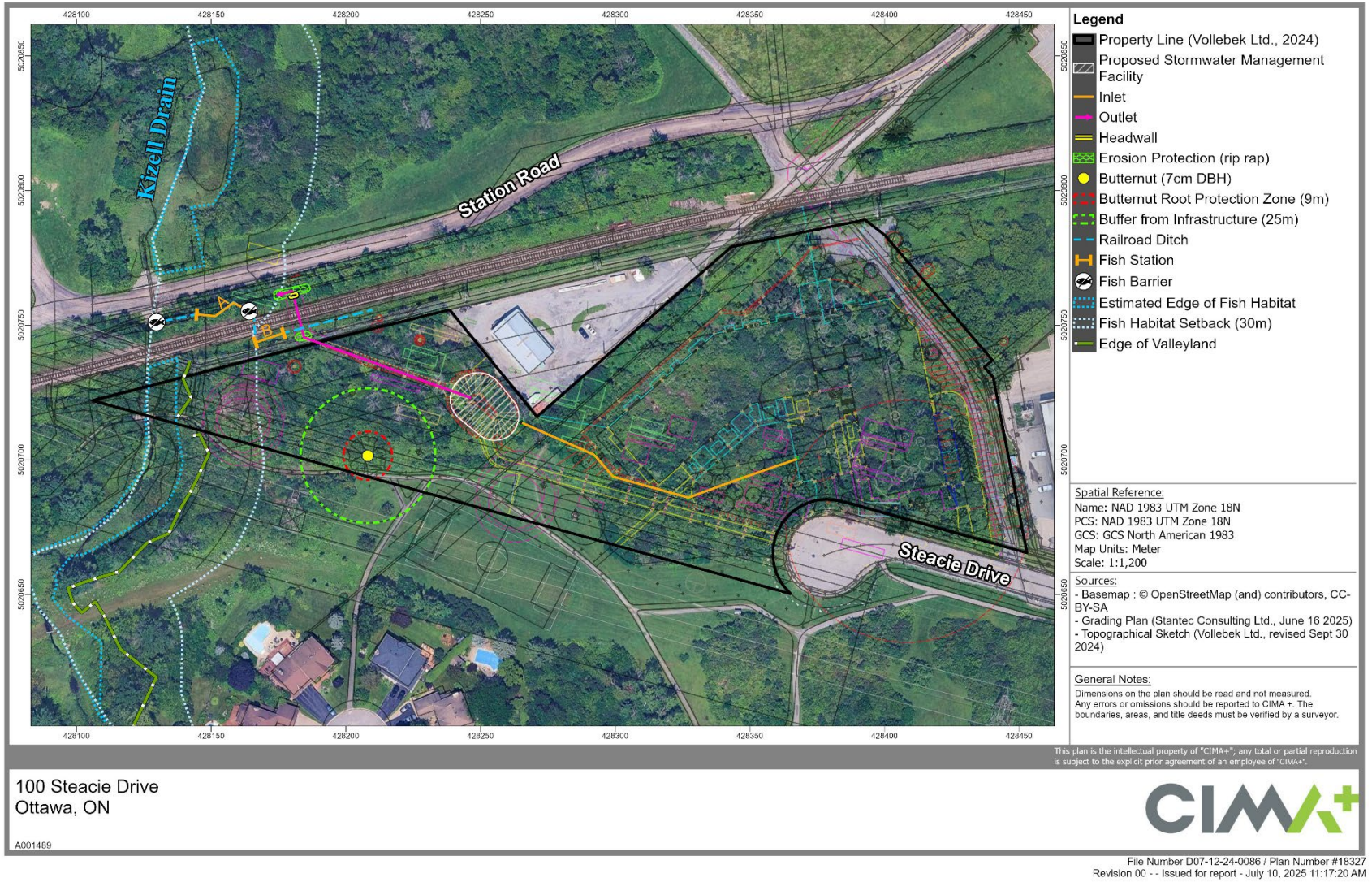

Figure 1: Location of Development and Natural Heritage Features

2. ADDITIONAL SITE INVESTIGATIONS

The additional data collected since the EIS (Bowfin, 2021) was the completion of the species at risk flora survey updates, confirmation of a lack of pileated woodpecker nesting cavities, and re-documentation of indirect fish habitat in the railroad ditch.

2.1 Study Area

For the purposes of this update, the Site consists of the area of impact plus any adjacent lands surrounding the significant natural heritage features identified in the Bowfin report (Bowfin, 2021). When updating the avoidance and mitigation measures, the Site also considers the various defined habitats of potential for endangered or threatened species (referred to herein as SAR), as needed.

2.2 Methods

2.2.1 Butternut Health Assessment

In 2023, field work was limited to a butternut inventory was completed by a BHE and the health assessment was deferred to 2024 due to the time of year. The inventory included the site and the 50 m surrounding area. Where the 50 m extended to neighbouring lands, inventory was assessed over the fence, except in the park area, which was walked. It identified the presence of one butternut and the BHA was conducted in 2024. Data collection was followed the *Butternut Assessment Guidelines* (MECP, 2021).

- Assessment are to be completed between May 15 and August 31.
- Inventories are to be completed by a qualified individual who can identify Butternuts at any stage of development (i.e., seedlings and mature trees).
- Information collected includes location (UTM coordinates using a high-precision GPS unit (Arrow 100® Submeter GNSS Receiver) set at 18T NAD83), diameter-at-breast-height (dbh), tree height, canopy cover, and number of cankers.
- Each individual tree are to be assigned a number and identified (i.e., paint, preference for white) or flagged.

2.2.2 Black Ash Inventory

The site was searched for black ash individuals on June 4, 2024. Data collection was based on the recently published *Black Ash Assessment Guidelines* (MECP, 2024).

- Inventories are to be completed by a qualified individual who can identify black ash at any stage of development (e.g., seedlings and mature trees).
- Health assessment period for black ash is during the leaf-on season (June 1-October 1).

- Information collected includes location (UTM coordinates using a high-precision GPS unit (Arrow 100® Submeter GNSS Receiver) set at 18T NAD83), diameter-at-breast height (dbh), tree height, canopy cover/condition, as well as the presence and severity of Emerald Ash Borer (EAB) infestation.
- Each individual tree was assigned a number and flagged with blue tape.

This inventory was completed by a qualified professional capable of identifying EAB infestations and determining overall tree health. The inventory included the Site and the 30 m surrounding area. Where the 30 m extended into neighbouring lands, inventory was assessed over the fence, except in the park area, which was walked.

2.2.3 Leaf-off Survey

CIMA completed the Pileated Woodpecker nesting survey at the end of 2023. Pileated woodpecker nests are protected year-round for three years since the date of last occupancy (MBR, 2022). Surveys for pileated woodpecker nests were completed on December 12, 2023. Transects spaced 15m apart were walked in suitable habitat. Trees larger than 25 cm dbh were scanned with binoculars for cavities. Nests are characterized by their domed shape, and are 10-13 cm high, and 7-10 cm wide (ECCC, 2022). If more than one such hole is present in a decaying tree it will be considered a roosting cavity. A photograph was taken along with notes on cavity size, tree species, and tree health.

In 2025, the Site was revisited during leaf-off season to document cavity trees / snags for species at risk bat habitat. Any tree exceeding 10 cm with cavities, loose bark, or leaf clusters has potential to provide maternity habitat and was therefore recorded. A photograph of suitable trees were taken along with notes on cavity size, tree species, decay class, and tree health.

2.2.4 Fish Habitat

To determine the potential impacts to fish habitat, fish communities or fish species at risk (SAR) the aquatic habitats within the study area were assessed based on the Fisheries and Oceans Canada (DFO) definition of fish habitat. As described on the website under *"Waterbodies where our review isn't required"* (accessed on June 30, 2024), habitat that does not need a review are artificial waterbodies that are not connected to another waterbody and do not contain fish at any time of the year. The 2024 field work was restricted to the railroad ditches. The potential for these to provide fish habitat was assessed based on their habitat and connection to Kizell Drain. A rapid survey was undertaken during which time qualitative information on the channel morphology was gathered. The data collected included: channel width, wetted width, bankfull depth, water depth, substrate size, morphological units, and in-stream cover.

