Environmental Impact Study
(2nd Submission)

7309 Centre Road Uxbridge

Township of Uxbridge

Prepared for:
Mason Homes Limited

Prepared by:
Azimuth Environmental
Consulting, Inc.

August 2025

AEC 22-406

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

August 28, 2025 AEC 22-406

Mason Homes Limited
c/o Gordon Mason
70 Innovator Avenue, Unit #1
Stouffville, Ontario
L4A 0Y2

Re: **Environmental Impact Study (2nd Submission) for a Proposed Residential Development on 7309 Centre Road, Township of Uxbridge, Regional Municipality of Durham**

Dear Mr. Mason:

Azimuth Environmental Consulting, Inc. was retained to provide an Environmental Impact Study report for a proposed residential development at the location described above. This report represents a 2nd Submission update to the initially submitted EIS, dated April 4, 2024, and incorporates responses based on comments received from the Lake Simcoe Region Conservation Authority. The purpose of this report is to provide the Township of Uxbridge and other review agencies with an understanding of natural environmental conditions and potential for impacts related to the proposed development on significant natural heritage features and functions of the property and adjacent lands. This report also documents the natural environmental features present within the property and adjacent lands with regard to Species at Risk and their habitats.

Should you have any questions or require additional information please do not hesitate to contact the undersigned.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

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1.0 INTRODUCTION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by Mason Homes Limited to undertake an Environmental Impact Study (EIS) for a proposed residential subdivision development at 7309 Centre Road within the Township of Uxbridge (the "Township"), Regional Municipality of Durham (the "Region"). A map illustrating the limits of the property in its regional context is shown on Figure 1. It is our understanding that the Township and the Lake Simcoe Region Conservation Authority (LSRCA) have requested that an EIS be undertaken due to presence of mapped wetlands and drainage features within the study area. The study area including the proposed development footprint are mapped within the jurisdiction of the LSRCA, and therefore a permit issued under Ontario Regulation (O. Reg.) 41/24 may be required to proceed with the proposed development. This report represents a 2nd Submission update to the initially submitted EIS, dated April 4, 2024, and incorporates responses based on review comments received from the LSRCA.

This purpose of this EIS is to identify the candidate Key Natural Heritage Features (KNHFs) present within the study area and address potential impacts to candidate KNHFs. A review of background information in combination with a detailed field program was undertaken in fall 2022-summer 2023 to identify significant natural heritage features and functions. This report also examines potential for Species at Risk (SAR) protected under the *Endangered Species Act*, 2007 (ESA) within the study area. The potential for negative impacts to natural heritage features resulting from the proposed development is considered and recommendations for avoidance and mitigation are provided.

For the purposes of this EIS, the study area comprises the property as shown on Figures 1-3 and adjacent lands (within approximately (~) 120 metres (m)) of the property limits). Natural features in the overall planning area beyond the defined study area limits are discussed where applicable throughout this report.

2.0 PLANNING CONTEXT

2.1 Provincial Planning Policy (2024)

The Provincial Planning Statement (PPS) (MMAH, 2024) outlines policies related to natural heritage features (Section 4.1) and water resources (Section 4.2). Ontario's *Planning Act*, (1990) requires that planning decisions shall be consistent with the PPS. The study area for this assessment is located entirely within **Ecoregion 6E**. According to the PPS development and site alteration shall not be permitted in:

- *Significant wetlands* in Ecoregions 5E, 6E and 7E; and,
- *Significant coastal wetlands*.

Similarly, Section 4.1.5 of the PPS states that, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted within:

a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E; and 7E;
b) *significant woodlands* in Ecoregions 6E; and 7E;
c) *significant valleylands* in Ecoregions 6E; and 7E;
d) *significant wildlife habitat*;
e) *significant areas of natural and scientific interest*; and,
f) *coastal wetlands* in Ecoregions 5E, 6E; and 7E that are not subject to policy 2.1.4(b).

It is ultimately the responsibility of the Province and/or the Municipality to designate areas identified within Section 4.1.4 and 4.1.5 of the PPS as "significant".

Section 4.1.6 of the PPS states that development and site alteration is not permitted in fish habitat except in accordance with federal and provincial requirements.

Section 4.1.7 of the PPS states that development and site alteration shall not be permitted in the habitat of Threatened and Endangered species, except in accordance with provincial and federal requirements.

Furthermore, under Section 4.1.8 of the PPS, no development or site alteration will be permitted on lands adjacent to natural heritage features and areas identified in policies 4.1.4, 4.1.5 and 4.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated there will be no negative impacts on the natural features and their ecological functions.

2.2 Endangered Species Act, 2007

Ontario's *Endangered Species Act*, 2007 (ESA) provides regulatory protection to Endangered and Threatened species prohibiting harm and/or killing of individuals and destruction of their habitats. On June 4, 2025, the province of Ontario adopted *Bill 5, Protect Ontario by Unleashing Our Economy Act, 2025* ("Bill 5"), which received Royal Assent the following day. Bill 5 amends the provincial ESA and provides a modified definition of "habitat" under the provincial ESA, as follows:

"*"habitat" means, subject to subsection (3),*

(a) in respect of an animal species,

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

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

(b) in respect of a vascular plant species, the critical root zone surrounding a member of the species, and

(c) in respect of all other species, an area on which any member of a species directly depends in order to carry on its life processes; ("habitat")"

The various schedules of the ESA included under O. Reg. 230/08 identify SAR in Ontario. These include species listed as Extirpated, Endangered, Threatened and Special Concern. As noted above, only species listed as Endangered or Threatened receive protection from harm and destruction to habitat on which they depend.

2.3 Greenbelt Plan

The property is mapped as Towns and Villages (a Settlement Area) within the Protected Countryside designation of the Greenbelt Plan (2017) (Appendix B). In accordance with Section 3.2.2.4, "*The Natural Heritage System, including the policies of section 3.2.5, does not apply within the existing boundaries of settlement areas, but does apply when considering expansions to settlement areas as permitted by the policies of this Plan. Municipalities should consider the Natural Heritage Systems connections within settlement areas when implementing municipal policies, plans and strategies.*"

2.4 Regional Municipality of Durham

The property is designated by the Region's Official Plan (2020) as occurring entirely within the Urban Area designation (Schedule B; Appendix A), and is mapped as a Specific Policy Area within Map 1 (Regional Structure – Urban & Rural Systems; Appendix A) of the Region's new Official Plan (2024). Lands to the north, south and east of the property are designated as having Key Natural Heritage and Hydrologic Features (Schedule B; Appendix A) that are consistent with watercourse mapping from provincial resources (Appendix B). Map 2a (Regional Natural Heritage System; Appendix A) of the Region's new Official Plan (2024) illustrates southern portions of the site as Regional Natural Heritage System and Enhancement and Opportunity Areas. Permanent and Intermittent streams and potential nodes of Unevaulated Wetlands are

illustrated along the southern property boundary within Map 2c (Water Resources System – Key Hydrologic Features) of the Region's new Official Plan (Appendix A).

2.5 Township of Uxbridge

The property is designated by the Township's Official Plan (2025) as occurring within the Urban Area Boundary and Future Residential Area (Schedule A; Appendix A). Adjacent lands to the north, south and east of the property are mapped as a Natural Hazard Area and Environmental Potential Area (Schedule A & Schedule B; Appendix A), consistent with watercourse mapping from provincial resources (Appendix B). An existing trail traverses adjacent to the southern watercourse (Schedule B; Appendix A). The property is mapped as Uxbridge Urban Area within the Greenbelt Plan Area and the Lake Simcoe Protection Act Watershed Boundary (Map 1; Appendix A). The property does not occur within the vicinity of mapped Environmental Constraints Areas (Schedule B; Appendix A) or the Oak Ridges Moraine Conservation Plan Area (Map 1; Appendix A).

2.6 Lake Simcoe Region Conservation Authority

The study area is located within the jurisdiction of the LSRCA. The study area includes lands subject to O. Reg. 41/24 – "Prohibited Activities, Exemptions and Permits" by the LSRCA. Under Regulation 41/24, LSRCA approval will be required for any proposed development or site alteration within areas regulated under the Conservation Authority's jurisdiction.

2.7 Lake Simcoe Protection Plan

The Lake Simcoe Protection Plan (LSPP, 2009) was implemented to protect and restore the ecological health of the Lake Simcoe watershed, which is completed through various objectives and principals of the Plan that relate to components such as aquatic life, water quality, and water quantity. The property is mapped entirely within the planning area of the LSPP (Appendix A), and occurs entirely within a Settlement Area boundary.

2.8 Federal *Fisheries Act*

The *Fisheries Act* includes protections for fish and fish habitat in the form of standards, codes of practice, and guidelines for projects near water. The *Fisheries Act* provides protection against the "death of fish, other than by fishing", (Section 34.4(1)) and the "harmful alteration, disruption or destruction of fish habitat", (Section 35(1)), otherwise known as HADD. In cases where impacts to fish and fish habitat cannot be avoided, and the project does not fall within waterbodies where Fisheries and Oceans Canada (DFO) review is not required, proponents are asked to submit a request for review to their Fish and Fish Habitat Protection Program regional office to determine approval requirements.

All projects are encouraged to avoid causing the death of fish and a HADD of fish habitat, using measures to protect fish and fish habitat that include standards and codes of practice for common works, undertakings and activities.

3.0 STUDY APPROACH

A combination of a background information and field data were used to fulfill the objectives of this EIS. Azimuth undertook the following activities for this study:

- Conducted field surveys to document existing natural heritage features, functions, and species. Surveys included:
    - Evaluated/mapped vegetation community types based on Ecological Land Classification methods (ELC; Ecological Land Classification for Southern Ontario: First Approximation and its Applications. SCSS Field Guide FG-02; Lee *et al.*, 1998, updated 2008) (spring/summer 2023);
    - Walked the limit of the woodland and wetland features on the property with the LSRCA (June 2023);
    - Conducted a Butternut Health Assessment (BHA) to assess the health of Butternut trees found on the property and in adjacent lands (August 2023);
    - Conducted three evening calling amphibian surveys (April, May and June 2023) to determine the extent of amphibian habitat onsite;
    - Conducted a detailed vascular plant inventory on the property during spring (May) and summer (August) 2023;
    - Conducted three dawn breeding bird surveys in May and June 2023;
    - Conducted three evening/nocturnal bird surveys in May and June 2023 to evaluate presence/absence of Eastern Whip-poor Will and Common Nighthawk (SAR birds);
    - Completed two fish habitat surveys (fall 2022 and spring 2023) to document the extent of fish habitat on the property and any sensitive fish habitat features;
    - Completed detailed bat "snag" mapping to document potential maternity roosting habitat for SAR bats during fall 2022; and
    - Recorded all incidental wildlife observations during site visits.
- Completed a SAR habitat assessment using field data collected by Azimuth and other data available and/or provided by agencies to confirm environmental constraints, and approval requirements under the ESA; and,
- Assessed the potential direct and indirect impacts of the proposed development on property.

The above scope of work was agreed upon following discussions with the LSRCA. The BHA described above was not included as part of the agreed scope, but conducted as a result of Butternut trees being identified within the study area. Correspondence between Azimuth and the LSRCA regarding the Terms of Reference for the field program and impact assessment is included in Appendix A.

3.1 Background Information

A review of the following background documents provided information on site characteristics, habitat, wildlife, rare species and communities and general cultural/historic aspects of the study area:

- Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC; MNRF, 2023);
- Atlas of the Breeding Birds of Ontario (OBBA; Cadman *et al.*, 2007);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020);
- Ministry of Environment, Conservation and Parks (MECP) Species at Risk Ontario list (MECP, 2023);
- iNaturalist (NHIC) Rare Species of Ontario (iNaturalist, 2023);
- Air photos available for the Project Area (Google, VuMap);
- Government of Canada's Species at Risk Public Registry; and,
- Atlas of the Mammals of Ontario (Dobbyn, 1994).

3.2 Vegetation Community Mapping and Surveys

Prior to undertaking the field studies, an initial classification of vegetation communities was undertaken using recent air photo imagery for an area encompassing the study area. Preliminary vegetation community boundaries were mapped on November 7, 2022 and then refined in the field on May 26 and August 4, 2023 during the growing season when the emergent ground cover vegetation layer was present. Vegetation community types were classified using ELC protocols.

The site visit was undertaken by a qualified ecologist with existing knowledge related to rare, Threatened, and Endangered plant species with potential to occur in the area. The site assessment was focused during ELC work to ensure that appropriate effort was made to detect any federally or provincially designated species, notably SAR as identified under the ESA.

A detailed survey including a screening for Butternut (*Juglans cinerea*; Endangered) and Black Ash (*Fraxinus nigra*; Endangered) was also conducted within the study area.

3.2.1 Butternut Health Assessment

Azimuth completed a BHA on Butternut trees identified within or adjacent to the property limits on August 4, 2023 (submitted to MECP on August 18, 2023) (Appendix B).

3.2.2 Wetland Delineation

Azimuth walked the limits of the wetland with the LSRCA (Jessica Chan, Natural Heritage Ecologist) on June 29, 2023. During the site visit, the perimeter of the wetland inclusions within the study area limits were walked and boundaries were agreed upon with LSRCA. The Mixed Forb Mineral Meadow Marsh (MAMM2-4) inclusion was not identified during the site visit with the LSRCA and thus the boundary was determined by Azimuth on August 4, 2023.

3.3 Wildlife Surveys

Wildlife species utilizing the study area were identified from direct observation, auditory signs, and through interpretation of other signs (tracks, scats, vocalizations, *etc.*) as a matter of course while conducting field surveys.

3.3.1 Species at Risk

The SAR screening undertaken for the scope of this assignment includes an assessment of SAR with potential to occur in the overall planning area, compared with potential habitat features identified within the study area. Habitat requirements and appropriate designations (Endangered, Threatened, or Special Concern) are outlined in Table 1.

3.3.2 Breeding Birds

Three dawn breeding bird surveys were conducted within the study area on May 26, June 5 and June 29, 2023 guided by point count methodology presented in Appendix D of the OBBA Guide for Participants (2001). All surveys were conducted no earlier than one half hour before sunrise and were completed prior to 10:00a.m. Surveys were completed under suitable weather conditions (*i.e.* no precipitation and light winds (Beaufort wind scale $\leq$3)), with an observation period of 10 minutes carried out at the point count stations shown on Figure 2.

Evening breeding bird surveys were conducted based on a modified version of the Canadian Nightjar Survey Protocol (Bird Studies Canada *et al*., 2019) and the DRAFT Survey Protocol for Eastern Whip-poor-will (*Caprimulgus vociferus*) in Ontario (MNRF, 2014). Surveys were carried out in May and June 2023 with the objective of sampling for Eastern Whip-poor-will and Common Nighthawk (SAR birds). Surveys were focused to a period within 7 days of the full moons on June 4 and July 3. Point counts took place

with an observation period of 6 minutes at each point count. All surveys were undertaken on calm clear nights with:

- At least 50% of the visible moon surface illuminated;
- Little or no cloud cover;
- Calm to light winds (Beaufort ≤3);
- No precipitation; and,
- Temperatures above 10ºC.

Azimuth attended the study area for a total of three evenings on May 29, May 31 and June 26, 2023, all of which demonstrated suitable weather conditions. Surveys were undertaken at the survey stations illustrated on Figure 2.

3.3.3 Amphibian Breeding

Azimuth conducted three evening calling amphibian surveys on April 20, May 29, and June 26, 2023 to assess amphibian breeding within and adjacent to the property in accordance with the Great Lakes Marsh Monitoring Program (Bird Studies Canada, 2008) protocol. In accordance with the protocol, amphibian surveys were completed during the period between 30 minutes after sunset and midnight, on evenings with winds Beaufort <4. Surveys occurred during early (April 15-30), middle (May 15-31), and late (June 15-30) spring periods on evenings with minimum temperatures of 5°C, 10°C, and 17°C respectively. The early-spring survey was conducted between 20:45 and 21:30, on an evening with an air temperature of 8°C and with winds Beaufort 2-3; the mid-spring survey was conducted between 22:23 and 23:03, on an evening with an air temperature of 16°C and with winds Beaufort 1; and the late-spring survey was conducted between 21:40 and 22:24, on an evening with an air temperature of 18°C and with winds Beaufort 2. The locations of survey stations are illustrated on Figure 2.