2.3 Site Investigations Results

A summary of the dates, times, ambient conditions, and purpose for site visits completed from 2023 to 2025 are provided below in Table 1. Rainfall and water level conditions are included alongside the aquatic field work to capture the general watershed conditions at the time of the work. The habitats are described in the section below, followed by the results from the species-specific surveys.

Table 1: Summary of Dates, Times, Conditions and Purpose of Site Investigations

Date	Time (h)	Staff	Air Temperature (Min-Max) °C*	Cloud Cover (%) Beaufort Wind Scale [Descriptor (scale)]	Total Rainfall (mm) 7 days prior to visit*	Water Level Conditions**	Purpose
November 1, 2023	1145-1230	A. Quinsey	-1 (-3.4 – 1.2)	Mainly Clear (30) Wind: Light Air (1)	N/A	N/A	Butternut Survey
November 30, 2023	1055-1122	J. Zientek	5.0 (-1.9-6.2)	Mostly Cloudy (50) Wind: Gentle Breeze (3) – Moderate Breeze (4)	N/A	N/A	Butternut Survey
December 13, 2023	0930-1000	A. Quinsey	-5 (-10.7 – 1.6)	Mostly Cloudy (50) Wind: Slight Breeze (2)	N/A	N/A	Vegetation Survey Pileated Survey
June 05 2024	0945-1100	S. Lafrance, J. Zientek	25 (13-29.4)	Mostly clear (30) Wind: Light Air (1)	0	Flood Outlook Statement	Black Ash Survey, Fish Habitat Survey
July 09 2024	1000-1130	A. Siddiqui, J. Zientek	24 (18.6-29.0)	Cloudy (100) Wind: Calm (0)	N/A	N/A	Tree Survey
April 10, 2025	0830-1300	J. Zientek	2 (-9.1-4.6)	Mainly Clear (10) Wind: Light Air (1)	N/A	N/A	Leaf-off Survey

S. Lafrance – Sophie Lafrance – B.Sc. Biology, Graduate Diploma in Ecosystem Restoration
A. Quinsey – Al Quinsey - B.Sc. Environmental Biology
A. Siddiqui – Amal Siddiqui – B.Sc. Biology, Master's Degree in Forestry & Conservation
J. Zientek – Jake Zientek – Fish and Wildlife Technology Diploma
*Min-Max Temp Taken From: Environment Canada. National Climate Data and Information Archive. Ottawa International Airport. Available https://climate.weather.gc.ca/ [July 11, 20234.
**Water Level Conditions taken from Rideau Valley Conservation (RVCA) https://www.rvca.ca/

2.3.1 Butternut Health Assessment

A site visit was conducted on November 1, 2023, by Al Quinsey (B.Sc. Environmental Biology, BHE). The visit was completed outside of the green-leaf period. A single butternut was observed on site (UTM coordinates 18T 428208 m E, 5020701 m N), just north of the walking trail (Figure 4). This individual had a dbh of 7 cm. Incidental observations of black ash were noted at the base of the hill on the northern side of the site.

Photo 1: Butternut Observed On Site (November 30, 2023)

2.3.2 Black Ash Inventory and Assessment

A site visit was conducted on June 5, 2024, by Jake Zientek (GDip, Fish & Wildlife Tech). This visit was completed within the green-leaf period. No black ash individuals were observed.

2.3.3 Leaf-off Survey Results

All wooded areas on the Site were searched during the leaf-off period in 2023 and 2025.

Pileated woodpecker

- No active or inactive pileated woodpecker nests were observed.
- No pileated woodpecker roosts were observed.
- No evidence of the species' presence was found (e.g., feeding holes or heard calling).

SAR Bats

Overall, five (5) trees were found with cavities onsite: one paper birch, an ash, an apple and two individuals that were decayed to the point that their identification could not be confirmed to species (Figure 2).

The dbh ranged from 19-31 cm, and the trunks were 3.5 m-11.5 m tall. The cavities were situated 3.0-11.0 m high on the trees. There were no additional individuals noted with suitable loose bark or leaf clusters. Additional details and photographs of the individuals are provided in the leaf-off memo (CIMA+, 2025).

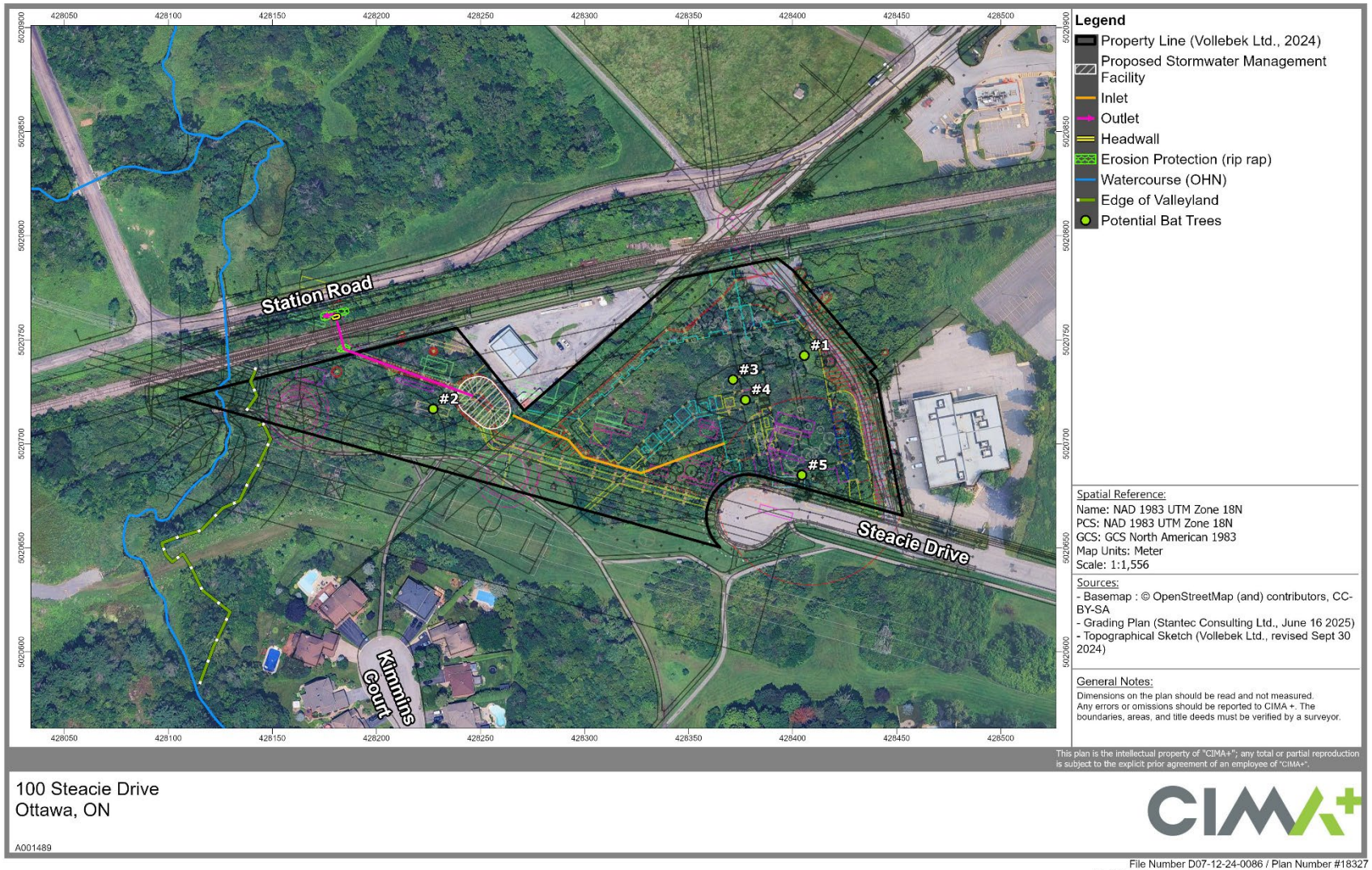

Figure 2: Potential Bat Trees Located on-site

2.3.4 Fish Habitat Assessment

The areas around the railroad, where the outlet is proposed, was investigated for the potential fish habitat on June 5, 2024. During this work it was noted that there was only one ditch that originated on the south side of the railroad was present. This ditch crossed under the railroad through a concrete culvert and then travelled west between the railroad and Station Road. The connection to Kizell Drain is immediately upstream of the Kizell Drain culvert that passed under Station Road. This unnamed feature is referred to herein as the Railroad Ditch.

The origin of the channel was about 10 m upstream of the concrete culvert under the railroad and the entire channel was poorly defined, with an uneven gradient. The areas was also fully vegetated. There was some pooling of water in the concrete culvert and further downstream. Outside of the pools, there was no water. Just downstream of the concrete culvert, trees growing in the channel resulted in soil accumulation and created a step in the gradient (step height of 22 cm) which would represent a barrier to fish movement if fish were able to enter the ditch. However, the presence of rip rap at the connection with Kizell Drain is also a barrier to fish. There was no indication (i.e., water lines, vegetation etc.) to suggest that this barrier is overtopped in the spring.

The habitat of this Railroad Ditch was described at two stations, one downstream (Station A) and one upstream of the concrete culvert under the railroad (Station B).

Photo 2: Culvert under the Railroad (June 5, 2024)

Photo 3: Tree in the channel resulting in steep of 22cm, downstream end of the culvert (June 5, 2024)

Photo 4: Rip rap at Kizell Drain creating a barrier at the downstream end of the ditch (June 5, 2024)

2.3.4.1 Station A – Downstream Side

Station A began just downstream of the culvert and was 30 m in length (Figure 3). The average channel width and bankfull height were 1.0 m and 6 cm (range: 2-10 cm). The average wetted width and depths in the spring were 0.08 m and 1 cm (range: 0-2 cm), respectively. As mentioned above, the uneven grade caused pooling water near the bottom of the station. The remainder of the site was dry with pockets of water.

The substrate consisted of mostly fines with some gravel. The low to moderate in-water cover was provided by vegetation (grasses). No signs of erosion were noted.

The top of the banks were fully vegetated with herbaceous vegetation and woody species. The most common herbaceous species were horsetail, grasses, yellowcress, purple loosestrife, buttercup, water parsnip, rose, goldenrod, and white meadowsweet. The most common woody species were buckthorn and ashes. The area was moderately to well shaded by the woody vegetation with some shading from the herbaceous layer.

Photo 5: Looking upstream from the downstream end of Station A (June 5, 2024)

Photo 6: Looking downstream from the upstream end of Station A (June 5, 2024)

2.3.4.2 Station B – Upstream Side

As noted above, there poorly defined channel started roughly 10 m upstream of the concrete culvert. This area was described with Station B (**Figure 3**). The average channel width and bankfull height were 1.8 m and 6 cm (range: 4-9 cm). The average wetted width and depths in the spring were 0.7 m and 1 cm (range: 0-2 cm), respectively. This portion of the channel also had an uneven grade and was poorly defined. The habitat within the station was a shallow pool.

The substrate consisted of fines. The in-water cover was provided by vegetation (sensitive fern and horsetails), and small woody debris. No signs of erosion were noted. The top of the left bank was fully vegetated with herbaceous vegetation and woody species; the right bank was the railroad. The most common herbaceous species were sensitive fern, horsetails. grasses, and spotted jewelweed. The most common woody species were nannyberry and dogwoods. Both the woody and herbaceous vegetation provided little shading.

Photo 7: Looking at the downstream end of Station B (June 5, 2024)

Photo 8: Looking at the upstream end of Station B (June 5, 2024)

2.4 Evaluation of Significance

The 2023/2024 site investigations provided new information with respect to endangered or threatened species and fish habitat. The evaluation of this data is provided below using the appropriate protocols. All other evaluation of significance from the previous version of the report (Bowfin, 2021) remain unchanged.

2.4.1 Endangered and Threatened Species

The purpose of the investigations of 2023, 2024 and 2025 was to update the butternut inventories (which had expired) and to collect information on the potential Endangered or Threatened species: black ash and bats (7 species).

Endangered and threatened Species at Risk (SAR) are protected under the provincial *Endangered Species Act, 2007*. The federal *Species at Risk Act* (SARA) applies only to fish species on private land. Most birds, including SAR, also receive protection from *Migratory Bird Convention Act, 1994,* and/or *Fish and Wildlife Conservation Act, 1997*. Together, provincially, and federally protected species are referred, herein, as SAR. The lands within the Site include provincial and private lands and as such, the evaluation of presence was complete following the province's guidelines.

Note: The evaluation within this report and the previous version (Bowfin, 2021), follows the existing ESA guidelines established prior to June 5, 2025, which are expected to exceed the interim ESA guidelines and the proposed SCA requirements. For information purposes, at the time of this report, changes to how the ESA is applied as a result of Bill 5 remain unclear. MECP provided Interim ESA advice in June 2025 confirming the following (MECP, 2025):

- Species protection continues to extend to individuals for killing and harming, but not for harassment.
- Habitat protection will be limited:
- For animals: the dwelling place and immediate surrounding area;
- For plants, the critical root zone and as per personal communications with MECP, this is currently 18x the maximum dbh of the species.
- For all other species, the area on which any member of the species directly depends to carry out its life processes.

Butternut

These are evaluated below using the protocols developed by MECP for *Butternut Assessment Guidelines*, 2021. A single Butternut individual was located on the southwestern edge of site just north of the walking trail. Butternuts are assessed based on the amount of canker (the

disease which is killing the species), their size, and health, as per the MECP protocol (MECP, 2021). This method classes the individual trees as one of three categories:

- Category 1 are those that are heavily infected to the point that they are not expected to survive.
- Category 2 may have some canker but are still considered healthy.
- Category 3 are the same as Category 2, but these are larger individuals situated near heavily cankered trees and MNRF believes that some may be showing immunity to the disease.

The assessment determined that the individual was a Category 2 individual, and the BHA will be submitted to MECP. The location is such that the individual can be retained and the appropriate MECP process for this species will be followed.

Black Ash

These are evaluated below using the protocols developed by MECP for *Black Ash Assessment Guidelines*, 2024. As noted in the results, no black ash individuals were identified. While Ottawa is situated within the areas of the province identified on Schedule 1 of Ontario Regulation 6/24, the probation only applies to those individuals with a dbh of 8 cm or larger. No report is required for MECP unless at least one individual that is 8 cm or larger will be impacted by the same activity. No further action is required for this species.

SAR Bats

The potential SAR bats within the general area are Little Brown Myotis, Northern Myotis, Eastern Red Bat, Hoary Bat, and Silver-haired Bat. There are three (3) types of habitats required by bats: hibernation, maternity sites and day-roost sites.

Hibernacula

Four of the seven protected bat species (Little Brown Myotis, Northern Myotis, Eastern Small-footed Myotis, and Tri-colored Bat) prefer to hibernate in caves or mines. They can hibernate in buildings but that is rare for these species (COSEWIC, 2013). No caves or mines or buildings are present on Site.

The three newly listed species are migratory and do not overwinter in this part of Ontario. Further, the Eastern Red-bat and Hoary Bat do not overwinter in Canada (COSEWIC, 2023).

Maternity

The Eastern Small-footed Myotis's preferred maternity habitat consists of open rock habitats; this species rarely uses old buildings as roosting/maternity sites (Humphrey, 2017). There have only been two reports of maternity colonies in Ontario, one historical report in Renfrew County

in 1953 and another in Hamilton in 2016 (MNRF, 2017). There was no rocky habitat present suitable for this species, and no old buildings on the Site. Based on this information, this species' maternity sites are considered absent.

The Atlas of Mammals of Ontario (Dobbyn, 1994) suggests that the Tri-colored Bat has the southernmost distribution relative to other species, and is most commonly found along Lake Erie and Lake Ontario shores in Ontario. The Recovery Strategy notes that it tends to prefer older forests with snags and to forage in closed canopies (ECCC, 2015). Some studies have shown a preference for roosting in dead leaves and tree lichens and occasionally in barns (ECCC, 2015). Based on this information, and the relatively young nature of the wooded areas on-site, this species is considered to have a little to no potential of using the Site for breeding.

The Northern Myotis tends to prefer larger expanses of older forests (late successional or primary forests) and choose maternity sites in snags that are in the mid-stage of decay. They prefer habitat with intact interior habitat and is shown to be negatively correlated with edge habitat (Broders et al., 2006; Environment Canada, 2015; Menzel et al., 2002; Yates et al., 2006). The preferred habitat is not present, so this species is considered unlikely to have maternity sites on the Site.