3.3.4 Bats and Bat Habitat

Several bat species (including Endangered bats Little Brown Myotis, Northern Myotis, and Tri-colored Bat) may utilize large trees preferably 25 centimetres (cm) diameter at breast height (DBH) in the early stages of decay, described as “snag” trees – those having cracks, splits, holes, *etc.* that could feasibly provide access for bats. Treed areas may also be utilized by Eastern Red Bat, Hoary Bat, and Silver-haired Bat, species recently listed as Endangered under the provincial ESA as of January 2025. Azimuth conducted a detailed snag mapping exercise within the property limits and stream corridor in adjacent lands according to provincial protocols (MNRF, 2015a) on November 7, 2022 (during the leaf-off season) to identify suitable snag trees that could potentially be used by bats to establish maternity and/or day roosts during the summer period.

3.4 Fish and Fish Habitat

Watercourses and drainage features in the study area were evaluated on November 23, 2022 (fall assessment) and April 25, 2023 (spring assessment). Assessments were aimed at understanding the extent of fish habitat features within and in proximity to the study area. The assessments included documentation of channel dimensions and general morphometrics, water depths, flow observations, aquatic vegetation, substrate material, fish passage barriers, and observations of fish to determine characteristics of fish habitat and fish habitat sensitivity.

4.0 EXISTING CONDITIONS

4.1 Land Use

The property is ~13.5 hectares (ha) and largely consists of active agricultural lands (soy) as illustrated on Figure 2. Meadow and thicket habitat surround the majority of the agricultural lands. A hedgerow extends along the northern property boundary, and woodland habitat occurs in areas along the eastern and southern property edge and extends into adjacent lands. Several small wetland pockets ("inclusions" under the ELC system) occur throughout the property and in adjacent lands (Figure 2).

A watercourse flows in an easterly direction in adjacent lands to the south of the property. This riparian corridor consists of meadow, thicket and woodland habitat, as depicted on Figure 2. A community trail exists within the riparian corridor, connecting lands to the east and west of the site. It is our understanding that this corridor was conveyed to the Township and as such, Azimuth included this area into the field program. An ephemeral drainage feature exists immediately north of the property (Figure 2).

Lands to the south of the property consist of residential development while lands to the north, east and west are largely rural, consisting of agricultural lands, rural properties and natural heritage features (woodland and wetland).

4.2 Terrestrial Resources

4.2.1 Vegetation

The limits of all ELC communities identified within the study area are illustrated in Figure 2. A complete list of vascular plant species identified within the property limits and southern riparian corridor are presented in Table 2, and summary descriptions of vegetation communities are presented in Table 3.

Vegetation communities within the study area were determined in accordance with the ELC system, are illustrated on Figure 2 and listed as follows:

- FOCM6-3: Dry-Fresh Scotch Pine Naturalized Coniferous Plantation
- FODM11: Naturalized Deciduous Hedgerow
- MEMM4a: Fresh-Moist Mixed Meadow
    - With MAMM2-4 (inclusion): Mixed Forb Mineral Meadow Marsh
    - With MAMM1-3 (inclusion): Reed Canary Grass Mineral Meadow Marsh
- MEMM4b: Fresh-Moist Mixed Meadow
    - With MAMM1-10 (inclusion): Horsetail Mineral Meadow Marsh
- MEMM4c: Fresh-Moist Mixed Meadow
    - With SWTM3 (inclusion): Willow Mineral Deciduous Thicket Swamp
- THDM2-6: Buckthorn Deciduous Shrub Thicket
- WODM5-3: Fresh-Moist Manitoba Maple Deciduous Woodland
- WOMM4-1: Fresh-Moist White Cedar-Hardwood Mixed Woodland

None of the vegetation communities or species documented are of federal or provincial conservation concern (NHIC; MNRF, 2023).

4.2.1.1 Rare and Uncommon Plants

There are no elements of occurrence (EO_ID) within the study area for provincially Endangered or Threatened, or provincially rare vegetation species according to the NHIC database (MNRF, 2023).

Eighteen (18) Butternut (an Endangered tree species) were identified within the property limits or adjacent lands as depicted on Figure 2. No other plant species considered Endangered or Threatened were identified during the site investigation. Further, no provincially rare (S1-S3) species (aside from Butternut; ranked “S2?”) were observed during the field program.

4.2.2 Wildlife

4.2.2.1 Mammals

Evidence of three mammalian species, Eastern Chipmunk (vocalization), Eastern Cottontail (direct observation) and Red Squirrel (vocalization) were observed throughout the course of the field program. Given the proximity of the study area to large natural areas in the greater landscape, it is expected the following other mammals could conceivably be encountered within the study area: small mammal species (various mice, voles, and shrews), Eastern Gray Squirrel, Northern Flying Squirrel, weasel species, American Mink, Muskrat, Woodchuck, Beaver, Striped Skunk, Virginia Opossum, Porcupine, Raccoon, Red Fox, Coyote and White-tailed Deer.

4.2.2.2 Reptiles and Amphibians (Herpetofauna)

No amphibians were heard calling onsite during Azimuth's evening calling amphibian surveys.

A distant full chorus (L3) of Spring Peppers was heard calling east of the property on April 20, 2023, a distant full chorus (L3) of Gray Treefrogs was heard to the northeast of the property on May 29, 2023, and a distant group of Gray Treefrogs (L1(8)) were heard to the east of the property on June 26, 2023 (all activity was heard at point count station 3; Figure 2). It is estimated that all amphibian calling activity was at least 120m from the property limits. This activity confirms suitable conditions for each of the survey evenings.

No salamanders or newts were observed over the course of the field program. No evidence of vernal pooling providing breeding opportunities for salamanders was observed during the early spring survey period.

No reptiles (turtles or snakes) were observed throughout the course of the field program.

4.2.2.3 Birds

Thirty-four (34) bird species were recorded during dawn breeding bird surveys, all of which are typical of urban/semi-urban landscapes, rural/agricultural lands, thickets and woodland edge habitats (Table 4). An additional four (4) bird species were identified incidentally during the remainder of the field program, also documented on Table 4.

Evening breeding bird surveys did not detect presence of Common Nighthawk and Eastern Whip-poor-will.

4.3 Species at Risk

The SAR assessment (Table 1) fully considers SAR with potential to occur in the planning area. Based on this assessment in combination with vegetation communities and other environmental features observed during the site investigation, the following species are considered below in this report:

- **Threatened or Endangered**: Butternut, Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Red Bat, Hoary Bat, Silver-haired Bat
- **Special Concern**: Snapping Turtle

Only species designated Threatened or Endangered receive individual and habitat protection under Section 9 and Section 10 of the ESA. Special Concern species are

further discussed in the context of Significant Wildlife Habitat (SWH; Habitat for Special Concern and Rare Wildlife Species) below.

4.3.1 Butternut

Butternut are commonly found in riparian habitats, but are also found in rich, moist, well-drained loams, and well-drained gravels (COSEWIC, 2003). Eighteen (18) Butternut trees were identified within the study area as depicted on Figure 2. A BHA was undertaken on these trees on August 4, 2023 by a qualified Butternut Health Expert (formerly referred to as Butternut Health Assessor) Dan Stuart (Terrestrial Ecologist, Azimuth) and is included in Appendix B. In accordance with provincial guidelines (MECP, 2021), MECP reserves a 30-day audit period following submission of BHA reports. Azimuth was not contacted by MECP during the 30-day period to initiate the audit process, therefore the tree category statuses presented herein are considered accepted by the province.

The BHA confirmed the following statuses for trees subject to assessment on the property and adjacent lands:

- Category 1 (non-retainable): 11 trees
- Category 2 (retainable): 7 trees

All identified Butternut trees subject to the BHA are illustrated on Figure 2.

4.3.2 Species at Risk Bats

Endangered bat species that may occur within the study area (Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Red Bat, Hoary Bat, Silver-haired Bat) are known to utilize decaying, large diameter trees (>25cm DBH) for maternity roosts during the summer to raise their young, however may utilize trees of any size for roosting purposes. As these species are listed as Endangered on the SAR in Ontario List, the species and their habitat are protected from harm or destruction under Section 9 and 10 of the ESA.

During the detailed snag mapping survey, no suitable cavity trees with snag features that would provide potential habitat to Endangered bat species were identified within the treed communities onsite and in adjacent lands to the south. Trees within these communities are immature and thus limited evidence of decay was noted. As such, the property and riparian corridor are not anticipated to provide high quality habitat for Endangered bat species, however marginal roosting opportunities may occur within trees and woodland features.

Woodlands in adjacent lands to the northeast were not assessed for suitable cavity trees. While woodlands within proximity to the property limits are young, woodland age and tree decay characteristics are unknown for trees located further from the property. Therefore, adjacent woodlands have potential to provide higher habitat for Endangered bat species.

4.4 Wetlands

Significant Wetlands are not located within the study area limits according to municipal (Appendix A) and provincial (Appendix B) mapping resources.

Wetland vegetation communities were documented to be limited within the study area limits, comprising of four (4) minor wetland inclusions as depicted on Figure 2. Wetlands identified within the study area are listed as follows:

- MAMM2-4 (inclusion): Mixed Forb Mineral Meadow Marsh (**0.21ha**)
- MAMM1-3 (inclusion): Reed Canary Grass Mineral Meadow Marsh (**0.14ha**)
- SWTM3 (inclusion): Willow Mineral Deciduous Thicket Swamp (**0.02ha**)
- MAMM1-10 (inclusion): Horsetail Mineral Meadow Marsh (**0.02ha**)

According to the ELC and Ontario Wetland Evaluation System (OWES; MNRF, 2022) methodologies, vegetation units <0.5ha are typically not considered "mappable" unless they demonstrate ecological features that would warrant special consideration as a KNHF (*e.g.* fish habitat, rare vegetation community). In the case of all wetland inclusions and determined elsewhere in this report, the wetland units do not demonstrate special or unusual ecological functions.

Regardless, impacts to these units are considered further in this assessment as Other Wetlands, with the acknowledgement that all features contribute minimally from a perspective of ecological features and functions.

4.5 Candidate Significant Woodland

Woodlands within the study area are not identified as Significant Woodland on provincial or municipal mapping resources (Appendix A). The Region's Official Plan and Township's Official Plan do not define specific criteria for the evaluation of Significant Woodlands within their jurisdictions. Therefore the Natural Heritage Reference Manual (NHRM; OMNR, 2010) and Technical Paper 1: Technical Definitions and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area (MNRF, 2012) for the Greenbelt Plan have been utilized to assess woodland significance.

According to the Environment and Greenlands System Discussion Paper (Durham Region, 2019), woodland cover within the Township is ~36.4%. "Forest" cover is defined as old growth and plantations and does not include younger woodlands (meeting ELC definition of woodland), therefore 36.4% should represent a conservative estimate of actual "woodland" cover in accordance with provincial standards. Based on the PPS criteria, when woodland cover is between 30-60% within a township, woodlands 50ha in size would qualify as significant. Within the study area, three woodland units have been identified. The Fresh-Moist Manitoba Maple Deciduous Woodland (WODM5-3) and Dry-Fresh Scotch Pine Naturalized Coniferous Plantation (FOCM6-3) woodland block is ~1.33ha, and the Fresh-Moist White Cedar-Hardwood Mixed Woodland is ~0.47ha (Figure 2). A large woodland tract ~19ha in size extends across adjacent lands to the northeast of the property limits. The gap between the woodland on the northeast corner of the property and adjacent woodland is greater than 20m and thus the woodlands are considered to be separate features. The woodlands within the study area do not meet the size threshold as per the PPS criteria.

With regards to Technical Paper 1: Technical Definitions and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area (MNRF, 2012) for the Greenbelt Plan, it is our understanding that significance is only considered for woodlands within the Natural Heritage System of the Protected Countryside. The property is located within lands designated as Towns and Villages (Settlement Area) and is therefore not part of the Natural Heritage System. Adjacent lands to the northeast of the property are within the Protected Countryside and thus, based on their size, would meet the size criteria to be considered significant (woodlands 10ha or larger are considered significant in areas north of the Oak Ridges Moraine Conservation Plan Area). As such, Significant Woodlands are considered in the Impact Assessment with regard for woodlands northeast of the property boundaries.

4.6 Candidate Significant Valleyland

No portion of the study area is identified as Significant Valleyland, nor assigned a similar designation according to municipal or provincial mapping resources (Appendix A).

While a permanent watercourse flows in adjacent lands to the southeast of the property, this feature is not associated with the well-defined valley morphology and landform prominence required to be considered Candidate Significant Valleyland, as verbally confirmed during Azimuth's site visit with the LSRCA (June 29, 2023).

4.7 Candidate Significant Wildlife Habitat

An assessment of the potential for SWH within study area was conducted, using the criteria outlined within the Significant Wildlife Habitat Technical Guide (OMNR, 2000) and the accompanying the Ecoregion 6E Criteria Schedules (MNRF, 2015b). An assessment of Candidate SWH categories relative to documented vegetation communities and habitats within the property is presented in Table 5. The following Candidate SWH types were determined to be present, or have potential to be present within the study area based on the results of the field program:

- Seasonal Concentrations of Areas of Animals
    - Bat Maternity Colonies
- Habitat for Special Concern and Rare Wildlife Species
    - Snapping Turtle

4.8 Areas of Natural and Scientific Interest

There are no ANSIs located within the study area according to municipal or provincial mapping resources (Appendix A).

4.9 Fish and Fish Habitat

During the field investigations, one watercourse feature was identified in the vegetated corridor along the southern boundary of the property, along with one poorly defined drainage feature immediately north of the property. Both of these features are shown on Figure 2 and representative fish habitat photographs are provided in Appendix D. No other watercourses or drainage features were observed during the field investigations. Throughout the actively cropped farm field to the north of the vegetated area, no drainage paths or wetted areas were observed that would be characterized as direct or indirect fish habitat.

Uxbridge Brook Tributary

The watercourse on the property is an unnamed tributary of Uxbridge Brook and flows in an easterly direction through the southern extent of the property. Upstream (west) of the property, the tributary crosses Centre Road via a concrete box culvert and continues to the southwest direction for ~800m. Based on aerial photographs, the tributary appears to collect headwater drainage and discharge from a large pond south of Bolton Drive in a developed area of the community of Uxbridge. Approximately 350m downstream of the property, the tributary outlets into Uxbridge Brook on the west side of Concession Road 7.

Uxbridge Brook is a known coldwater system based on background information from MNRF's ARA database (MNRF, 2023b). For both Uxbridge Brook and the unnamed tributary on the assessed property, the following fish species are present based on MNRF's ARA database: Blacknose Dace, Bluntnose Minnow, Brassy Minnow, Brook Stickleback, Brook Trout, Brown Bullhead, Brown Trout, Central Mudminnow, Common Shiner, Creek Chub, Fathead Minnow, Finescale Dace, Goldfish, Hornyhead Chub, Largemouth Bass, Longnose Dace, Mottled Sculpin, Northern Hog Sucker, Northern Pearl Dace, Northern Redbelly Dace, Pumpkinseed, Rainbow Trout, River Chub, Rock Bass, Slimy Sculpin, Smallmouth Bass, Suckers, White Sucker, Yellow Perch. In addition, Brook Trout were also stocked in Uxbridge Brook in 2021 (MNRF Fish ON-Line, 2022). No aquatic SAR species are known to occur in the unnamed triburay or Uxbridge Brook according to the fish species identified above or DFO's Aquatic SAR mapping (DFO, 2023).

At the upstream limits of the property, the channel crosses Centre Road to the west via a concrete box culvert (3.4m wide x 1.5m tall). Substrate in the culvert was predominantly silt/muck (90%) with sparse cobble and boulders (10%). Flow through the culvert was laminar and shallow (<5cm), but no physical barrier to fish passage was observed. A storm drain outlet was located 3m south of the culvert outlet and outlets into the tributary. On the upstream side, the channel continues west in a similar grassed meadow corridor. The water temperature recorded at the upstream limits of the property was 10.6°C in the fall (2022), and 7.8°C in the spring (2023).

Throughout the assessed property, the unnamed tributary was fairly uniform in nature. The tributary consisted of runs (80%) and riffles (20%), with no deep pools noted throughout the entire property. Riparian lands consisted predominantly of natural open woodlands in the eastern portion of the property, and grassed meadows in the western portion of the property. The only developed portion of the riparian lands within 30m of the watercourse consisted of a gravel walking trail (Maple Bridge Trail) that had three wooden foot bridges that crossed the tributary. All three structures were outside of the 2-year high water mark, and did not appear to impact the form or function of the watercourse. Through the upstream segment of the feature in the grassed meadow portion of the property, the tributary had a 1m wetted width and 0.12m wetted depth. The feature was more entrenched in this area with exposed/eroded soils along the banks. The bankfull depth was 1m, and the bankfull width was 2m. In the wooded section downstream, the channel was less entrenched with an average bankfull depth of 0.7m and a bankfull width of 1.2m. Substrate was predominantly silt/muck throughout a majority of the property, but sections of cobble and boulder stone were noted in various locations, such as the upstream segment near Centre Road, the grassed riparian segment, and near the foot bridges. Clay was also observed along portions of the channel bottom near the

downstream limits of the property. Channel banks were fairly prominent and continuous throughout the property. Eroded banks were noted throughout the property, and shade cover is assumed to be greater than 70% during the summer months. The only aquatic vegetation noted on the assessed property was European Speedwell (*Veronica beccabunga*) in sparse patches in the downstream forested section. Watercress was also noted downstream of the property in both the unnamed tributary and Uxbridge Brook, which is a coldwater indicator species.