The Little Brown Myotis is one of the few bat species that can use anthropogenic structures as maternity sites. Potential suitable structures can include buildings, bridges, barns, and bat boxes. They can also use tall, large diameter cavity trees that are in the early-to mid-stages of decay as maternity roosts, as well as loose or raised tree bark, and crevices in cliffs (ECCC, 2018). This bat species occurs in higher densities in mature deciduous and/or mixed forests due to increased opportunities for large snags. However, unlike the Northern Myotis, the Little Brown Myotis does not exclusively require mature forest stands to find appropriate maternity roosts (COSEWIC, 2013). While there are no anthropogenic structures within the Site, this commonly observed species could establish maternity roosts within the trees.

Eastern Red Bat and Silver-haired bat tend to require forested areas for maternity habitat roosting in trees or (less commonly) shrubs that are over 5 m tall. The trees used for maternity are typically larger diameter, face south where there is more sun exposure and in areas protected from wind. The maternity sites are often in the taller and larger trees in the woodlot (i.e., exceeding the height of the rest of the canopy). Eastern Red Bat tends to avoid areas with large variations in temperature (COSEWIC, 2023). Foraging habitat is often associated with edge or aquatic habitat (COSEWIC, 2023). There is a low potential for these species to occur, as none of the cavity trees observed were large diameter individuals preferred by these species. The largest cavity tree had a dbh of 31 cm.

Day-roosts

All species could use trees for day-roosting during movement. Silver-haired Bat is known to use buildings for roost sites during migration. Eastern Red Bat and Hoary Bat can but are less

likely to use other structures such as shrubs, bridges and buildings during migration (COSEWIC, 2023). Male Eastern Red Bats can utilize smaller diameter trees (down to saplings) during the summer (COSEWIC, 2023).

Conclusion

The proposed development will require the removal of all five cavity trees, as they fall within the extent of grading. This could result in direct or indirect impacts to bats and their habitat, if the tree is in use by bats. The direct loss of habitat would be limited to the removal of individual trees that are 10 cm or larger in diameter if these individuals provide maternity habitat.

The indirect impacts would be those associated with impacts to the quality of the remaining trees and or sensory impacts (i.e., noise, light disturbances). It is anticipated that MECP will need to be consulted prior to the removal of trees to ensure no direct impact, and that indirect impacts can be avoided or minimized. Avoidance and mitigation measures will be included in Section 4.

2.4.2 Evaluation of Fish Habitat

The railroad ditch has been assessed as indirect fish habitat due to the presence of a fish barrier at its confluence (rip rap), and poorly defined channel. It is understood that the flow being contributed to this ditch from the development is small (83.4 L/s in a 100 year event). This ditch is considered to be indirect fish habitat.