At the downstream limits of the property, the channel crosses Oakside Drive to the east via a concrete arch culvert. Substrate in the culvert was predominantly cobble and gravel, and the channel meanders through the culvert. The channel continues downstream of the property in a forested area. An offline pond is located downstream (east) of the property, and the channel meanders around the pond to the north before crossing another walking bridge and outletting into Uxbridge Brook.

Fish were observed in Uxbridge Brook immediately downstream of the property. While no fish were observed in the watercourse on the property, there were no fish barriers noted and the unnamed tributary is directly connected to Uxbridge Brook. Therefore, based on the site observations and background information collected, the unnamed tributary would be characterized as a permanent feature that supports direct coldwater fish habitat and would be considered both a Key Natural Heritage Feature (KNHF) and a Key Hydrologic Feature (KHF) as per the Greenbelt Plan.

Drainage Feature (DF1) north of Study Area

A mapped drainage feature is located immediately to the north of the study area. This drainage feature is labeled DF1 and is shown on Figure 2. On LSRCA regulation mapping, the drainage feature originates ~400m to the west of Centre Road, flows along the hedgerow to the north of the study area for 150m, then turns north and outlets into another unnamed tributary of Uxbridge Brook further north of the study area. During the field investigation, DF1 was assessed from Centre Road as lands on either side of the road were private. At Centre Road, the drainage feature was dry and crosses the road via a plastic corrugated culvert. On the downstream (east) side of the road, the drainage feature was poorly defined with non-continuous banks and minimal substrate sorting noted. The entire drainage feature was covered in terrestrial vegetation, and the feature likely only conveys flow during large rain events or snowmelt. On aerial photographs, no defined feature was noted downstream as well. On the upstream (west) side, no defined drainage feature was noted. Ditches to the north and south were present that capture road runoff, but no defined feature was observed further west as per the LSRCA regulation mapping. Overland flow may drain from these lands towards Centre Road, but no defined feature was noted in the field or from aerial photographs. Given the above site

observations, DF1 would be characterized as an ephemeral drainage feature that is not considered fish habitat (direct or indirect), and would therefore not be considered a KNHF or KHF as per the Greenbelt Plan.

5.0 NATURAL HERITAGE FEATURES AND FUNCTIONS

The results of Azimuth's field studies combined with review of background information indicate the potential for the following candidate KNHFs within the study area:

- Habitat for Threatened and Endangered Species
    - Butternut
    - Endangered Bats (Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Red Bat, Hoary Bat, Silver-haired Bat)
- Other Wetlands
- Significant Woodlands
- Candidate Significant Wildlife Habitat
    - Seasonal Concentrations of Areas of Animals
        - Bat Maternity Colonies
    - Habitat for Special Concern and Rare Wildlife Species
        - Snapping Turtle
- Fish Habitat
    - Uxbridge Brook Tributary – direct coldwater fish habitat

6.0 PROPOSED DEVELOPMENT

The proposed development includes the establishment of residential development parcels that comprise nearly the entire property with the exception of the southwestern lobe. The proposed development includes a mix of townhouses and detached dwellings for a total of 236 units. Road access is proposed from Maple Brook Drive and Centre Road.

A stormwater management (SWM) facility is proposed along the eastern property boundary.

A proposed concept plan is illustrated in Appendix D and illustrated relative to the environmental features mapped on the property in Figure 3. As seen in the concept plan, a 30m setback from the Uxbridge Brook Tributary is being proposed.

7.0 IMPACT ASSESSMENT

This impact assessment is prepared with regards to the construction footprint of proposed development and associated grading limits, as described above and illustrated in Figure 3.

7.1 Habitat for Threatened or Endangered Species

Impacts with regards to the ESA and Habitat of Threatened or Endangered species are covered under Section 9 and 10 of the ESA. Section 9 deals directly with killing, harming, or harassing living members of a species while Section 10 covers destruction or damage to habitat of Threatened or Endangered species. The following Threatened or Endangered species have the potential or are confirmed to occur within the limits of the study area:

- Butternut
- Little Brown Myotis, Northern Myotis and Tri-colored Bat, Eastern Red Bat, Hoary Bat, Silver-haired Bat

7.1.1 Butternut

A total of 18 Butternut trees were documented during the site investigation and were subject to a BHA in accordance with provincial guidelines. The BHA confirmed the following statuses for trees subject to assessment on the property and adjacent lands:

- Category 1 (non-retainable): 11 trees
- Category 2 (retainable): 7 trees
- Category 3 (archivable): 0 trees

As Category 1 trees do not receive ESA protection in accordance with BHA Guidelines due to advanced stage of decline from Butternut Canker disease, these stems are not afforded further consideration in this assessment.

Category 2 and Category 3 Butternut trees are considered to be stems with demonstrated resistance to Butternut Canker disease and are afforded individual and habitat protections under the ESA. Under O. Reg. 830/21 (the "Regulation"), impacts to a limited number of Butternut stems are eligible for an ESA Permit exemption, when a proposed activity will result in "killing" or "harm" to 15 or fewer Category 2 Butternut stems and 5 or fewer Category 3 Butternut stems (Section 25.(3)). Proponents are able to proceed with such an exemption providing a Notice of Butternut Impact ("Notice") is filed and the proponent remains compliant with compensatory measures that are committed to upon completion of the Notice.

Section 31 of the Regulation, outlines criteria for determination of the Root Harm Prevention Zone for a Category 2 or Category 3 Butternut stem, within which temporary or permanent works are considered "harm" to the tree. In addition, a 5m extension to the Root Harm Prevention Zone is described in Section 31.(1)(3) of the Regulation, within which permanent disturbances are to be considered "harm" to the tree. The Root Harm Prevention Zone Table under Section 32.(2) of the Regulation shows the radius from the stem defined as the Root Harm Prevention Zone based on tree stem diameter, ranging from 6m for Butternut trees <3cm DBH, to 25m for Butternut trees >50cm DBH.

All Category 2 Butternut trees and their Root Harm Prevention Zones (including 5m extensions) are illustrated relative to the proposed development concept on Figure 3. Based on this comparison, no Category 2 Butternut trees are anticipated to be harmed or killed as a result of the proposed development as no development is proposed within the southwest lobe of the property where all Category 2 Butternut trees are located. As such, there is no expectation that the proposed works would negatively impact Butternut trees.

7.1.2 Endangered Bats

Potential higher quality habitat for Endangered bat species has been identified within the woodlands located on adjacent lands to the northeast of the property, in additional to marginal roosting habitat opportunities within the subject property limits. All development is proposed to occur outside of the adjacent woodland (Figure 3), therefore the off-property woodland will continue to provide potential high quality roosting habitat in the post-construction setting.

With regard for marginal roosting habitat opportunities within woodlands located on the property, removals of treed areas in woodlands would be minor in the context of the subject property and surrounding landscape, such that the large majority of local trees and woodland habitat would be retained. For projects of a similar scope, Azimuth has engaged the MECP regarding potential impacts to woodland bat habitat. Guidance was provided via the Bat Survey Standards Note (MECP, 2022), which clarifies the following:

"If a proposed activity will avoid impairing or eliminating the function of habitat for supporting bat life processes (e.g. remove, stub, etc. a small number of potential maternity or day roost trees in treed habitats which would not result in fragmentation/barriers) and the timing of tree removal will avoid the bat active season (April 1-September 30 in Southern Ontario)"…"then there is no need to conduct species at risk bat surveys of treed habitats."

The above is consistent with Azimuth's understanding when suitable habitat availability is not limiting, a mitigation approach that restricts vegetation removals during the active period for bats is a suitable approach to avoid a contravention to SAR bat individuals or habitats under Section 9 and Section 10 of the ESA. Potential bat roosting habitat of higher quality is extensive within the riparian zone associated with the tributary of Uxbridge Brook and locally abundant within higher quality woodlands located beyond the property limit. In addition, the proposed works would maintain a riparian corridor along the tributary of Uxbridge Brook and would not result in fragmentation that would negatively impact the ability for bats to convey thorough the landscape. Based on the above, there is no expectation that the proposed works involving removal of a small number of snag trees on adjacent tablelands would result in a negative impact to Endangered bat species, or the habitat upon which they depend.

7.2 Other Wetlands

According to the PPS development and site alteration are not permitted within Significant Wetlands located in Ecoregion 6E. Wetlands within the study area are not identified as provincially or locally Significant Wetland, or afforded similar designation on municipal (Appendix A) or provincial (Appendix B) mapping resources.

Four minor wetland inclusions are located within the study area limits, characterized as Other Wetlands in this assessment. As described in Section 4.4 above, all four wetland inclusions are highly limited in size and demonstrate minimal ecological function. The proposed development (Figure 3) will result in the removal of wetlands as follows:

- MAMM1-3 (inclusion): Reed Canary Grass Mineral Meadow Marsh (**0.02ha of 0.14ha**)
- SWTM3 (inclusion): Willow Mineral Deciduous Thicket Swamp (**0.02ha of 0.02ha**)
- MAMM1-10 (inclusion): Horsetail Mineral Meadow Marsh (**0.02ha of 0.02ha**)

As such, a total of 0.06ha of wetland vegetation would be subject to removals as a result of the proposed development.

Proposed wetland removals are to occur within minor wetland inclusions described as follows:

- Wetland units are of immature (herbaceous and shrubs) composition and are not characterized as specialized or uncommon wetland types (*e.g.* bogs, fens).

- The MAMM1-3 and SWTM3 wetland units comprise of a high proportion of invasive species, particularly Reed Canary Grass (*Phalaris arundinacea*), which is dominant in the ground layer.
- The SWTM3 wetland unit is isolated on the landscape and does not contribute to the functionality or significance of other proximal KNHFs. This wetland is not located within woodland, valleyland, or riparian environs. While the MAMM1-10 unit abuts the FOCM6-3 woodland block (plantation) and is part of the riparian corridor, given this features small size (0.02ha), it is not expected to contribute significantly to the ecological function of the adjacent features. While the MAMM1-3 wetland unit is located in the riparian corridor, 96% of the feature will be retained. This feature does not contribute significantly to the functionality other proximal KNHFs.
- No amphibian breeding activity was documented within the wetland units.
- No other Candidate SWH functions are associated with the wetland units.
- No habitat for Threatened or Endangered species is associated with the wetland units.
- No fish habitat is associated with the wetland units.

Based on the above, removal of 0.06ha of wetland vegetation is anticipated to represent a negligible ecological impact. The proponent is encouraged to offset wetland loss through establishment of at least 0.06ha of supplementary wetland plantings in proximity to wetland inclusions retained within the riparian corridor (MAMM2-4 and MAMM1-3; Figures 3 and 4a). It is anticipated through an acceptable mitigation and compensation approach, the proposed development would not be anticipated to negatively impact Other Wetlands and associated ecological functions. Details relating to the wetland compensation plantings are outlined in the Planting Plan (Figures 4a and 4b).

7.3 Significant Woodland

Woodlands within the study area are not identified as Significant Woodland on provincial or municipal mapping resources (Appendix A). Notwithstanding, woodlands in adjacent lands to the northeast of the property meet the size criteria to be considered significant in the North Area as per the Technical Paper 1: Technical Definitions and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area (MNRF, 2012) for the Greenbelt Plan. Given that the property itself is within a settlement area (Appendix A), a setback from the Significant Woodlands in adjacent lands has not been proposed.

Within the current site plan (Figure 3), access to Maple Brook Drive has been proposed through the northeastern corner of the property. Given the presence of the riparian corridor along the southern property line, there is no feasible alternative for property

access. This corner of the property provides existing access to the site and is a disturbed area with a cultural and anthropogenic legacy. As such, limited clearing for the proposed road access would be required. Through standard mitigation outlined in Section 8, and woodland offsetting that can be accomplished through the Planting Plan (Figures 4a and 4b), it is anticipated that the proposed site development can be achieved with a negligible impact to the adjacent woodland. To offset encroachment within a 10m woodland vegetation protection zone on the property (~0.1ha loss), it is advised that 0.1ha of woodland compensation plantings are installed in proximity to the retained woodland (WODM5-3) on-site.

Furthermore, ~0.14ha of woodland habitat (FOCM6-3 and WODM5-3) will be removed from the property along the eastern property limits (Figures 3 and 4a); as discussed in Section 4.5, this woodland does not meet the criteria to be considered significant. Removal of this small size is not anticipated to negatively impact the function of the woodland. The proponent is encouraged to offset woodland loss through establishment of 0.14ha of supplementary woodland plantings in proximity to woodland that is to be retained (WODM5-3). As such, a total of 0.24ha of woodland compensation plantings are recommended to offset losses and setback encroachments upon woodlands within the study area limits. Details relating to the woodland compensation plantings are outlined in the Planting Plan (Figures 4a and 4b).

7.4 Candidate Significant Wildlife Habitat

According to the PPS, development and site alteration are not permitted within SWH located in Ecoregion 6E, unless it can be demonstrated there will be no negative impacts upon the feature and its ecological functions. For the purposes of this assessment, Candidate SWH described below is treated as significant:

- Seasonal Concentrations of Areas of Animals
    - Bat Maternity Colonies
- Habitat for Special Concern and Rare Wildlife Species
    - Snapping Turtle

7.4.1 Seasonal Concentrations of Areas of Animals

Bat Maternity Colonies

There is potential Bat Maternity Colony habitat associated with the woodland located in adjacent lands to the northeast of the property. Refer to Section 7.1.2 for discussion. The conclusions reached for SAR bats in Section 7.1.2 should be considered equally applicable to Bat Maternity Colonies.

7.4.2 Habitat for Rare and Special Concern Wildlife Species

Snapping Turtle

Snapping Turtle habitat is characterized by slow-moving water with a soft mud bottom and dense aquatic vegetation. This species is often located in ponds, sloughs, shallow bays or river edges and slow streams, or areas combining several of these wetland habitats (COSEWIC, 2008).

Uxbridge Brook has potential to provide habitat for Snapping Turtle, particularly given that a Provincially Significant Wetland complex occurs downstream ~350m from the northeastern corner of the property. As such, this segment of the riparian corridor may be utilized for wildlife conveyance purposes between suitable habitat units. The development is proposed to occur 30m from the watercourse. Given this setback, there is no expectation that the proposed development would result in a direct or indirect impact to the species or the habitat upon which it depends.

7.5 Fish Habitat

Based on the proposed concept plan, the proposed development will not result in direct alterations to the Uxbridge Brook Tributary, nor will any portion of the property be subject to disturbance within 30m of the creek. A 30m setback is being proposed along the Uxbridge Brook Tributary, which conforms to the Towns OP and provincial guidelines in the NHRM with respect to riparian setback recommendations for coldwater creeks. Indirect impacts to fish habitat can still occur from nearby construction activities during development of the site, although these impacts can be mitigated with standard Best Management Practices (BMP)s for working near water. Providing that conformance is demonstrated for environmental considerations and mitigation measures described in Section 8 below, there is no expectation that the proposed development envelope will result in a negative impact to fish or fish habitat under the Federal *Fisheries Act.*

Details on the SWM pond and outlet construction are unknown at this time and will need to be assessed during detail design. If a SWM pond outlet channel is constructed to Uxbridge Brook Tributary, measures should be incorporated into the design to reduce sedimentation and thermal impacts on the receiving watercourse. Typically, design considerations can be incorporated into the SWM pond and outlet design to reduce both thermal and sediment impacts on receiving watercourses to avoid causing a HADD to fish habitat. These mitigation measures are also described in Section 8 below.

7.6 Water Balance Ecological Interpretation

GHD Limited (GHD) was retained by Mason Homes Limited to provide geotechnical and hydrogeologic assessments in support of the proposed residential development. The

GHD report is provided under separate cover for review (GHD, 2025), and a summary of is provided below.

GHD undertook a water budget analysis for the study area to evaluate the amount of water surplus/deficit that would be generated for the existing and proposed study area conditions and assess the potential impacts that may occur in the recharge / discharge characteristics related to the proposed development. As per the GHD report, groundwater flow generally flows toward the east and toward Uxbridge Brook; however, localized flow is expected to support a tributary of Uxbridge Brook located to the south / southeast of the property (*i.e.*, Uxbridge Brook Tributary as per the EIS), along with the various meadow marsh features identified within the 30m watercourse setback.

The post-construction water budget considers the implementation of enhanced infiltration options (*i.e.*, LID technologies). Specific LID design criteria and selection of actual LID technologies will be the responsibility of the stormwater engineer for the development during detail design. These technologies include and are not restricted to rainwater harvesting, downspout disconnection, soakaway pits, infiltration trenches, vegetated filter strips, bioretention, permeable pavement, enhanced grass swales, dry swales and perforated pipe systems in order to balance the water budget.

The post-development water balance was modelled to show that stormwater from building roof tops can be directed via downspouts (disconnected from storm sewers) to sodded areas or undeveloped areas (open spaces, parks etc.) for infiltration. Downspout disconnection and soakaway pits can reduce runoff by 25% to 50% and 85%, respectively, as outlined within LID documentation developed by the Credit Valley Conservation and Toronto and Region Conservation Authority. GHD utilized both rooftop runoff and soak away pit LIDs in their assessment. Based on the GHD results, there is sufficient surplus water to be infiltrated to match pre-development values, but the actual LIDs selected will be at the discretion of the stormwater design team during detail design. Without the implementation of LIDs, impervious surfaces would increase by about 73%, the total infiltration volume would decrease by about 70%, and runoff volume would increase by over 230%. However, the implementation of LIDs would result in an increase in infiltration by approximately 15-21% depending on the catchment location, and runoff volume would increase by 153%, or 52,082m^3/year.

GHD is of the opinion that the site is suitable for the proposed residential development and there is low potential for groundwater impact as a result of developing the site provided that good construction and mitigation techniques are used. Based on these results, Azimuth is of the opinion that LIDs can sustain the wetland conditions if the appropriate LIDs are implemented and situated in locations that direct surface and

groundwater recharge functions towards the natural heritage features, particularly the meadow marches. The excess infiltration should sustain the wetland communities along the Uxbridge Brook Tributary and help maintain baseflow within the watercourse. In addition, GHD believes there is not expected to be a significant impact to the shallow groundwater baseflow that may be supplying baseflow to the Uxbridge Brook Tributary provided good construction techniques are followed. The increase in impervious surfaces will result in an increase in site runoff during precipitation events as describe above, but this runoff will be captured and treated by the internal stormwater system. Design considerations during detail design are outlined in Section 8 to mitigate potential water quality and thermal impacts on the receiving coldwater system from the stormwater system. If the appropriate mitigation measures for both water infiltration (LIDs) and surface runoff (stormwater management) are implemented, there is no expectation that the natural heritage features (*i.e.,* wetland, woodlands, watercourse) would be significantly impacted by the proposed development.

8.0 RECOMMENDATIONS

8.1 Species at Risk

It should be noted that the absence of a protected species within the study area does not indicate that they will never occur within the area. Given the dynamic character of the natural environment, there is a constant variation in habitat use. Care should be taken in the interpretation of presence of species of concern including those listed under the ESA. Changes to policy, or the natural environment, could result in shifts, removal, or addition of new areas to the list of areas currently considered candidate KNHFs. This report is intended as a point in time assessment of the potential to impact SAR; not to provide long term "clearance" for SAR. While there is no expectation that the assessment should change significantly, it is the responsibility of the proponent to ensure that they are not in contravention of the ESA at the time that site works are undertaken. A review of the assessment provided in this report by a qualified person should be sufficient to provide appropriate advice at the time of the onset of future site works.

8.2 Migratory Breeding Birds and Bats

Activities involving the removal of vegetation should be restricted from occurring during the breeding season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act*, 1994 (MBCA) and the *Fish and Wildlife Conservation Act*, 1997 (FWCA). Environment Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website (https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html). In Zones C1 and C2, vegetation clearing should be avoided between **April 1 through August 31** of any given

year. If work requires that vegetation clearing is required between these dates screening by an ecologist with knowledge of bird species present in the area could be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.

Although bat maternity habitat is not anticipated on the property, as a precaution activities involving tree removal should be avoided between **April 1 through September 30** of any given year, during the active period for bat species that may utilities trees for maternity and day roosting purposes. It is anticipated that adherence to this timing restriction will avoid impacts to individual SAR bats, therefore remaining in compliance with Section 9 of the ESA affording individual protection to Endangered species.

8.3 Sediment and Erosion Controls

Diligent application of Sediment and Erosion Controls (ESCs) is recommended for all future construction activities to minimize the extent of accidental or unavoidable impacts to adjacent vegetation communities, wildlife habitat and fish habitat. Prior to the commencement of site works, silt fencing should be applied along the length of directly adjacent natural or naturalized features, and routine inspection/maintenance of the silt fencing should occur throughout construction. It is recommended that ESCs be maintained until vegetation is re-established post-construction.

As requested by LSRCA, double row sediment control fencing reinforced with straw bales is to be used as perimeter fencing adjacent to wetlands and fish habitat to provide protection against potential erosion and sedimentation impacts (as per LSRCA ESC-5). An Erosion and Sediment Control Plan will also be required at the detailed design stage of development.

Materials storage on the property (*i.e*. soil stockpiles) should be located over 30m from natural features where feasible. Material storage areas should be contained with ESCs to avoid potential indirect impacts to natural features onsite.

8.4 Operations

All maintenance activities (including refueling) required during future construction should be conducted at least 30m away from natural features to prevent accidental spillage of deleterious substances that may harm natural environments.

Snow fencing or equivalent should be installed at the limit of the work area to prevent the accidental intrusion of machinery operations into adjacent undisturbed natural areas.

The contractor is recommended to have a Contaminant and Spill Management Plan in place prior to initiation of works. This should include keeping an emergency spill kit on

site at all times. In the event of a spill, the contractor must report it immediately to the provincial Spills Action Centre (SAC).

8.5 Wetland and Woodland Compensation

Although adverse ecological impacts to the form and function of Other Wetlands and woodland is not anticipated to occur as a result of the proposed works, wetland and woodland compensation is recommended as a means of offsetting vegetation community losses proposed as a result of the proposed development.

To offset minor wetland losses of 0.06ha onsite, at least 0.06ha of wetland compensation is recommended in the vicinity of the MAMM2-4 (inclusion) unit. It is anticipated that planting suitable wetland shrubs in this area would offset minor wetland loss.

To compensate for minor woodland loss (0.14ha) and woodland buffer loss of 0.1ha onsite, the proponent is encouraged to consider installing 0.24ha of woodland plantings adjacent to the retained woodland (WODM5-3) onsite and in the adjacent riparian corridor. Plantings in this location would ensure that the woodland size within the riparian corridor would remain intact and be expanded post-development.

Specifications for wetland and woodland restoration are outlined within the Planting Plan (Figures 4a and 4b).

8.6 Fish and Fish Habitat

As specified above, construction activities occurring on the property should have regard for the adjacent natural environmental features, and utilize BMPs during construction as follows:

- All ESC measures are to be installed prior to any ground disturbance, and shall be maintained until all disturbed soils have been restored and stabilized following construction. With respect to fish habitat, silt fencing should be applied along the length of the 30m watercourse setback to contain site runoff and avoid any unintentional intrusion into the setback/buffer area. As requested by LSRCA, double row sediment control fencing as per LSRCA ESC-5 is to be applied along the 30m watercourse setback due to the coldwater nature of the Uxbridge Brook Tributary;
- All dewatering is to discharge into a filter bag (*i.e.,* envirobag or equivalent). Filter bags should be placed a minimum of 30m from fish habitat on stable, vegetated ground to allow fines to settle out of the water. Monitoring of dewatering operations should occur throughout the construction process to ensure water is free of fines before entering the watercourse;

- Should in-water work within direct fish habitat be proposed during detail design, works shall only be permitted from July 15-Sept 30 to protect both spring and fall spawning fish (in-water work timing window to be confirmed with MNR during detail design);
- All site disturbance should be minimized to the extent possible;
- Disposal of material should occur in a timely fashion to minimize risk of entry into the watercourse; and,
- All machinery maintenance/refueling is recommended to maintain a minimum distance of 30m from retained woodlands and wetland, and fish habitat, to prevent accidental spillage of deleterious substances.

Stormwater Management Pond

Details on the SWM pond and outlet design are unknown at this time and will need to be assessed once the design has been advanced. If a SWM pond outlet channel is constructed to a receiving coldwater tributary, measures should be incorporated into the design to reduce sedimentation and thermal impacts on the receiving watercourse. Stormwater runoff can be warmed significantly as it drains off warm pavement and experience further warming as it sits in a pond. Design considerations can include, but not be limited to, the following:

- Bottom-draw outlet design to discharge cool water along the pond bottom prior to warm surface water;
- Riparian plantings along the pond and outlet channel to shade water and reduce surface water temperatures;
- Install cooling trenches and/or lengthen the outlet channel if possible to increase the shading potential, reduce flows during storm events, and allow sediment to settle; and,
- Install an energy dissipation device at the pond outlet to reduce flows rates and potential scouring at the receiving channel outlet location. Outlet headwalls or LIDs are to be located outside of the 30m buffer to natural heritage features.

During the detail design stage, a "Fisheries Screening" should be completed by a qualified ecologist to determine potential impacts of the SWM design and outlet construction on nearby fish habitat, and to provide mitigation measures to avoid a HADD to fish habitat. During the detail design stage, the need for DFO review can also be determined once the impacts of the SWM pond discharge and outlet construction are known. If necessary, a DFO submission through a Request for Review is completed at the Detail Design stage.

9.0 CONCLUSIONS

Based upon our analysis, it is concluded that the environmental conditions within the study area are not limiting to the implementation of proposed development (Figure 3), through incorporation of the environmental protection measures and criteria as described throughout this report.

At this time, our findings are summarized as follows:

- The proposed development is consistent with the applicable natural heritage policies of the Provincial Policy Statement, *Endangered Species Act*, 2007, Greenbelt Plan, Regional Municipality of Durham Official Plan, Township of Uxbridge Official Plan, Lake Simcoe Region Conservation Authority O. Reg. 41/24, Lake Simcoe Protection Plan and Federal *Fisheries Act*.

- Our impact assessment has given full consideration to the habitat requirements of all SAR assumed and documented to occur in the area and results indicate the proposed site development will not result in negative direct or indirect impacts to habitat of SAR providing conformance is demonstrated to mitigation measures described in Section 8.

- The proposed works are not expected to negatively impact the ecological functions of the Other Wetlands, Significant Woodlands and Candidate SWH outlined in Section 5 if the appropriate mitigation measures outlined in Section 8 are followed.

- No fish or fish habitat features are expected to be negatively impacted as a result of the proposed works if the appropriate mitigation measures described in Section 8 are followed during construction. During detail design, a "Fisheries Screening" should be completed by a qualified ecologist to determine potential impacts of the SWM design, LIDs, and outlet construction on nearby fish habitat.

- Based on the above assessment, there is no evidence that Candidate Significant Valleyland or ANSIs are located within the study area limits.

- To offset minor wetland losses of 0.06ha, at least 0.06ha of wetland compensation is recommended adjacent to the MAMM2-4 and MAMM1-3 (inclusion) units. To offset minor woodland and buffer losses of 0.24ha, at least 0.24ha of woodland compensation is recommended adjacent to the WODM5-3 unit. A Planting Plan illustrating proposed wetland and woodland compensation details is available in Figure 4a-4b.

10.0REFERENCES

Bird Studies Canada. 2008. Marsh Monitoring Program Participant's Handbook for Surveying Amphibians. Bird Studies Canada, Environment Canada - Canadian Wildlife Service, U.S. Environmental Protection Agency. 16 pp.

Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier (eds.). 2007. Atlas of the Breeding Birds of Ontario (OBBA). 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologies, Ontario Ministry of Natural Resources and Ontario Nature, Toronto, xxii + 706pp.

COSEWIC. 2003. COSEWIC assessment and status report on the Butternut *Juglans cinerea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.

COSEWIC. 2008. COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.

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

Durham Region. 2019. Environment and Greenlands System Discussion Paper.

Durham Regional Official Plan. 2020.

Endangered Species Act, Ontario. 2007. An Act to protect species at risk and to make related changes to other Acts. Bill 184 Chapter 6, Statutes of Ontario 2007.

Fish and Wildlife Conservation Act, Ontario. 1997. S.O. 1997, c.41.

Fisheries and Oceans Canada (DFO). 2023. Aquatic Species at Risk interactive mapping.

GHD Limited. 2025. Hydrogeological Assessment Addendum. Proposed Residential Development Centre Road Phase 2, Uxbridge, Ontario. Mason Homes (Uxbridge) Limited.

Government of Canada. 1985. Federal Fisheries Act. Available at: (http://lawslois.justice.gc.ca/eng/acts/f-14/). Accessed November 2023.

Government of Canada. 2014. Migratory Birds Convention Act. Available at (http://laws-lois.justice.gc.ca/eng/acts/M-7.01/). Accessed November 2023.

Government of Canada. 2023. List of Wildlife Species at Risk. Available at: (https://www.canada.ca/en/environment-climate-change/services/species-risk-publicregistry.html). Accessed November 2023.

iNaturalist. 2023. (NHIC) Rare Species of Ontario. (https://www.inaturalist.org/projects/nhic-rare-species-of-ontario). Accessed November 2023.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998, 2008. Ecological Land Classification for Southern Ontario. First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Sciences Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

Lake Simcoe Protection Plan (LSPP). 2009. Queen's Printer for Ontario. Retrieved from https://www.ontario.ca/page/lake-simcoe-protection-plan.

Ministry of the Environment, Conservation and Parks (MECP). 2021. Butternut Health Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the *Endangered Species Act*, 2007. December 2021. Queen's Printer for Ontario. 19 pp.

Ministry of the Environment, Conservation and Parks (MECP). 2022. Bat Survey Standards Note 2022. 3pp.

Ministry of Municipal Affairs and Housing (MMAH). 2020. Provincial Policy Statement.

Ministry of Natural Resources and Forestry (MNRF). 2012. Technical Paper 1: Technical Definition and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area. Greenbelt Plan.

Ministry of Natural Resources and Forestry (MNRF). 2014. DRAFT Survey Protocol for Eastern Whip-poor-will (*Caprimulgus vociferus*) in Ontario. Ontario Ministry of Natural Resources and Forestry, Species at Risk Branch, Peterborough. iii + 10 pp.

Ministry of Natural Resources and Forestry (MNRF). 2015a. Technical Note Species at Risk (SAR) Bats.

Ministry of Natural Resources and Forestry (MNRF). 2015b. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. 39pp.

Ministry of Natural Resources and Forestry (MNRF). 2022. *Ontario Wetland Evaluation System: Southern Manual*. 4th Edition. King's Printer for Ontario. 239 pp.

Ministry of Natural Resources and Forestry (MNRF). 2022. Fish ON-Line. Accessed November 2023 from https://www.lioapplications.lrc.gov.on.ca/fishonline/Index.html ?viewer=FishONLine.FishONLine&locale=en-CA

Ministry of Natural Resources and Forestry (MNRF). 2023a. Natural Heritage Information Centre. (https://www.ontario.ca/page/natural-heritage-information-centre). Accessed November 2023.

Ministry of Natural Resources and Forestry (MNRF). 2023b. Ontario Geohub: Aquatic resource area line segment. Accessed November 2023 from https://geohub.lio. gov.on.ca/datasets/lio::wildlife-values-area/explore.

Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide. Fish and Wildlife Branch, Wildlife Section, Science Development and Transfer Branch, Southcentral Science Section. Queen's Printer for Ontario. 151 pp.