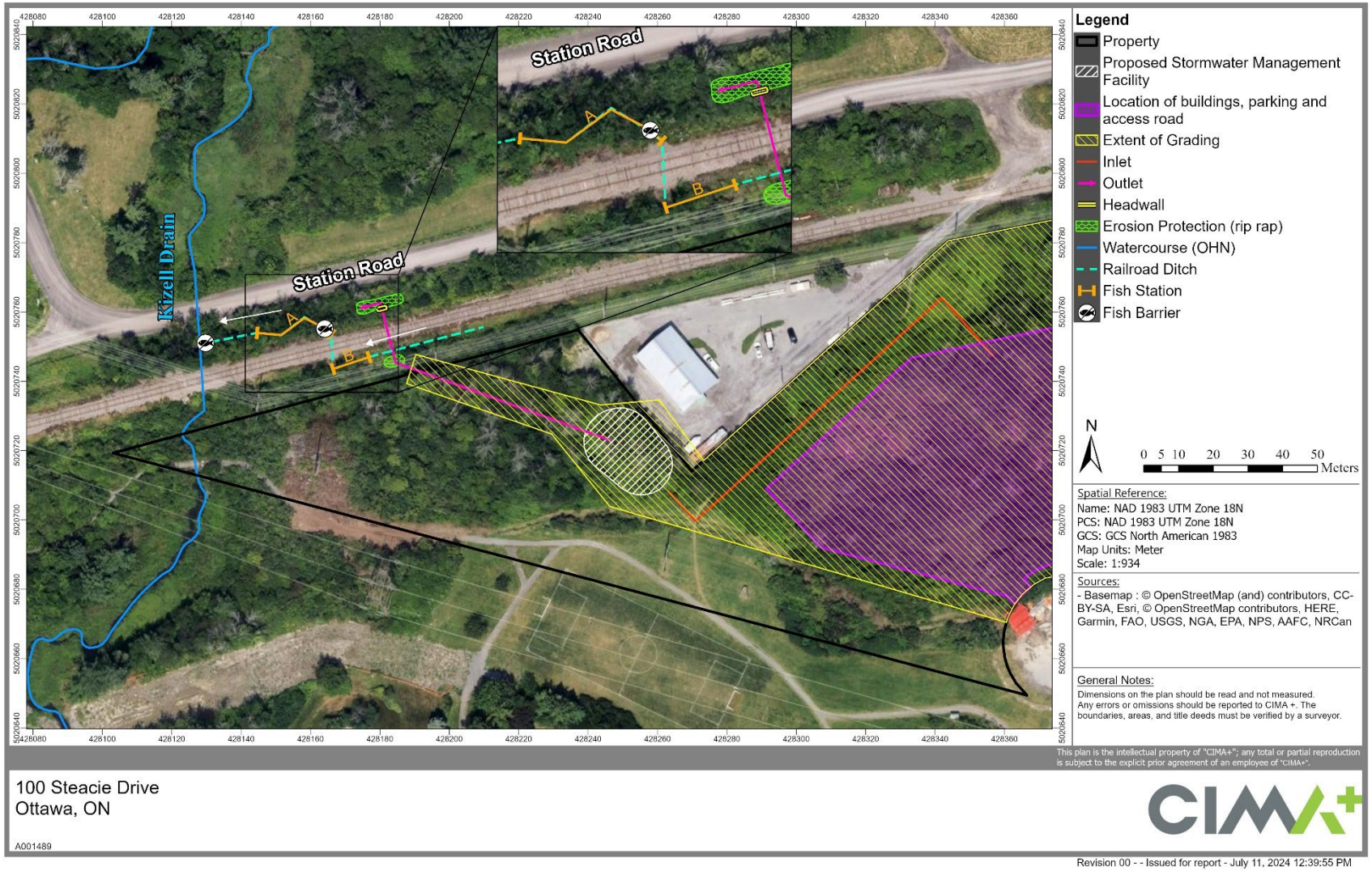

Figure 3: Fish Station Locations

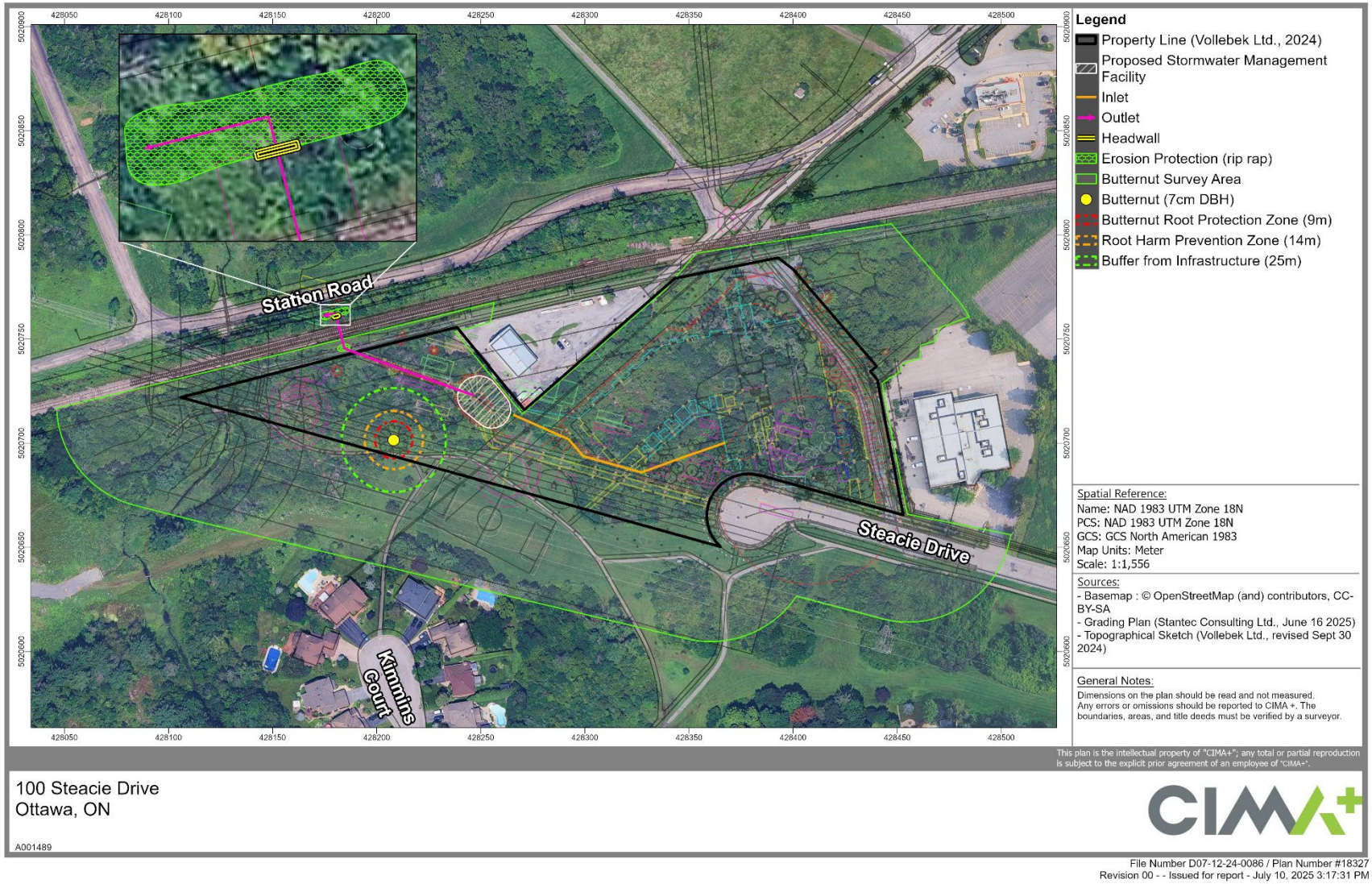

Figure 4: Butternut Survey Location and Results

3. REGULATION REVIEW

The Bowfin report was written in 2021 and there have been no changes to the Fisheries Act, Species at Risk Act, or Fish and Wildlife Conservation Act since. The Migratory Bird Convention Act also remains unchanged but there are new Migratory Bird Regulations. The Migratory Birds Convention Act, 1994 (MBCA) regulates the protection and conservation of migratory birds as populations and individuals. It also offers protection for nests containing a live bird or viable eggs for most migratory bird species. Schedule 1 under the Migratory Bird Regulations (2022) lists 18 species that may reuse nests and whose nests are protected year-round regardless of occupation, unless the nest has been reported and deemed abandoned after a waiting period. Species listed under Schedule 1 that occur in Ontario include great egret, great blue heron, cattle egret, green heron, snowy egret, black-crowned night heron, and pileated woodpecker. The Migratory Bird Regulations (2022) prohibit the disturbance, damage, or destruction of migratory bird nests or eggs. These prohibitions and regulations apply to any areas where migratory birds and their nests are found in Canada.

The list of potential endangered and threatened species protected under the *Endangered Species Act*, and information on their habitats has also changed; this data is summarized in Appendix A. The only species that could be in this area, that was not surveyed for prior to 2023, is black ash. This has now been completed as well as additional survey information on potential woodland bat habitat (see Section 2.4.1).

4. AVOIDANCE AND MITIGATION MEASURES

The following list of avoidance and mitigation measures follows current best practices, and are based on the understanding of areas of impacts and construction methods outlined in Section 1.2.

4.1 Endangered and Threatened Species

The change to the potential to impact protected endangered or threatened species as a result of the updated site plan is a reduction in the potential impact to butternuts. All impacts are during construction and still require similar avoidance and mitigation measures. Advice from MECP with respect to Blanding's Turtle remains applicable; however newer timing windows have been included.

General:

- Educate staff and contractors on the potential for SAR to be in the area and their significance, with a particular emphasis on the SAR listed as potentially occurring on the Site or in adjacent lands (Appendix A)
- Endangered and Threatened species are protected and cannot be harmed, harassed, or killed and in some cases their habitats are also protected. These individuals will only be handled by qualified person and only if the individual is in imminent threat of harm. An authorization under the ESA 2007 would be required to handle individuals that are not in imminent threat of harm.
- If a SAR enters the work area during the construction period, any work that may harm the individual is to stop immediately and the supervisor will be contacted. No work will continue until the individual has left the area.
- Should an individual be harmed or killed then work will stop, and the MECP will be contacted.
- If a SAR is encountered, this information will be provided to the Natural Heritage Information Centre (Report rare species (animals and plants) | Ontario.ca)

SAR Turtles: The measures below have been shared with MECP who has agreed with these findings (email sent to City). Note that these measures also apply for SWH turtle wintering areas and turtles in general. The timing windows have been updated. The new design no longer includes any work within the Category 2 habitat and that within the Category 3 habitat has been minimized. The SWM facility is now a dry pond.

Construction:

- Implement a strict speed limit of 15 km/h for vehicles during construction or to access the stormwater management facility. The speed limit is to be posted.
- During construction, temporary turtle exclusion fencing will be installed. It is preferred that this fence enclose the whole work area. Any openings (i.e. for machinery access) should only be open when work is occurring and closed back up at night. Reptile and Amphibian Exclusion Fencing: Best Practices (https://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing) will be followed for exclusion fence design and installation, and will include the j-hook turn-arounds. Also note, that if there are open sides (not enclosed with temporary exclusion fencing), then there will be a higher risk of turtles entering the work area. In that instance, turtle sweeps will need to be exceedingly thorough and should be completed by a biologist or fish and wildlife technician.
- Daily sweeps of the construction site will be completed and documented during the turtle active season (typically April 1-October 31 in other words working between November 1 and March 31) (MECP, no date). These are to be completed by the first workers on site, prior to movement of machinery. If this fencing is installed during the

active season, then a biologist or wildlife technician familiar with the species will need to complete sweeps of the work area during the installation of the fence and once after the fence is installed to confirm their absence from the work area. Once sign off of their absence and that the fence has been installed as appropriate for the site, the daily sweeps can be undertaken by the contractor (see below).

- The temporary fencing can consist of sediment fencing that is properly countersunk and maintained provided that it meets the provincial guidelines (https://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing).
- Educate construction workers of the potential for Blanding's Turtle to be present and that this is a protected species from harm and injury under the provincial *Endangered Species Act*. Ensure to inform workers that there is a high potential for the species to occur in this area.
- Additional fencing is recommended around any stockpiles that might provide suitable nesting substrate (i.e. gravel, soil) to help prevent turtles from nesting in the work area. Note that should suspected Blanding's Turtle nesting occur, then stop all work and contact a biologist to follow appropriate procedures.
- If a turtle is observed:
  - All work that may harm the individual must stop and the worker should notify their supervisor.
  - Try to take a photograph but do not chase the turtle in order to do so.
  - Turtles encountered on-site cannot be harmed or harassed.
  - Turtles should be allowed to leave the area on their own.
  - It is also important that the individual be watched, from afar, to ensure that it does not enter an area where it may come to harm.
- If an individual has been impacted, the supervisor should contact MECP (and if applicable the project biologist) immediately.

Maintenance and Operations

- Include the following information in the stormwater management facility operation manual:
  - The stormwater facility could provide refuge habitat for turtles. Maintenance staff are to be educated that Blanding's Turtles are in the area.
  - Any maintenance plans will be reviewed by a biologist to ensure that the appropriate avoidance and mitigation measures are respected for all aquatic species. As this is a dry pond, it is anticipated that maintenance activities can be scheduled to periods when no water is present. If water is present, then it will require a salvage by a biologist or fish and wildlife technician.
  - A sign on the access road to the SWM facility indicating that turtle habitat is present will be posted.

SAR Birds: No SAR birds were identified as occurring or likely to occur. The natural habitat to be impacted by grading is now smaller than previous designs.