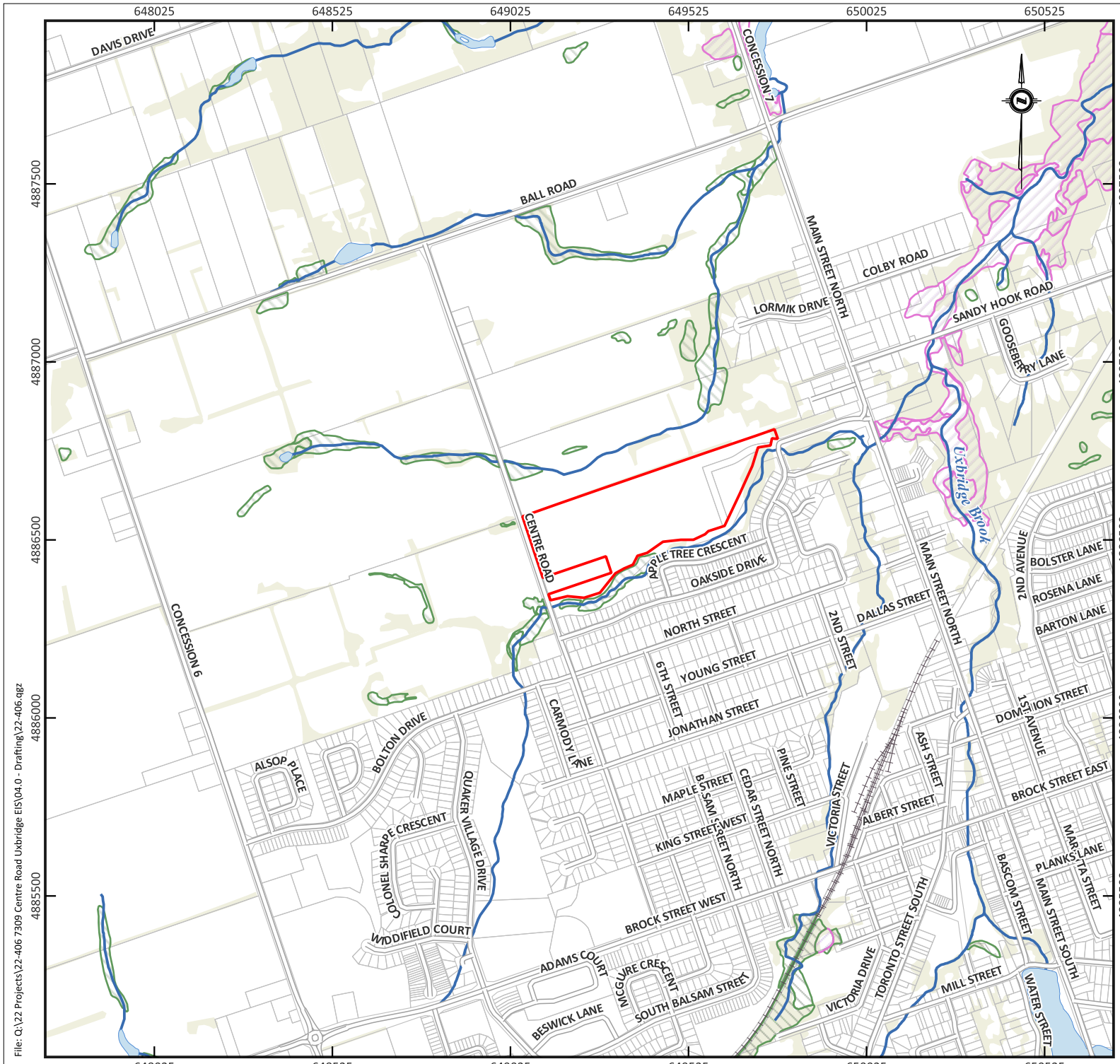
Ontario Ministry of Natural Resources and Forestry (OMNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp.

Ontario Nature. 2020. Ontario Reptile and Amphibian Atlas.

Regional Municipality of Durham. 2020. Durham Region Official Plan.

Regional Municipality of Durham. 2024. Durham Region Official Plan.

Township of Uxbridge Official Plan. 2025.



LEGEND

- Approx. Property Boundary
- Waterbody
- Permanent Watercourse
- Unevaluated Wetland
- Provincially Significant Wetland
- Wooded Area
- Road
- Rail

NOTES

1. Watercourse, Waterbody, Wetland, Woodland and ANSI layers are derived from MNRF GIS data, retrieved December 2022.

REGIONAL MAP

SCALE 1:500000

0 0.25 0.5 0.75

KILOMETERS

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

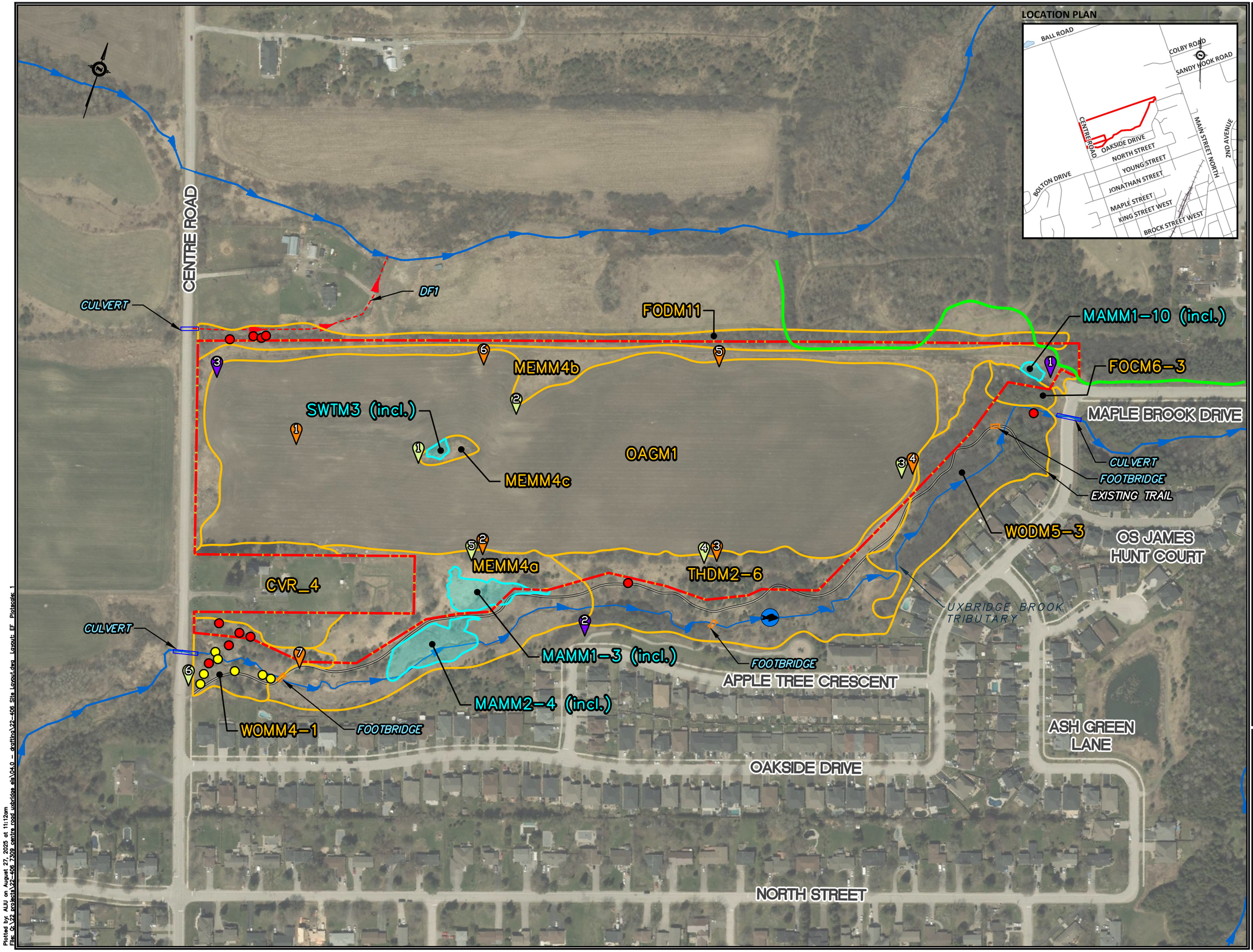
SITE LOCATION

7309 CENTRE ROAD
UXBRIDGE, ON

DATE ISSUED:	AUGUST 2025
CREATED BY:	A.L.
PROJECT NO.:	22-406
BASE MAP:	MNRF

Figure No. 1

File: Q:\22 Projects\22-406 7309 Centre Road Uxbridge EIS\04.0 - Drafting\22-406.qgz



LOCATION PLAN

LEGEND:

- APPROX. PROPERTY BOUNDARY
- PERMANENT WATERCOURSE/ DIRECT FISH HABITAT
- EPHEMERAL DRAINAGE FEATURE/ NOT FISH HABITAT
- COLDWATER THERMAL REGIME
- FOOTBRIDGE
- CULVERT
- EXISTING PATH
- SIGNIFICANT WOODLAND BOUNDARY

ELC UPLAND COMMUNITIES:

CVR_4	RURAL PROPERTY
FOCM6–3	DRY–FRESH SCOTCH PINE NATURALIZED CONIFEROUS PLANTATION
FODM11	NATURALIZED DECIDUOUS HEDGEROW
OAGM1	BARE AGRICULTURE
MEMM4	FRESH–MOIST MIXED MEADOW
THDM2–6	BUCKTHORN DECIDUOUS SHRUB THICKET
WODM5–3	FRESH–MOIST MANITOBA MAPLE DECIDUOUS WOODLAND
WOMM4–1	FRESH–MOIST WHITE CEDAR–HARDWOOD MIXED WOODLAND

ELC WETLAND COMMUNITIES:

MAMM1–3	REED CANARY GRASS MINERAL MEADOW MARSH
MAMM1–10	HORSETAIL MINERAL MEADOW MARSH
MAMM2–4	MIXED FORB MINERAL MEADOW MARSH
SWTM3	WILLOW MINERAL DECIDUOUS THICKET SWAMP

- DAWN BREEDING BIRD POINT COUNT STATION
- AMPHIBIAN POINT COUNT STATION
- NOCTURNAL BIRD POINT COUNT STATION

BUTTERNUT TREE SYMBOLOGY:

- BUTTERNUT TREE – CATEGORY 1
- BUTTERNUT TREE – CATEGORY 2

0 75.00 150.0

HORIZONTAL SCALE 1:3000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

ENVIRONMENTAL FEATURES

7309 CENTRE ROAD
UXBRIDGE, ON

DATE ISSUED:	AUGUST 2025	Figure No. 2
CREATED BY:	A.L.	
PROJECT NO.:	22-406	
REFERENCE:	DURHAM REGION	

Plotted by: AUU on August 27, 2025 at 11:12am
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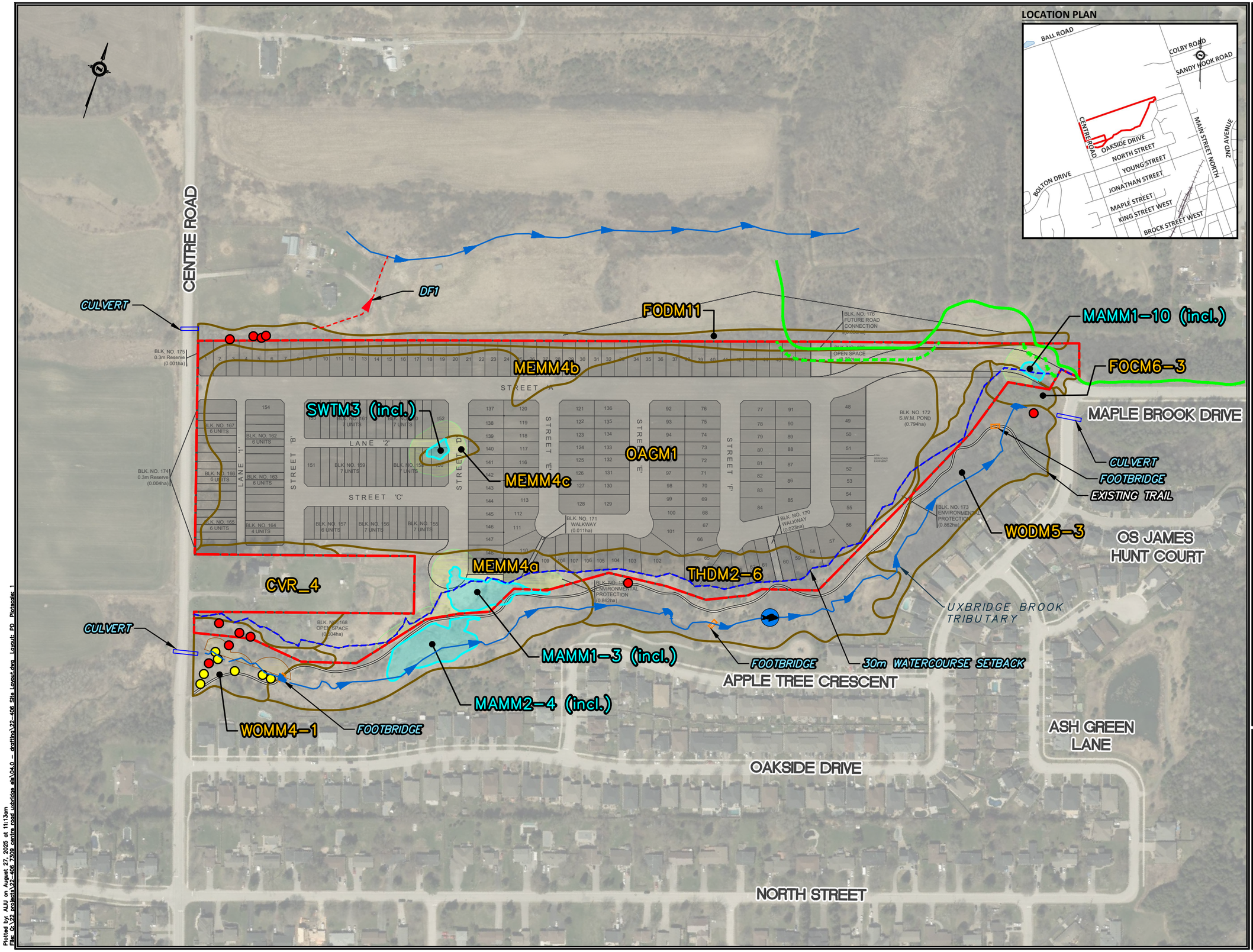


LOCATION PLAN

LEGEND:

- APPROX. PROPERTY BOUNDARY
- PERMANENT WATERCOURSE/ DIRECT FISH HABITAT
- EPHEMERAL DRAINAGE FEATURE/ NOT FISH HABITAT
- 30m WATERCOURSE SETBACK
- COLDWATER THERMAL REGIME
- FOOTBRIDGE
- CULVERT
- EXISTING PATH
- SIGNIFICANT WOODLAND BOUNDARY
- 10m VEGETATION PROTECTION ZONE

ELC UPLAND COMMUNITIES:

CVR_4	RURAL PROPERTY
FOCM6–3	DRY–FRESH SCOTCH PINE NATURALIZED CONIFEROUS PLANTATION
FODM11	NATURALIZED DECIDUOUS HEDGEROW
OAGM1	BARE AGRICULTURE
MEMM4	FRESH–MOIST MIXED MEADOW
THDM2–6	BUCKTHORN DECIDUOUS SHRUB THICKET
WODM5–3	FRESH–MOIST MANITOBA MAPLE DECIDUOUS WOODLAND
WOMM4–1	FRESH–MOIST WHITE CEDAR–HARDWOOD MIXED WOODLAND

ELC WETLAND COMMUNITIES:

MAMM1–3	REED CANARY GRASS MINERAL MEADOW MARSH
MAMM1–10	HORSETAIL MINERAL MEADOW MARSH
MAMM2–4	MIXED FORB MINERAL MEADOW MARSH
SWTM3	WILLOW MINERAL DECIDUOUS THICKET SWAMP

BUTTERNUT TREE SYMBOLOGY:

- BUTTERNUT TREE – CATEGORY 1
- BUTTERNUT TREE – CATEGORY 2
- ROOT HARM PREVENTION ZONE
- 15m VEGETATION PROTECTION ZONE

0 75.00 150.0

HORIZONTAL SCALE 1:3000

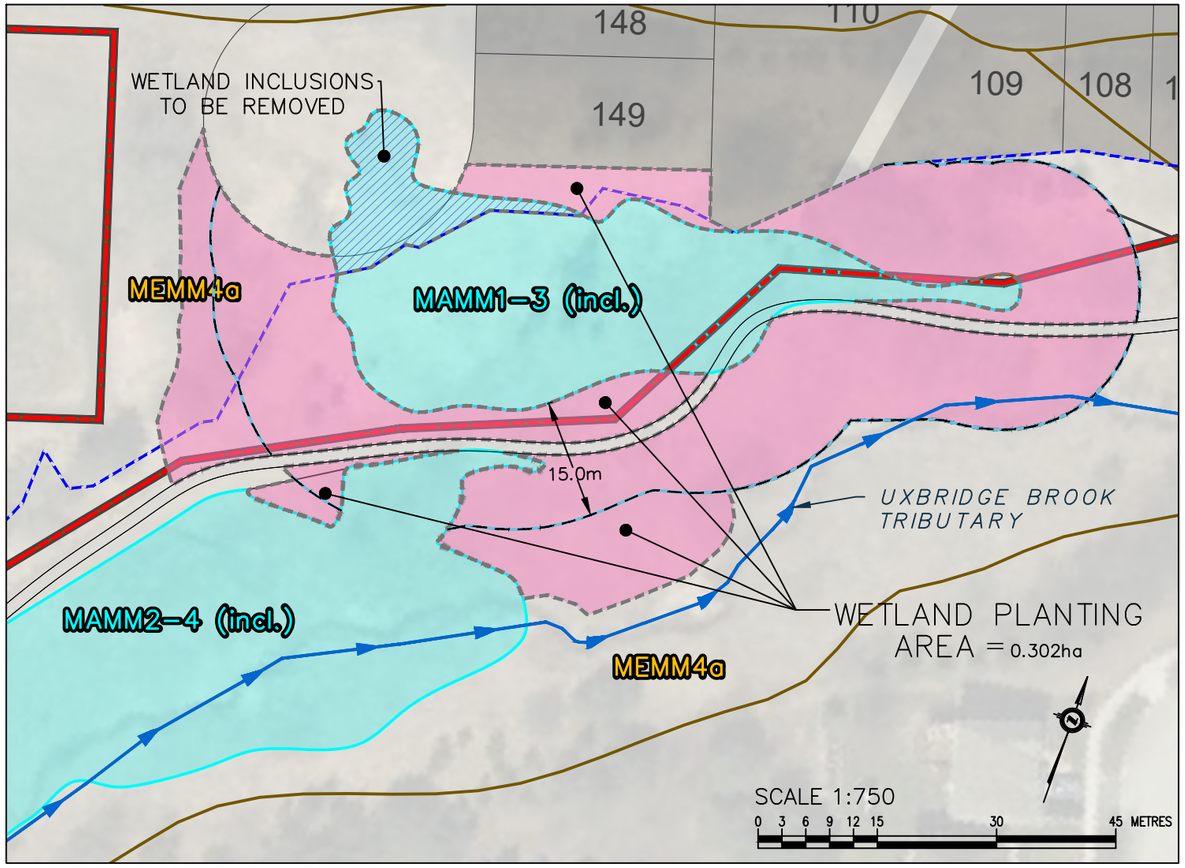
AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

PROPOSED DEVELOPMENT

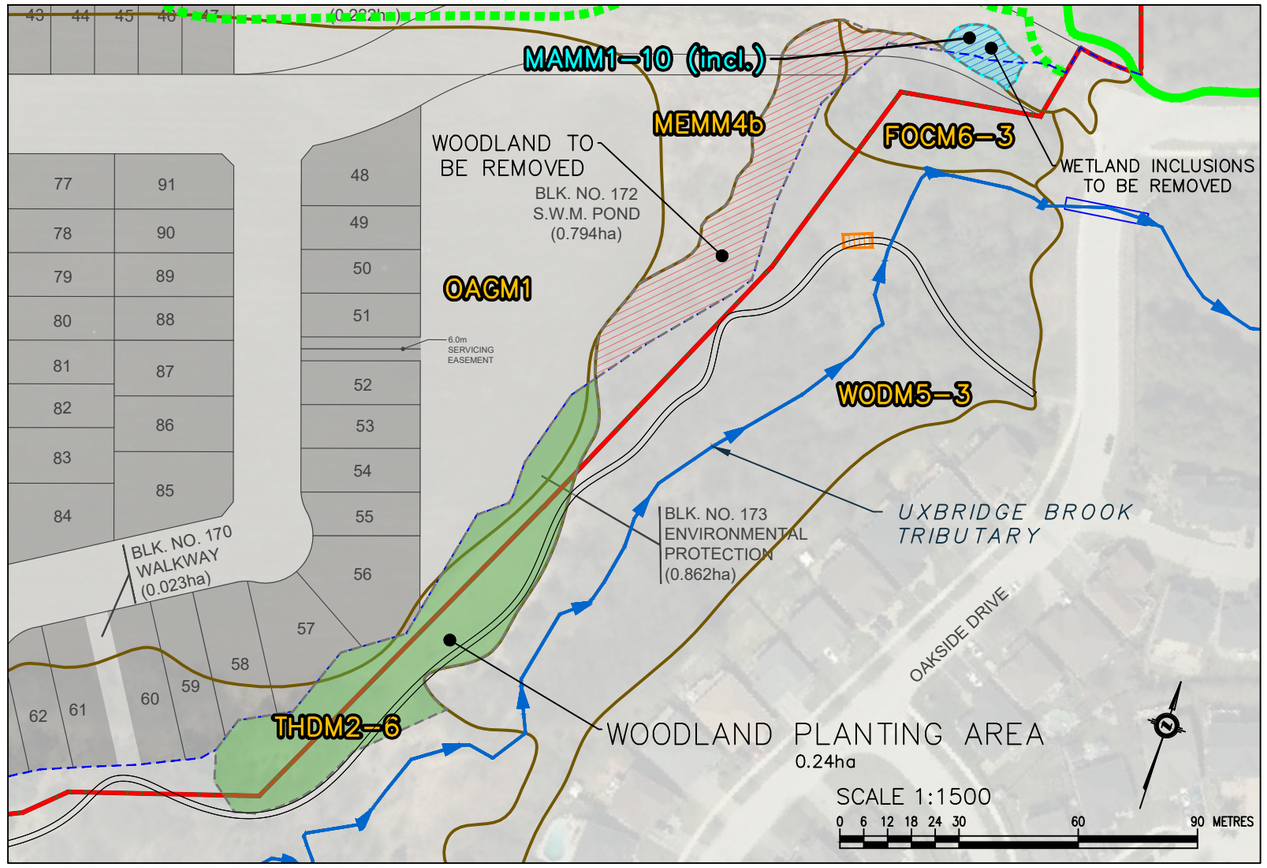
7309 CENTRE ROAD
UXBRIDGE, ON

DATE ISSUED:	AUGUST 2025	Figure No. 3
CREATED BY:	A.L.	
PROJECT NO.:	22-406	
REFERENCE:	DURHAM REGION	

Plotted by: ALU on August 27, 2025 at 11:13am
File: G:\22 projects\22-406 7309 centre road uxbridge ala\04.0 - drafting\22-406 Site Layout.dwg Layout: PD Plotscale: 1



4A. WETLAND PLANTING AREA LOCATION



4B. WOODLAND PLANTING AREA LOCATION

PLANTING NOTES

Preparation and Material Sourcing

Source all planting material from a nursery supplier. Recommended planting areas are pre-existing and covered by vegetation (*i.e.* not exposed soil). Consequently, just the individual tree and shrub planting locations should be stabilized immediately after installation with stabilizing material (*e.g.* non-dyed wood mulch).

General Planting Details *see appended tree planting diagram

- Tree and shrub stock are best planted from early October (coincident with leaf colour change) until freeze-up; or in the spring after frost is out of the soil until new foliage is partly unfurled.
- Each planting hole should be dug at least twice as wide as the widest part of the root ball and to the depth of the root ball. Holes should be dug immediately prior to planting to avoid drying out of the backfill soil. The sides of the hole should be roughened to allow root penetration and ensure water flow.
- Remove the pot enclosing the root ball before installing the tree. Roots encircling the root ball and matted on the bottom of the ball should be clipped off.
- Place the tree in the hole on a 90° angle to the soil surface, then backfill the hole two thirds of the way with gently tamped soil. At this point the remaining space should be filled with water to settle the soil around the root ball. Once the water is drained from the hole the remaining space should be backfilled to the soil line (*i.e.* the region of the plant where root and shoot meet - the "collar").

Protective Measures for Establishment

- Tree material that has been delivered to the site in a damaged or poor quality state (*e.g.* dry root mass, dead leaves, defoliation) should be replaced by Supplier and not planted.
- Immediately following tree installation, place wood mulch around the base of each stem to a diameter of 60 centimetres (cm) to prevent soil moisture loss and reduce competition from weedy vegetation.
- Mulch shall be coarse, ground from tree and woody brush sources. The minimum range of fine particles shall be 1-2cm or less in size, and a maximum size of individual pieces shall be approximately 2-5cm in diameter and have a maximum length of approximately 10-20cm. No more than 25% of the total volume shall be fine particles and no more than 20% large pieces.
- Place plastic tree guards (i.e. grow tube) around each stem to reduce the impacts of rodent and deer herbivory. Grow tubes are generally very effective but do require some degree of maintenance as they should be removed once the tree starts to outgrow the tree. The spiral wrap style tree guards can also be effective (although possibly less effective) and designed to expand as the stem increases in diameter, requiring less maintenance. Such protective guards are generally not suitable for low, multi-branched shrubs.
- Protective tree fencing should be erected around the perimeter of the planting areas by owner's contractor immediately following tree and shrub installation.

Monitoring & Maintenance

Monitoring of plantings should continue for two (2) years after installation to ensure successful establishment of woody stock and observe for invasive species establishment. During the course of the inspections, the success of the plantings and location and density of invasive species should be noted. For container stock and bare root stock, a success rate of **80%** of the original abundance of planted stems and **80%** of the original diversity of woody stems is the recommended target after two years. Dead tree/shrub material should be replaced during the spring planting season of the following year. Invasive species aggregations identified during the first two (2) years after restoration should be subject to appropriate treatment(s) including (but not limited to), mechanical removal, mowing, and/or judicious application of herbicides under the direction of a Licenced Herbicide Applicator.

Table 1: Planting Specifications

Area	Common Name[1]	Latin Name	Quantity	Density	Type
Wetland Planting Area (0.302ha)	Bebb's Willow	*Salix bebbiana*	200	Plant with a density of 25 trees/100m^2 (2500 stems/hectare)	Obtain nursery stock that has been grown in a container and is at minimum 0.5m in height.
	Pussy Willow	*Salix discolor*	200		
	Red-osier Dogwood	*Cornus sericea*	180		
	Silky Dogwood	*Cornus racemosa*	175		
			7.5kg	25 kg/ha	TRCA-SW-6 Ontario Wet Meadow Mix or approved equivalent
Woodland Planting Area (0.24ha)	Basswood	*Tilia americana*	30	Plant with a density of 5 trees/100m^2 (500 stems/hectare)	Plant 'balled and burlapped' stock (1.80 metre height min.) to improve establisment and avoid herbaceous species competition.
	Black Cherry	*Prunus serotina*	30		
	Eastern White Pine	*Pinus strobus*	30		
	Trembling Aspen	*Populus tremuloides*	30		
			6kg	25 kg/ha	TRCA-SD-6 Ontario Butterfly Meadow Mix or approved equivalent

[1]Woody species listed are recommendations only. Species listed may be changed based on availability at the time of planting, assuming that the replacements are native species to the area suitable to the growing conditions present in the developed planting zone.

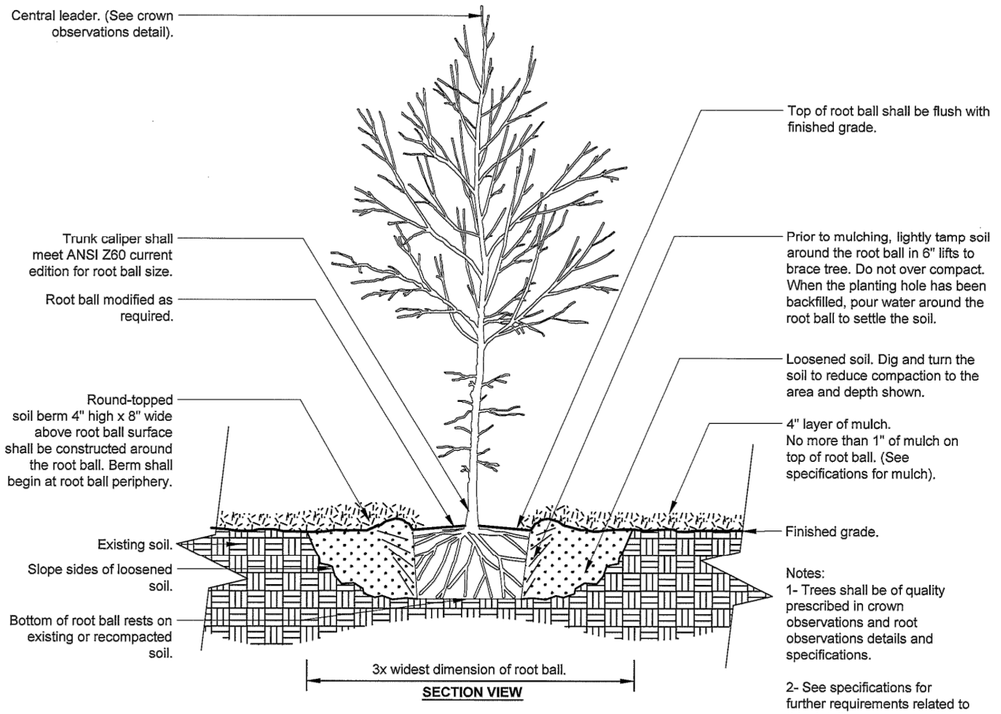
AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

LEGEND:
- APPROX. PROPERTY BOUNDARY
- PERMANENT WATERCOURSE/ DIRECT FISH HABITAT
- 30m WATERCOURSE SETBACK
- 15m VEGETATION PROTECTION ZONE
- WOODLAND PLANTING AREA
- WETLAND PLANTING AREA

7309 CENTRE ROAD
UXBRIDGE, ON

PLANTING PLAN

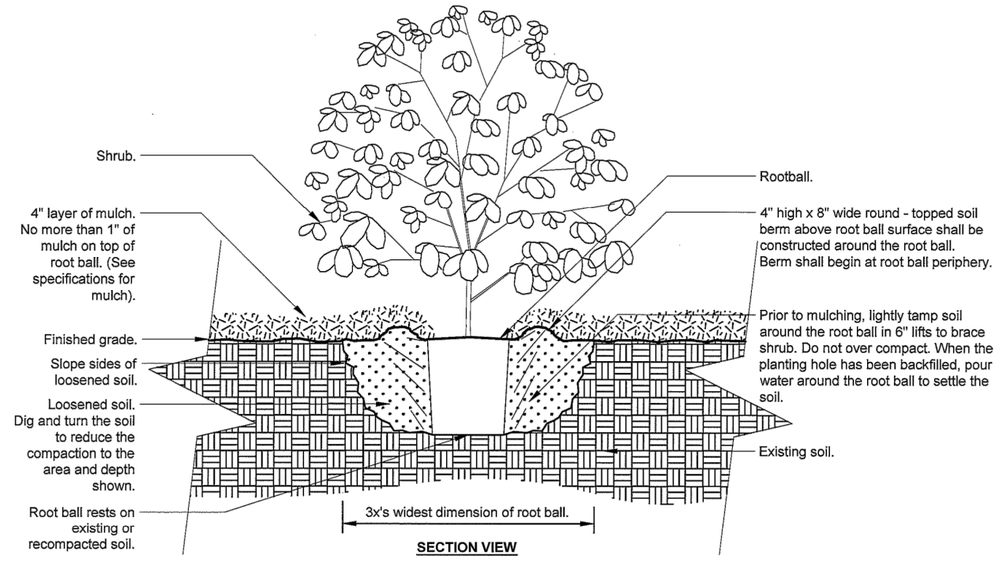
DATE ISSUED:	*AUGUST 2025*	Figure No. 4a
CREATED BY:	*A.L.*	
PROJECT NO.:	*22-406*	
REFERENCE:	*DURHAM REGION*	



Notes:
1- Trees shall be of quality prescribed in crown observations and root observations details and specifications.

2- See specifications for further requirements related to this detail.

P-X TREE w/ BERM (EXISTING SOIL NOT MODIFIED)



Notes:
1- Shrubs shall be of quality prescribed in the root observations detail and specifications.

2- See specifications for further requirements related to this detail.