- No impacts to federal SAR bird nests, or their eggs is permitted under the federal *Species at Risk Act*. If a federally listed bird species at risk nest is encountered, then work must stop until the young have fledged. If the nest/young have been harmed, then Environment Canada must be notified immediately for guidance.
- No impacts to provincial SAR bird nests or their eggs is permitted under the provincial *Endangered Species Act*. If a provincially listed bird species at risk is encountered, then work must stop and MECP contacted (sarontario@ontario.ca).
- Should a nest be discovered, stop all work that may disturb the birds (i.e. that cause the adults to fly off the nest) and contact a biologist or MECP or Environment Climate Change Canada (ECCC), as appropriate for the species.

Bats: No SAR bat maternity sites were documented, and no suitable forest habitat was present. The potential to impact SAR bats would be restricted to day-roosts. Recent guidelines from MECP on this species indicate that they do not need to be approached if the timing window below can be adhered to.

- Educate contractors by informing them that most bats in Ontario are protected.
- Remove trees (>10 cm in diameter) between October 1 and March 31 (Bat active season is currently assumed to be April 1 to September 30 for woodland species). If this is not possible, conduct exit survey prior to cutting them down. If the exit survey identifies bats, contact MECP or biologist for additional guidance.

Plants: The only SAR plant observed is the butternut. The following measures are to be implemented:

- The site investigations identified one Butternut tree that is a Category 2 and is to be retained. Should any other individuals be discovered, then they are protected and a buffer of 50m is to be established and a Butternut Health Assessment completed as appropriate.
- Educate contractors by informing them that butternuts are protected.
- No permanent structures or infrastructure is to be within 25m of a retained Butternut. If permanent infrastructure is within 25m of this individual or if the buffer (see below) cannot be respected, then:
- No work within 25m of the individual until 30-days after the Butternut Health Assessment (BHA) is provided to MECP and the online registration process is completed. The timing for completing BHA is May 15-August 31.

- Any butternut to be retained will have its root harm prevention zone protected by a sturdy fence (highly visible such as snow fencing) is to be erected along the edge of the appropriate buffer (5 m from the root harm protection zone). In this case the fence would be place 14 m from the tree (9m +5m). Within this area the following are prohibited:
  - Transport or operation of heavy equipment.
  - Placement of temporary facilities or temporary roads for the purpose of construction.
  - Excavation of soil or other substrates.
  - Storage of materials such as excavated soil, debris or construction materials.
  - Production of ruts or compacted soil.
  - Removal of vegetation in a manner that destabilizes soil.

4.2 Valleylands

The only change since the EIS is a reduction in impacts to the valleylands. This is due to the relocation of the stormwater management facility's outlet. No work will occur within 30 m of the valleyland.

- Educate contractors by informing them that the valleyland is assumed to be significant.
- That no work is permitted within 30m of the valleyland.

4.3 Fish and Fish Habitat

Under the *Fisheries Act*, works below the high-water mark require DFO's review unless they are listed as a Standard Code of Practice (CoP) and no SAR are present. In this case, there is no proposed work within direct fish habitat. The potential to impact indirect fish habitat is restricted to the construction of the outfall, its headwall, the installation of rip rap and introduction of flow into the ditch. This flow volume is low (83.4 L/s during a 100 year events (pers. comm Stantec)). This project is of a small scale, based on the observation, would take place on the edge of indirect fish habitat. Provided that the appropriate measures are implemented for protection of water quantity and quality in Kizell Drain, then there will be no Harmful Alteration, Disruption or Destruction (HADD) to fish habitat will take place. This is based on the limited footprint, short duration of the work activities, type of work activities, and the ability to implement common best management practices to avoid impacts. The proponent will submit a request a review from DFO for work below the high water level of the indirect fish habitat as it is connected to Kizell Drain which is assumed to provide fish habitat.

Planning

- The construction of the outlet should adhere to the in-water work window (July 1 to March 14, inclusive), if feasible, to minimize potential indirect impacts to Kizell Drain should an accident occur (i.e., release of sediments downstream).
- Allow time for the submission and review of a request for review to DFO.
- Time work to allow for the disturbed area to be stabilized as soon as possible.
- The additional flow into the ditch should not be such that fish can gain access into the ditch.
- Site instruction will be provided to contractor to highlight that Kizell Drain provides permanent fish habitat.
- Clearly demarcate work areas for the outlet north of the property line (i.e., in the railroad corridor) in the field.

Erosion and Sediment Control

- Minimize clearing of vegetation within 30 m from the ditch.
- An erosion and sediment control plan will be developed by contractor and implemented prior to any work within 30 m of the ditch.
- Provide regular maintenance to the erosion and sediment control measures during construction. Contractor shall be responsible for ensuring that the erosion and sediment control measures are maintained and will monitor the water clarity downstream of the work site throughout the day and during rain events. Water quality is to meet the Canadian Water Quality Guidelines for the Protection of Aquatic Life. Monitoring for visible plumes outside of the work area is to be undertaken.
- At a minimum, the erosion and sediment control plan will include the installation of sediment fencing along the edge of the work area in the railroad corridor.
- Additional materials (i.e. rip rap, filter cloth and silt fencing) will be readily available in case they are needed promptly for erosion and/or sediment control.
- Suspend activities that cause muddy environments during periods of heavy rains.
- Any stockpiles of soil or fill material will be stored as far as possible from the road ditches, river and tributary and protected by sediment fencing (minimum 30 m).
- The erosion control measures will not be removed until the banks are stabilized (i.e., <20% exposed soil).
- No dewatering is anticipated. If needed, water will be treated prior to returning it to the system (i.e. straw bale settling ponds covered by geotextiles or sediment sock on the end of hose and situated on top of well vegetated slopes). The water must meet minimum water quality guidelines, and not cause erosion of the channel or suspension of sediments in the watercourse.
- Any riprap will consist of clean rock free of fines.

- Where possible, limit clearing of vegetation to trimming and leave the stump and lower 60 cm of the tree trunk in place (for shoreline stabilization).

Fish and Fish Habitat Protection

- No work is permitted in Kizell Drain.
- Blasting activities will be restricted to upland habitat, but contractor should confirm that the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright and Hopky, 1998) must be followed. Some measures have been listed below, but it is important that the blasting company is aware of and adheres to all of the requirements outlined in the Guidelines. If they cannot meet the requirements, then DFO will be contacted for guidance.
- Minimize blasting.
- Blasting should be timed to occur outside of the spawning season.
- Products with ammonium nitrate-fuel oil mixtures will not be used near water as they create ammonia as a by-product which is toxic.
- Adjust blasting program to ensure that the instantaneous pressure change (i.e. overpressure) is less than 100 kPa (14.5psi) in the swim bladder of a fish.
- Recover shock tubes and detonator wires.

Contaminant and Spill Management

- Machinery working near or in-water should have vegetable based hydraulic fluids.
- All equipment working in or near the water should be well maintained, clean and free of leaks. Maintenance on construction equipment such as refueling, oil changes or lubrication would only be permitted in designated area located at a minimum of 30 m from the shoreline in an area where erosion and sediment control measures and all precautions have been made to prevent oil, grease, antifreeze or other materials from inadvertently entering the ground or the surface water flow.
- Emergency spill kits will be located on site. The crew will be fully trained on the use of clean-up materials to minimize impacts of any accidental spills. The area would be monitored for leakage and in the unlikely event of a minor spillage the project manager would halt the activity and corrective measures would be implemented.
- If a spill occurs:
    - Stop all work
    - Spills are to be immediately reported to the MECP Spills Action Centre (1800 268-6060). Note that under the Fisheries Act deleterious substance includes sediments.
    - Clean-up measures are to be appropriate and are not to result in further harm to fish/fish habitat.
    - Sediment-laden water will be removed and disposed of appropriately.

- No construction debris will be allowed to enter the watercourse.
- Following the completion of construction, all construction materials will be removed from site.