P-X SHRUB - UNMODIFIED SOIL

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

7309 CENTRE ROAD
UXBRIDGE, ON

PLANTING PLAN

DATE ISSUED:	*AUGUST 2025*	Figure No. 4b
CREATED BY:	*A.L.*	
PROJECT NO.:	*22-406*	
REFERENCE:	*DURHAM REGION*	

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Bank Swallow	*Riparia riparia*	THR	THR	Nests in burrows excavated in natural and human-made settings with vertical sand and silt faces. Commonly found in sand or gravel pits, road cuts, lakeshore bluffs, and along riverbanks (COSEWIC, 2013a). ESA Protection: Species and habitat protection	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Barn Swallow	*Hirundo rustica*	SC	THR	Ledges and walls of man-made structures such as buildings, barns, boathouses, garages, culverts and bridges. Also nest in caves, holes, crevices and cliff ledges (COSEWIC, 2011a). ESA Protection: Species and habitat protection	No suitable nesting habitat (*i.e.* manmade structures) located within the study area limits. One (1) Barn Swallow flyover observed on the property on June 29, 2023, however there was no indication that the species was utilizing any portion of the study area to carry out its critical life processes. As such, the species is not afforded further consideration in this assessment.
Black Ash	*Fraxinus nigra*	END	No Status	Facultative wetland tree species frequently found in floodplain forests, swamps, seepage areas, shoreline margins and fens. Occupied sites are generally seasonally-flooded (COSEWIC, 2018). ESA Protection: Species and general habitat protection (ESA protections take effect January 27, 2024)	Not observed during the vascular plant inventory.
Black Tern	*Chlidonias niger*	SC	No status	Colonial nesters typically found within marshes. Its preferred nesting habitat is a hemi-marsh (*i.e.* a wetland with 50:50 open water and emergent vegetation). Nests are usually built on an upturned cattail root, floating vegetation mat or patch of mud (Cadman *et al* ., 2007). ESA Protection: N/A	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Blanding's Turtle	*Enydoidea blandingii*	THR	END	Blanding's Turtles are a primarily aquatic species that prefer wetland habitats, lakes, ponds, slow-moving streams, etc., however they may utilize upland areas to search for suitable basking and nesting sites. In general, preferred wetland sites are eutrophic and characterized by clear, shallow water, with organic substrates and high density of aquatic vegetation (COSEWIC, 2005). ESA Protection: Species and general habitat protection	No suitable habitat (standing water, abundant aquatic vegetation and organic substrate) within the wetland inclusions on-site and within the adjacent stream corridor. Furthermore, there is no suitable habitat (*e.g.* , ponds and large marshes) upstream or downstream of the site that would render the stream corridor as providing potential transit function. Not observed during Azimuth's field investigations.
Bobolink	*Dolichonyx oryzivorus*	THR	THR	Nests primarily in forage crops (*e.g.* hayfields and pastures) dominated by a variety of species such as clover, Timothy, Kentucky Bluegrass, tall grass, and broadleaved plants. Also occurs in wet prairie, graminoid peatlands, and abandoned fields dominated by tall grasses. Does not generally occupy fields of row crops (*e.g* . corn, soybeans, wheat) or short-grass prairie. Sensitive to habitat size and has lower reproductive success in small habitat fragments (COSEWIC, 2010a). ESA Protection: Species and general habitat protection	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Butternut	*Juglans cinerea*	END	END	Commonly found in riparian habitats, but is also found in rich, moist, well-drained loams, and well-drained gravels. Butternut is intolerant of shade (COSEWIC, 2003). ESA Protection: Species and habitat protection	**Eighteen Butternut identified within the study area.**
Canada Warbler	*Cardellina canadensis*	SC	THR	Wet, mixed deciduous-coniferous forests with a well developed shrub layer. Shrub marshes, Red-Maple stands, cedar stands, Black Spruce swamps, larch and riparian woodlands along rivers and lakes (COSEWIC, 2008a). ESA Protection: N/A	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Chimney Swift	*Chaetura pelagica*	THR	THR	Nests primarily in chimneys though some populations (*i.e* . in rural northern areas) may nest in cavity trees (COSEWIC, 2007a). Recent changes in chimney design may be a significant factor in recent declines in numbers (Cadman *et al* ., 2007). ESA Protection: Species and habitat protection	Chimneys or suitable older-growth cavity trees are not present on the property or in the stream corridor. Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Common Nighthawk	*Chordeiles minor*	SC	THR	Open habitats including sand dunes, beaches recently logged/burned over areas, forest clearings, short grass prairies, pastures, open forests, bogs, marshes, lakeshores, gravel roads, mine tailings, quarries, and other open relatively clear areas (COSEWIC, 2007b). ESA Protection: N/A	Not identified during the nocturnal bird survey program.
Eastern Meadowlark	*Sturnella magna*	THR	THR	Most common in grassland, pastures, savannahs, as well as anthropogenic grassland habitats, including hayfields, weedy meadows, young orchards, golf courses, restored surface mines, *etc* . Occasionally nest in row crop fields such as corn and soybean, but there are considered low-quality habitat. Large tracts of grassland are preferred over smaller fragments and the minimum area required is estimated at 5ha (COSEWIC, 2011b). ESA Protection: Species and habitat protection	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Eastern Red Bat	*Lasiurus borealis*	END	No status	Roosting habitat include deciduous and coniferous foress of any age class. Species tends to roost on large diameter and tall trees reaching the surrouding canopy (COSSARO, 2024). ESA Protection: Species and habitat protection	**Treed areas within the stream corridor and woodlands within adjacent lands to the northeast of the property have potential to provide habitat for this species.**
Eastern Small-footed Myotis	*Myotis lleibii*	END	END	Generally occurs in mountainous or rocky regions as well as in buildings, on the face of rock bluffs and beneath slabs of rock and stones. Hibernation is typically confined to caves and old mines (Best and Jennings, 1997). ESA Protection: Species and habitat protection	Key habitat requirement (*e.g.,* rocky areas, bluffs, caves) for the species are not found on the property or adjacent lands. Hibernation habitat and/or preferred roosting habitat not present. The species would not be expected to occur.
Eastern Whip-poor-will	*Antrostomus vociferus*	SC	THR	Semi-open forests or patchy forests with clearings, such as barrens or forests that are regenerating following major disturbances, are preferred nesting habitats (COSEWIC, 2009a). ESA Protection: N/A	Not identified during the nocturnal bird survey program.
Eastern Wood-pewee	*Contopus virens*	SC	SC	Mostly in mature and intermediate-age deciduous and mixed forests having an open understory. It is often associated with forests dominated by Sugar Maple and oak. Usually associated with forest clearings and edges within the vicinity of its nest (COSEWIC, 2012a). ESA Protection: N/A	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Golden-winged Warbler	*Vermivora chrysoptera*	SC	THR	Areas of early successional scrub surrounded by mature forests including dry uplands, swamp forests, and marshes (COSEWIC, 2006a). ESA Protection: N/A	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Grasshopper Sparrow *pratensis* subspecies	*Ammodramus savannarum pratensis*	SC	SC	Typically breeds in large human-created grasslands (≥5 ha), such as pastures and hayfields, and natural prairies, such as alvars, characterized by well-drained, often poor soil dominated by low, sparse perennial herbaceous vegetation (COSEWIC, 2013b). ESA Protection: N/A	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Hoary Bat	*Lasiurus cinereus*	END	No Status	Roosting habitat includes both deciduous and coniferous forests of any age class. Roost sites with overhead foliage and open flight space below are perferred, and typically occur near the edge of the crown and at high from the ground to prevent mammalian predation (COSEWIC, 2023). ESA Protection: Species and habitat protection	**Treed areas within the stream corridor and woodlands within adjacent lands to the northeast of the property have potential to provide habitat for this species.**
Least Bittern	*Ixobrychus exilis*	THR	THR	Breed strictly in marshes of emergents (usually cattails) that have relatively stable water levels and interspersed areas of open water (COSEWIC, 2009b). ESA Protection: Species and habitat protection	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Little Brown Myotis	*Myotis lucifugus*	END	END	Forests and regularly aging human structures as maternity roost sites. Regularly associated with attics of older buildings and barns for summer maternity roost colonies. Overwintering sites are characteristically mines or caves (MNRF, 2014) (COSEWIC, 2013c). ESA Protection: Species and habitat protection	**No suitable cavity trees were identified within the treed communities on-site and extending into the stream corridor.** **No anthropogenic structures with potential roosting habitat, or caves/mines with potential overwintering habitat located on the property.** **Woodlands within adjacent lands to the northeast of the property have potential to provide habitat for this species.**
Monarch	*Danaus plexippus*	SC	SC	Breeding habitat is confined to sites where milkweeds, the sole food of caterpillars, grow. Milkweeds grow in a variety of environments, including meadows in farmlands, along roadsides and in ditches, open wetlands, dry sandy areas, short and tall grass prairie, river banks, irrigation ditches, arid valleys, and south-facing hills (COSEWIC, 2010b). ESA Protection: N/A	Key habitat requirement (*e.g.*, areas with milkweed) for the species are not found on the property or adjacent lands. Milkweeds were observed sparsely on the property and would not be considered typical of preferred breeding and/or nectaring habitat for the speices' life processes.
Northern Myotis	*Myotis septentrionalis*	END	END	Maternity roost sites are generally located within deciduous and mixed forests and focused in snags including loose bark and cavities of trees. Overwintering sites are characteristically mines or caves (COSEWIC, 2013c). ESA Protection: Species and habitat protection	**No suitable cavity trees were identified within the treed communities on-site and extending into the stream corridor.** **No caves/mines with potential overwintering habitat located within the study area.** **Woodlands within adjacent lands to the northeast of the property have potential to provide habitat for this species.**
Olive-sided Flycatcher	*Contopus cooperi*	SC	THR	Natural forest openings, forest edges near natural openings (such as wetlands) or open to semi-open forest stands. Occasionally human made openings (such as clear cuts). Presence of tall snags and residual live trees is essential (COSEWIC, 2007c). ESA Protection: N/A	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	Occurs in open deciduous forests, particularly those dominated by oak and beech, groves of dead trees, floodplain forests, orchards, cemeteries, savannas and savanna-like grasslands. Although the species occupies a range of habitat types, key habitat is characteristically composed of woodlands where tall trees are of large crcumference (i.e.mature cover) and are at a low density. A high density of snag trees is also an indicator of key habitat types (COSEWIC, 2007d). ESA Protection: Species and habitat protection.	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.
Silver-haired Bat	*Lasionycteris noctivagans*	END	No Status	Roosting habitat includes large and decaying coniferous or deciduous trees. Although rare, the species may roost in or on buildings, especially during migration (COSEWIC, 2023). ESA Protection: Species and habitat protection	**No suitable cavity trees were identified within the treed communities on-site and extending into the stream corridor.** **No anthropogenic structures with potential roosting habitat located on the property.** **Woodlands within adjacent lands to the northeast of the property have potential to provide habitat for this species.**
Snapping Turtle	*Chelydra serpentina*	SC	SC	Habitat is characterized by slow-moving water with a soft mud bottom and dense aquatic vegetation. Often located in ponds, sloughs, shallow bays or river edges and slow streams, or areas combining several of these wetland habitats (COSEWIC, 2008b). ESA Protection: N/A	**The wetland inclusions within the study area do not consist of open water with dense aquatic vegetation and soft substrate that would provide suitable habitat for this species.** **Uxbridge Brook has potential to provide habitat for Snapping Turtle, particularly given that a Provincially Significant Wetland complex occurs downstream ~350m from the northeastern corner of the property. As such, this segment of the riparian corridor may be utilized for wildlife conveyance purposes between suitable habitat units.** **The species was not observed during the field program, however for the purposes of this assessment, the species is treated as present in lieu of completing detailed surveys to verify presence/absence.**
Tri-colored Bat	*Perimyotis subflavus*	END	END	Maternity roost sites include forests and modified landscapes (barns or human-made structures). Overwintering sites include mines and caves (COSEWIC, 2013c). ESA Protection: Species and habitat protection	**No suitable cavity trees were identified within the treed communities on-site and extending into the stream corridor.** **No anthropogenic structures with potential roosting habitat, or caves/mines with potential overwintering habitat located on the property.** **Woodlands within adjacent lands to the northeast of the property have potential to provide habitat for this species.**
Wood Thrush	*Hylocichla mustelina*	SC	THR	Found in moist, deciduous hardwood or mixed stands, often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches (COSEWIC, 2012b). ESA Protection: N/A	Not identified during the breeding bird survey program, or incidentally throughout the remainder of the field program.

[1] List compiled based on SAR records for the Region of York and study area, adjusted based on local species ranges

Best, T., and J. Jennings. 1997. Mammalian Species, *Myotis leibii* . The American Society of Mammalogists. No. 547, pp. 1-6, 5 figs.
Cadman, M., D. Sutherland, G. Beck, D. Lepage and A. Couturier. 2007. Atlas of the Breeding Birds of Ontario 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field
COSEWIC. 2003. COSEWIC assessment and status report on the Butternut *Juglans cinerea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.
COSEWIC. 2005. COSEWIC assessment and update status report on the Blanding's Turtle *Enydoidea blandingii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.viii +40 pp.
COSEWIC 2006. COSEWIC assessment and status report on the Golden-winged Warbler *Vermivora chrysoptera* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 30 pp.
COSEWIC. 2007a. COSEWIC assessment and update status report on the Chimney Swift *Chaetura pelagic* a in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 49 pp.
COSEWIC. 2007b. COSEWIC assessment and status report on the Common Nighthawk *Chordeiles minor* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp.
COSEWIC. 2007c. COSEWIC assessment and status report on the Olive-sided Flycatcher *Contopus cooperi* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 25 pp.
COSEWIC. 2007d. COSEWIC assessment and status report on the Red-headed Woodpecker *Melanerpes erythrocephalu* s in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.
COSEWIC. 2008a. COSEWIC assessment and status report on the Canada Warbler *Wilsonia Canadensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp.
COSEWIC. 2008b. COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
COSEWIC. 2009a. COSEWIC assessment and update status report on the Whip-poor-will *Caprimulgus vociferus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 28 pp.
COSEWIC. 2009b. COSEWIC assessment and update status report on the Least Bittern *Ixobrychus exilis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 36 pp.
COSEWIC. 2010a. COSEWIC assessment and update status report on the Bobolink *Dolichonyx oryzivorus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 42 pp.
COSEWIC. 2010b. COSEWIC assessment and status report on the Monarch *Danaus plexippus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 43 pp.
COSEWIC. 2011a. COSEWIC assessment and update status report on the Barn Swallow *Hirundo rustica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 37 pp.
COSEWIC. 2011b. COSEWIC assessment and update status report on the Eastern Meadowlark *Sturnella magna* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp.
COSEWIC. 2012a. COSEWIC assessment and status report on the Eastern Wood-pewee *Contopus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.
COSEWIC. 2012b. COSEWIC assessment and status report on the Wood Thrush *Hylocichla mustelina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 46 pp.
COSEWIC. 2013a. COSEWIC assessment and update status report on the Bank Swallow *Riparia riparia* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 48 pp.
COSEWIC. 2013b. COSEWIC assessment and status report on the Grasshopper Sparrow pratensis subspecies *Ammodramus savannarum pratensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 36 pp.