4.4 Tree Conservation Report

Mitigation Measures for Trees to be Retained

- A permit for the removal of trees that are 10 cm or larger in diameter is required from the City of Ottawa.
- The edge of the property and the extent of construction/grading should be clearly defined on the site plans and in the field.
- All trees within the work area/area to be graded will be removed. When clearing near trees next to neighbouring lands, mitigation measures to prevent harm to the root systems of trees adjacent to the proposed works will be implemented to protect them from indirect harm:
- Sturdy fencing will be installed outside of the Critical Root Zone (CRZ) (defined by the City as 10x the DBH) of the trunk of the closest trees to the work area. Fencing will be retained until construction activities have been completed, as per City of Ottawa's Tree Protection (By-law No. 2020-340), Part VI:
- Tree protection fencing shall be at least 1.2 metres in height and installed in such a way that the fence cannot be altered.
- No grading or activities that may cause soil compaction (such as heavy machinery and stockpiling of materials) will be allowed within the fenced area.
- Furthermore, no machinery maintenance or refueling or stockpiling is permitted within 5 m of the outer edge of this fencing.
- Exhaust fumes from all equipment will be directed away from the canopy of the trees to be retained.
- If roots of trees on adjacent lands become exposed during site alterations, they will be buried immediately with soil or covered with filter cloth or woodchips and kept moist until the roots can be buried permanently.
- Any roots that must be cut will be cut cleanly to allow for healing.
- Do not place any material or equipment within the CRZ of a tree to be retained.
- Do not raise or lower the existing grade within the CRZ of a tree to be retained.
- Do not extend any hard surface or significantly change landscaping within the CRZ of a tree to be retained.
- If the construction will have to encroach into a tree's minimum CRZ, installing a temporary layer of 150 mm deep partially composed wood chips mulch over the root zone can help to protect roots from compaction damage, and conserve soil moisture levels.

- Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy.
- No signs, notices or posters should be attached to any trees;
- Any landscape plans will include native species as much as possible. Exceptions would only be made based on the advice of the landscape consultant. It is our understanding that the plantings of native trees and shrubs is typically not an issue, but that herbaceous vegetation can often not withstand the pressures from road maintenance etc.

Tree and Root Pruning

- No trees have been recommended for pruning, as their minimum CRZ are untouched by the grading limits. If, during excavation, any roots are encountered while working outside the CRZ, they should be cut off cleanly with sharp pruning tools rather than allow them to be torn by large equipment; clean cuts will help to minimize decay and entry points for disease.
- Do not damage the root system, trunk, or branches of any tree.
- All exposed roots of trees to be retained should be covered in a minimum of 5 cm of firm soil within 24 hours of exposure.
- If root pruning is implemented, the crown of the tree should be reduced proportionately under the direction of a Certified Arborist or Registered Forester, to decrease wind sail. Pruning should be kept to thinning cuts (no major limb removal), and crowns should be monitored, and maintenance carried out for two (2) years after root pruning to remove any dieback under the direction of a Certified Arborist or Registered Forester.
- Where branches are likely to hang in the way of passing equipment, the branches should be pruned by a Certified Arborist or Registered Forester to avoid tearing and undue injury to the tree.
- All pruning work must be performed under the supervision and guidance of a qualified tree professional in accordance with the latest ANSI A300 Pruning Standards and best management practices identified by the International Society of Arboriculture.

4.5 Other

The measures outlined above serve to protect the identified or potentially present natural features identified in the background review and/or site investigations. However, there are also some other items that should be mentioned.

1. Almost all birds in Ontario are protected by either MBCA or FWCA.
2. Most reptiles are protected by the FWCA
3. Measures to avoid impacts from dust, noise, light pollution as well as from the spread of invasive species should be considered on all projects as best management practices.

Mitigation Measures:

- Almost all breeding birds are protected under the MBCA and/or FWCA. The only species not protected are: American crow, brown-headed cowbird, common grackle, house sparrow, red-winged blackbird, and starling. It is prohibited to destroy or disturb an active nest of other birds, or to take or handle nests, eggs, or nestlings. In this part of Ontario, the current standard nesting period is between April 5th to August 28th. Outside of this timing window, it is considered unlikely that birds would be nesting. Note, there are some birds (birds of prey, herons etc.) that do begin nesting earlier in the year. It should also be noted, that if an active nest is present before or after the above dates that it is still protected. These dates only serve as a guideline and those provided by MECP for SAR Birds are more restrictive (April 1 to August 31). Note that due to the thick shrub growth, looking for active bird nests at this site would be difficult and could lead to false negatives. Proponent is strongly encouraged to follow timing windows.
- During construction, there is a potential for suitable habitat for ground nesting birds (i.e. killdeer) to be created. These include bare soil or gravel areas. Perform regular walks of the cleared areas looking for ground nesters. If any are present, the contact a biologist for guidance.
- Work during the daytime hours to prevent light disturbances. If lights are required, minimize the area illuminated to only that needed for worker safety, ensure that lights are pointed to the ground and not lighting the sky or watercourse.
- Ensure that all equipment have the appropriate mufflers to reduce noise disturbances.
- If a turtle nest is suspected, then flag a 10 m buffer to protect the nest. Contact MECP (for SAR) and MNRF (all other species).
- All equipment will be clean and free of mud to help prevent the spread of invasive plant species.

5. CONCLUSION

The lands to be developed are situated on the west end of Steacie Drive, next to existing development and manicured parks. The habitat that will be impacted is primarily a cultural thicket with some cultural meadows. This report has been updated to the current best management practices.

Endangered and threatened species and their habitat

- Advice from MECP on Blanding's turtle remains applicable; avoidance and mitigation measures will be applied.

- Overall, the new design has reduced impacts to SAR flora. No further surveys for SAR flora are required if the clearing of vegetation is completed prior to June 3, 2026. Butternut Health Assessment of the single individual will be submitted to MECP. The new design allows for this species to be protected as per the provincial regulations.
- SAR Bats: Based on the available literature, the Site does not provide high quality bat habitat (MNR, 2019). However, as policies are undergoing changes, it is recommended that MECP be contacted if bat maternity trees are identified.
- Ensure that advice for SAR is reflective of the most recent MECP policies at the time of clearing of vegetation.

Fish habitat / Significant valley land

The new design has now eliminated work in the valley lands and in direct fish habitat.

- Potential impacts to indirect fish habitat (railroad ditch) and indirect impacts to Kizell Drain can be avoided. A request for review can be submitted to DFO.

All of the impacts can be mitigated through the use of common mitigation measures and no residual negative impacts to the natural environment are anticipated as a result of the development described within this report.

This development can be accepted as planned. It is trusted that this report will meet the City's requirements. Should you have any questions or comments, please contact Michelle Lavictoire (michelle.lavictoire@cima.ca).

6. STUDY LIMITATIONS AND CONSTRAINTS

CIMA+ completed diligent and reasonable research in conducting this evaluation with respect to the recognized laws and standards of practice.

The facts presented in this report are strictly limited to the period of investigation. Conclusions are based on available information and documents, observations made during site visits, and information obtained from communications with various contacts. As such, our interpretation is limited to this data.

CIMA+ is not responsible for erroneous conclusions due to voluntary abstention or the non-availability of pertinent information. Any opinion expressed in relation to legal or regulatory conformity is technical and should not, in any case, be considered legal advice.

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A

Appendix A: Potential Endangered or Threatened Species

List of Potential Endangered or Threatened Species and Identification of those Brought Forward

Common Name	Scientific Name	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Preferred Habitat Guidelines	Evaluation	Brought Forward (Yes/No)
REPTILES							
Blanding's Turtle	*Emydoidea blandingii*	S3	THR	END	Shallow water, large marshes, shallow lakes, or similar water bodies (COSEWIC, 2016). Federal guidelines use a 2 km distance and bases the automatic protection on the occupancy and suitability of the habitat for nesting, overwintering and functional habitat (ECCC, 2018). Provincial guidelines provide general habitat protection to suitable habitat within 2 km of an occurrence when certain conditions are met (MECP, 2019).	Background information provided in 2014 has mapped Blanding's Turtle general habitat for the area. As such, this species is brought forward and has already been discussed with MECP. The new design has less impact than the previous.	Yes
BIRDS							
Least Bittern	*Ixobrychus exilis*	S4B	THR	THR	Freshwater marsh habitat with dense vegetation (Sandilands, 2005; COSEWIC, 2009a). Nests are typically in cattail marshes, near edge or openings but they have been found in other emergents and occasionally in willow (Woodcliff, 2007). Recovery strategy states that the species must have permanent marsh/shrub swamps and a mosaic of tall and robust herbaceous or woody vegetated with open water areas and natural regime water levels (ECCC, 2014). The open water areas can be shallow (10-50cm) (OMNRF, 2016). Movements within this suitable habitat can extend within a 500m radius of the nest (ECCC, 2014). and are usually found in those that are larger than 5 ha (COSEWIC 2009; OMNRF, 2014). The province does not currently have any guidance on the general habitat requirements of this species.	No suitable marsh habitat is present in the surveyed area. This species is not brought forward for this project.	No
Chimney Swift	*Chaetura pelagica*	S4B, S4N	THR	THR	Cities, towns, villages, rural, and wooded areas. This species rarely utilizes trees; they prefer trees greater than	This species has been recorded in the ABBO squares of the general	No

Common Name	Scientific Name	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Preferred Habitat Guidelines	Evaluation	Brought Forward (Yes/No)
					50 cm in diameter and that are within 1 km of waterbodies (COSEWIC 2007). Provincially, this species' protected habitat consists of Category 1 habitat, which is a human-made nesting/roosting feature or natural nesting/roosting tree cavity, as well as the area within 90 m of the **natural** tree cavity (MECP, 2017). No Category 2 or 3 habitats are outlined for this species (MECP, 2017).	area (breeding evidence: possible). There is forested habitat for this species present on Site as well as trees larger than 50cm in diameter; however, this conspicuous species was not observed during the bird survey in 2014 or any of the site visits. This species is considered absent.	
Loggerhead Shrike	*Lanius ludovicianus*	S2B	END	END	Breeding habitat is characterized by open areas such as pastures, prairie grasslands, and agricultural fields. Nesting sites are small shrubs and trees, usually those with thorns or dense interiors (COSEWIC, 2014). The federal recovery strategy states that the species critical habitat is all suitable habitat patches in which confirmed or probable breeding evidence was observed between 2004-2008 (ECCC, 2010) OR two such observation were made in differing years between 1999-2003 as well as suitable habitat patches of which >50% fall within a 400 m radius of the observation/s. Provincially, the species' critical habitat is the 200 m surrounding a nesting site (Category 1) and 200 m surrounding the Category 1 habitat (Category 2) (MECP, 2017).	The Site consisted primarily of cultural thicket, but these were small in size and no concentrations of species with thorns were observed. No individuals or signs of their presence were observed during the bird survey in 2014 or any of the site visits. This species is considered absent.	No
Bank Swallow	*Riparia riparia*	S4B	THR	THR	This species nests within vertical banks, with a preference for sand-silt substrate. Nesting sites more likely near open upland habitats. (COSEWIC, 2013). Provincially, the species protected habitat is the 50 m in front of a breeding colony's bank face and all suitable foraging habitat within 500 m (MECP, 2015).	No vertical banks present consisting of sand/silt. None observed during bird surveys. This species is considered absent.	No

Common Name	Scientific Name	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Preferred Habitat Guidelines	Evaluation	Brought Forward (Yes/No)
Bobolink	*Dolichonyx oryzivorus*	S4B	THR	THR	Primarily in forage crops, and grassland habitat. It is sensitive to edge effects, size of habitat and areas with dense shrub vegetation or a litter layer deeper than a few centimeters (COSEWIC, 2010). Provincially, this species' protected habitat is the area extending 60 m from the nest as well as the 300 m of suitable habitat around the nest (MECP, 2013).	No suitable grassland habitat within or adjacent the Site. None observed during bird surveys This species is considered absent.	No
Eastern Meadowlark	*Sturnella magna*	S4B	THR	THR	Typically require larger grasslands but have been known to breed in habitats that were 1 ha in the United States. Usually, this species' defended territories consist of 2.8-3.2 ha of uncut meadow or field (OMNR, 2014). Personal observations of successful nesting habitat for this species in Eastern Ontario have not found any successful nesting pairs in habitats that were less than 5 ha, which is estimated to be this species' approximate area requirement (COSEWIC, 2011). Provincially, this species protected habitat is the area extending 100 m from the nest as well as the 300 m of suitable habitat around the nest (MECP, 2013).	No suitable grassland habitat within or adjacent the Site. None observed during bird surveys This species is considered absent.	No
MAMMALS							
Little Brown Myotis	*Myotis lucifugus*	S4	END	END	Females establish summer maternity colonies, often in buildings or large-diameter trees. Foraging occurs over water, along waterways, and forest edges. Overwinter in cold and humid hibernacula (caves/mines) (COSEWIC, 2013). Critical habitat has not yet been defined by the province.	No suitable hibernacula present in the area (no crevices or entrances to bedrock). No suitable maternity roost habitat is present within or adjacent to the	Yes

Common Name	Scientific Name	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Preferred Habitat Guidelines	Evaluation	Brought Forward (Yes/No)
Northern Myotis	*Myotis septentrionalis*	S3	END	END	Older (late successional or primary forests) with large interior habitat and snags that are in the mid-stage of decay. They prefer intact interior habitat and are sensitive to edge habitats (Menzel et al. 2002, Broders et al. 2006, SWH 6E Ecoregion Criterion Schedule). Critical habitat has not yet been defined by the province.	Site for Eastern Small-footed Myotis or Northern Myotis. There remains the potential for woodland bats to utilize adjacent lands for maternity or day-roosts. As such, the six woodland bat species are brought forward for avoidance and mitigation measures.	
Eastern Small-footed Myotis	*Myotis leibii*	S2S3	END	No Status	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. The recovery strategy for the eastern small-footed myotis indicates that the preferred maternity habitat of this species consists of open rock habitats and that it doesn't use old buildings. In the winter, these bats hibernate, most often in caves and abandoned mines (Humphrey, 2017). Critical habitat has not yet been defined by the province.		
Tri-colored Bat	*Perimyotis subflavus*	S3?	END	END	Females establish summer maternity colonies, often in buildings or large-diameter trees. Foraging occurs over water, along waterways, and forest edges. Overwinter in cold and humid hibernacula (caves/mines). (COSEWIC, 2013). Critical habitat has not yet been defined by the province.		
Silver-haired Bat	*Lasionycteris noctivagans*	S4	END	No Status (END COSEWIC 2023)	Females establish summer maternity colonies in large diameter trees (COSEWIC 2023). They also use buildings as roosting sites. Critical habitat has not yet been defined. Provincially, hibernacula have a buffer of 200m. Buffers for maternity sites have not been established.		
Eastern Red Bat	*Lasiurus borealis*	S4	END	No Status	Day roosts can be in a variety of deciduous and coniferous forest types, usually in trees but occasionally shrubs. Trees		

Common Name	Scientific Name	SRank	ESA Reg. 230/08 SARO List Status	SARA Schedule 1 List of Wildlife SAR Status	Preferred Habitat Guidelines	Evaluation	Brought Forward (Yes/No)
				(END COSEWIC 2023)	used as maternity roosts by both species tend to be large diameter and tall (COSEWIC 2023). Both migrate south to hibernate in the southern United States (COSEWIC 2023).		
Hoary Bat	*Lasiurus cinereus*	S4	END)	No Status (END COSEWIC 2023)			
VASCULAR PLANTS							
Butternut	*Juglans cinerea*	S2?	END	END	Found in a variety of habitat types but grows best on well-drained fertile soils in shallow valleys and on gradual slopes (COSEWIC, 2017). The federal recovery strategy does not outline critical habitat for this species. Provincially, butternuts are assessed and categorized based on the amount of canker. These categories are outlined in Section 6.	A single butternut was found on site. This species is being brought forward. A BHA was completed and will be submitted to MECP.	Yes
Black Ash	*Fraxinus nigra*	S4	END	No Status	Swamps, bogs, and riparian areas, occasionally poorly drained upland areas (COSEWIC 2018).	Surveys were completed, and no individuals were observed.	Yes (survey anticipated to be valid for 2 years.)

Table Updated: July 2025

SRANK Definitions

S2 Imperiled, imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3 Vulnerable, Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure, Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S#S# Range Rank, A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
? Inexact Numeric Rank—Denotes inexact numeric rank
S#B Breeding

SARO Status Definitions

END Endangered: A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.
THR Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

SARA Status Definitions

END Endangered, a wildlife species facing imminent extirpation or extinction.
THR Threatened, a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.