COSEWIC. 2013c. COSEWIC assessment and update status report on the Little Brown Myotis *Myotis lucifugus* , Northern Myotis *Myotis septentrionalis* and Tri-colored Bat *Perimyotis subfalvus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
COSEWIC. 2018. COSEWIC assessment and status report on the Black Ash *Fraxinus nigra* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 95 pp.
COSEWIC. 2023. COSEWIC assessment and status report on the Hoary Bat *Lasiurus cinereus* , Eastern Red Bat *Lasiurus borealis* and Silver-haired Bat, *Lasionycteris noctivagans* , in Canada. Committee on the Status of Endangered Wildlfie in Canada.
COSSARO. 2024. Ontario species at risk evaluation report for Eastern Red Bat (Lasiurus borealis). Committee on the Statis of Species at Risk in Ontario.
Ministry of the Environment, Conservation and Parks (MECP). 2021. General Habitat Description for the Blanding's Turtle (*Emydoidea blangingii), July 2013 - Updated March 2021.7 pp.*
Ministry of the Environment, Conservation and Parks (MECP). 2023. Species at Risk in Ontario (https://www.ontario.ca/page/species-risk-ontario)
Ministry of Natural Resources and Forestry (MNRF). 2014. Eastern Small-footed Bat. Queen's Printer for Ontario. https://www.ontario.ca/environment-and-energy/eastern-small-footed-bat

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			Vegetation Communities[2]							Conservation Rankings[3]			Regional[4]
FAMILY[1]	**SCIENTIFIC NAME[1]**	**COMMON NAME[1]**	**FOCM6-3**	**FOMD11**	**MEMM4a**	**MEMM4b/c**	**THDM2-6**	**WODM5-3**	**WOMM4-1**	**GRANK**	**SRANK**	**TRACK**	**Durham**
Aceraceae	*Acer negundo*	Manitoba Maple	X	X	X	X	X	X	X	G5	S5	N	
Aceraceae	*Acer nigrum*	Black Maple						X		G5	S4?	N	R4
Aceraceae	*Acer saccharum*	Sugar Maple		X		X	X	X		G5	S5	N	X
Aceraceae	*Acer x freemanii*	(Acer rubrum X Acer saccharinum)			X		X		X	GNA		N	X
Anacardiaceae	*Rhus typhina*	Staghorn Sumac				X	X	X		G5	S5	N	X
Apiaceae	*Aegopodium podagraria*	Goutweed				X				GNR	SE5	N	
Apiaceae	*Daucus carota*	Wild Carrot		X		X	X		X	GNR	SE5	N	
Apocynaceae	*Apocynum androsaemifolium*	Spreading Dogbane				X				G5	S5	N	X
Apocynaceae	*Asclepias syriaca*	Common Milkweed				X	X			G5	S5	N	X
Araceae	*Arisaema triphyllum*	Jack-in-the-pulpit						X		G5	S5	N	X
Asteraceae	*Achillea millefolium*	Common Yarrow				X	X			G5	SE5?	N	
Asteraceae	*Arctium minus*	Common Burdock			X	X		X	X	GNR	SE5	N	
Asteraceae	*Cirsium arvense*	Canada Thistle			X	X			X	G5	SE5	N	
Asteraceae	*Doellingeria umbellata*	Flat-top White Aster			X					G5	S5	N	X
Asteraceae	*Erigeron annuus*	Annual Fleabane				X	X	X		G5	S5	N	X
Asteraceae	*Eupatorium perfoliatum*	Common Boneset			X			X		G5	S5	N	X
Asteraceae	*Euthamia graminifolia*	Grass-leaved Goldenrod			X	X	X	X	X	G5	S5	N	X
Asteraceae	*Eutrochium maculatum*	Spotted Joe Pye Weed			X	X	X	X		G5	S5	N	X
Asteraceae	*Inula helenium*	Elecampane	X		X		X	X		GNR	SE5	N	
Asteraceae	*Lactuca biennis*	Tall Blue Lettuce		X		X		X		G5	S5	N	U
Asteraceae	*Leucanthemum vulgare*	Oxeye Daisy				X				GNR	SE5	N	
Asteraceae	*Pilosella caespitosa*	Meadow Hawkweed						X		GNR	SE5	N	
Asteraceae	*Rudbeckia hirta*	Black-eyed Susan		X						G5	S5	N	
Asteraceae	*Solidago canadensis*	Canada Goldenrod		X	X	X	X	X	X	G5	S5	N	U
Asteraceae	*Solidago flexicaulis*	Zigzag Goldenrod						X		G5	S5	N	X
Asteraceae	*Solidago rugosa*	Rough-stemmed Goldenrod					X			G5	S5	N	
Asteraceae	*Sonchus arvensis*	Field Sow-thistle			X	X				GNR	SE5	N	
Asteraceae	*Symphyotrichum lanceolatum*	Panicled Aster		X	X	X	X	X	X	G5	S5	P	X
Asteraceae	*Symphyotrichum novae-angliae*	New England Aster			X	X	X	X	X	G5	S5	N	X

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Asteraceae	*Symphyotrichum puniceum*	Purple-stemmed Aster		X	X	X		X		G5	S5	N	X
Asteraceae	*Tanacetum vulgare*	Common Tansy		X	X	X	X	X	X	GNR	SE5	N	
Asteraceae	*Taraxacum officinale*	Common Dandelion	X	X	X	X	X	X	X	G5	SE5	N	
Asteraceae	*Tragopogon dubius*	Yellow Goatsbeard				X	X			GNR	SE5	N	
Asteraceae	*Tussilago farfara*	Coltsfoot	X	X	X	X	X	X	X	GNR	SE5	N	
Balsaminaceae	*Impatiens capensis*	Spotted Jewelweed		X	X	X	X	X	X	G5	S5	N	X
Betulaceae	*Betula papyrifera*	Paper Birch				X	X			G5	S5	N	X
Betulaceae	*Ostrya virginiana*	Eastern Hop-hornbeam						X		G5	S5	N	X
Boraginaceae	*Cynoglossum officinale*	Common Hound's-tongue							X	GNR	SE5	N	
Boraginaceae	*Hackelia virginiana*	Virginia Stickseed				X	X			G5	S5	N	R4
Boraginaceae	*Myosotis laxa*	Small Forget-me-not	X				X	X	X	G5	S5	N	X
Brassicaceae	*Alliaria petiolata*	Garlic Mustard			X			X	X	GNR	SE5	N	
Brassicaceae	*Brassica rapa*	Field Mustard				X		X		GNR	SE5	N	
Brassicaceae	*Hesperis matronalis*	Dame's Rocket						X		G4G5	SE5	N	
Brassicaceae	*Nasturtium officinale*	Watercress						X		GNR	SE	N	
Brassicaceae	*Rorippa palustris*	Marsh Yellowcress			X	X	X		X	G5	S5	N	U
Brassicaceae	*Thlaspi arvense*	Field Pennycress				X				GNR	SE5	N	
Campanulaceae	*Campanula rapunculoides*	Creeping Bellflower				X				GNR	SE5	N	
Caprifoliaceae	*Lonicera canadensis*	Canada Fly Honeysuckle						X		G5	S5	N	U
Caprifoliaceae	*Lonicera tatarica*	Tatarian Honeysuckle		X		X			X	GNR	SE5	N	
Caprifoliaceae	*Sambucus racemosa*	Red Elderberry						X		G5	S5	N	X
Caprifoliaceae	*Viburnum lentago*	Nannyberry			X		X		X	G5	S5	N	X
Caprifoliaceae	*Viburnum opulus var. opulus*	Cranberry Viburnum	X	X		X	X	X	X	G5TNR	SE4?	N	
Caryophyllaceae	*Silene noctiflora*	Night-flowering Catchfly				X				GNR	SE5	N	
Caryophyllaceae	*Silene vulgaris*	Bladder Campion							X	GNR	SE5	N	
Convolvulaceae	*Convolvulus arvensis*	Field Bindweed				X				GNR	SE5	N	
Cornaceae	*Cornus alternifolia*	Alternate-leaved Dogwood		X	X	X	X		X	G5	S5	N	X
Cornaceae	*Cornus racemosa*	Grey Dogwood					X			G5	S5	N	R2
Cornaceae	*Cornus sericea*	Red-osier Dogwood	X	X	X	X	X	X	X	G5	S5	N	X

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			Vegetation Communities[2]							Conservation Rankings[3]			Regional[4]
FAMILY[1]	**SCIENTIFIC NAME[1]**	**COMMON NAME[1]**	**FOCM6-3**	**FOMD11**	**MEMM4a**	**MEMM4b/c**	**THDM2-6**	**WODM5-3**	**WOMM4-1**	**GRANK**	**SRANK**	**TRACK**	**Durham**
Cucurbitaceae	*Echinocystis lobata*	Wild Cucumber				X		X		G5	S5	N	X
Cupressaceae	*Juniperus virginiana*	Eastern Red Cedar					X			G5	S5	N	X
Cupressaceae	*Thuja occidentalis*	Eastern White Cedar	X			X	X		X	G5	S5	N	X
Cyperaceae	*Carex blanda*	Woodland Sedge	X					X		G5	S5	N	U
Cyperaceae	*Carex flava*	Yellow Sedge				X				G5	S5	N	U
Cyperaceae	*Carex pellita*	Woolly Sedge						X		G5	S5	N	U
Cyperaceae	*Scirpus atrovirens*	Dark-green Bulrush				X				G5	S5	N	X
Cyperaceae	*Scirpus cyperinus*	Common Woolly Bulrush			X					G5	S5	N	X
Dryopteridaceae	*Matteuccia struthiopteris*	Ostrich Fern						X		G5	S5	N	X
Dryopteridaceae	*Onoclea sensibilis*	Sensitive Fern	X					X	X	G5	S5	N	X
Elaeagnaceae	*Elaeagnus umbellata*	Autumn Olive				X		X		GNR	SE3	N	
Equisetaceae	*Equisetum arvense*	Field Horsetail	X		X	X	X	X	X	G5	S5	N	X
Equisetaceae	*Equisetum fluviatile*	Water Horsetail			X		X			G5	S5	N	X
Equisetaceae	*Equisetum hyemale*	Common Scouring-rush				X				G5	S5	N	X
Equisetaceae	*Equisetum variegatum*	Variegated Scouring-rush				X				G5	S5	N	X
Fabaceae	*Lotus corniculatus*	Garden Bird's-foot Trefoil					X			GNR	SE5	N	
Fabaceae	*Medicago lupulina*	Black Medick				X				GNR	SE5	N	
Fabaceae	*Melilotus albus*	White Sweet-clover				X				G5	SE5	N	
Fabaceae	*Trifolium pratense*	Red Clover			X	X			X	GNR	SE5	N	
Fabaceae	*Trifolium repens*	White Clover						X		GNR	SE5	N	
Fabaceae	*Vicia cracca*	Tufted Vetch			X				X	GNR	SE5	N	
Grossulariaceae	*Ribes americanum*	American Black Currant						X		G5	S5	N	X
Iridaceae	*Sisyrinchium montanum*	Strict Blue-eyed-grass				X				G5	S5	N	
Juglandaceae	*Juglans cinerea*	Butternut		X		X	X	X	X	G3	S2?	Y	X
Juglandaceae	*Juglans nigra*	Black Walnut		X	X	X	X	X	X	G5	S4?	N	U
Juncaceae	*Juncus tenuis*	Path Rush				X				GNR	S5	N	X
Lamiaceae	*Lycopus uniflorus*	Northern Water-horehound			X					G5	S5	N	X
Lamiaceae	*Mentha canadensis*	Canada Mint				X				G5	S5	N	X
Lamiaceae	*Prunella vulgaris*	Common Self-heal	X							G5	S5	N	X

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			Vegetation Communities[2]							Conservation Rankings[3]			Regional[4]
FAMILY[1]	**SCIENTIFIC NAME[1]**	**COMMON NAME[1]**	**FOCM6-3**	**FOMD11**	**MEMM4a**	**MEMM4b/c**	**THDM2-6**	**WODM5-3**	**WOMM4-1**	**GRANK**	**SRANK**	**TRACK**	**Durham**
Liliaceae	*Allium tricoccum*	Wild Leek						X		G5	S4	P	X
Liliaceae	*Convallaria majalis*	European Lily-of-the-valley				X				G5	SE5	N	
Liliaceae	*Erythronium americanum*	Yellow Trout-lily						X		G5	S5	N	X
Liliaceae	*Maianthemum canadense*	Wild Lily-of-the-valley						X		G5	S5	N	X
Liliaceae	*Maianthemum racemosum*	Large False Solomon's Seal	X							G5T5	S5	N	X
Lythraceae	*Lythrum salicaria*	Purple Loosestrife			X	X				G5	SE5	N	
Oleaceae	*Fraxinus americana*	White Ash		X						G4	S4	N	X
Oleaceae	*Fraxinus pennsylvanica*	Red Ash		X	X	X	X	X	X	G4	S4	N	X
Oleaceae	*Syringa vulgaris*	Common Lilac				X			X	GNR	SE5	N	
Onagraceae	*Circaea canadensis*	Broad-leaved Enchanter's Nightshade	X	X		X	X	X		G5	S5	N	X
Onagraceae	*Epilobium hirsutum*	Hairy Willowherb			X		X		X	GNR	SE5	N	
Onagraceae	*Oenothera biennis*	Common Evening-primrose				X				G5	S5	N	X
Orchidaceae	*Epipactis helleborine*	Broad-leaved Helleborine	X							GNR	SE5	N	
Pinaceae	*Larix laricina*	Tamarack			X		X		X	G5	S5	N	X
Pinaceae	*Picea glauca*	White Spruce			X		X		X	G5	S5	N	X
Pinaceae	*Picea pungens*	Blue Spruce					X			G5	SE1	N	X
Pinaceae	*Pinus nigra*	Austrian Pine			X				X	GNR	SE3	N	
Pinaceae	*Pinus strobus*	Eastern White Pine	X		X		X		X	G5	S5	N	X
Pinaceae	*Pinus sylvestris var. sylvestris*	Scots Pine	X		X	X	X	X	X	NRTN	SE5	N	
Pinaceae	*Tsuga canadensis*	Eastern Hemlock					X			G4G5	S5	N	X
Plantaginaceae	*Plantago major*	Common Plantain	X			X		X	X	G5	SE5	N	
Plantaginaceae	*Plantago rugelii*	Rugel's Plantain				X	X			G5	S5	N	X
Poaceae	*Agrostis gigantea*	Redtop			X	X				G4G5	SE5	N	
Poaceae	*Bromus inermis*	Smooth Brome		X	X	X	X	X	X	G5T5	SE5	N	
Poaceae	*Dactylis glomerata*	Orchard Grass				X	X		X	GNR	SE5	N	
Poaceae	*Digitaria sanguinalis*	Hairy Crabgrass				X			X	G5	SE5	N	
Poaceae	*Elymus virginicus*	Virginia Wildrye				X				G5	S5	N	
Poaceae	*Festuca rubra*	Red Fescue				X	X	X	X	G5	S5	P	
Poaceae	*Phalaris arundinacea*	Reed Canarygrass			X	X		X	X	G5	S5	N	X

Surveyor: D. Stuart

			Vegetation Communities[2]							Conservation Rankings[3]			Regional[4]
FAMILY[1]	**SCIENTIFIC NAME[1]**	**COMMON NAME[1]**	**FOCM6-3**	**FOMD11**	**MEMM4a**	**MEMM4b/c**	**THDM2-6**	**WODM5-3**	**WOMM4-1**	**GRANK**	**SRANK**	**TRACK**	**Durham**
Poaceae	*Phleum pratense*	Common Timothy		X		X	X			GNR	SE5	N	
Poaceae	*Phragmites australis ssp. australis*	European Reed					X			G5T5	SE5	N	X
Poaceae	*Poa pratensis*	Kentucky Bluegrass			X	X	X	X	X	G5	S5	P	
Polygonaceae	*Rumex crispus*	Curled Dock				X				GNR	SE5	N	
Polygonaceae	*Rumex obtusifolius*	Bitter Dock							X	GNR	SE5	N	
Ranunculaceae	*Actaea sp.*	a Baneberry	X					X		N/A	N/A	N/A	
Ranunculaceae	*Anemonastrum canadense*	Canada Anemone				X	X	X		G5	S5	N	X
Ranunculaceae	*Caltha palustris*	Yellow Marsh Marigold			X		X	X	X	G5	S5	N	X
Ranunculaceae	*Clematis virginiana*	Virginia Clematis			X			X		G5	S5	N	X
Ranunculaceae	*Ranunculus acris*	Common Buttercup				X	X		X	G5	SE5	N	
Ranunculaceae	*Ranunculus repens*	Creeping Buttercup			X	X	X	X		GNR	SE5	N	
Rhamnaceae	*Rhamnus cathartica*	European Buckthorn	X	X	X	X	X	X	X	GNR	SE5	N	
Rosaceae	*Agrimonia gryposepala*	Hooked Agrimony	X		X	X	X			G5	S5	N	X
Rosaceae	*Amelanchier laevis*	Smooth Serviceberry					X			G5	S5	N	U
Rosaceae	*Crataegus monogyna*	English Hawthorn				X				G5	SE4	N	
Rosaceae	*Malus pumila*	Common Apple	X		X	X	X	X		G5	SE4	N	
Rosaceae	*Potentilla recta*	Sulphur Cinquefoil				X				GNR	SE5	N	
Rosaceae	*Prunus pumila var. depressa*	Prostrate Sand Cherry				X				G5T5	S4?	N	
Rosaceae	*Prunus serotina*	Black Cherry	X				X	X		G5	S5	N	X
Rosaceae	*Prunus virginiana*	Chokecherry	X	X	X			X	X	G5	S5	N	X
Rosaceae	*Rosa multiflora*	Multiflora Rose				X	X	X		GNR	SE5	N	
Rosaceae	*Rubus idaeus*	Red Raspberry		X	X		X			G5	S5	N	X
Rosaceae	*Rubus occidentalis*	Black Raspberry					X	X	X	G5	S5	N	X
Rosaceae	*Sorbus aucuparia*	European Mountain-ash		X		X		X	X	G5	SE4	N	
Rubiaceae	*Galium aparine*	Common Bedstraw			X		X		X	G5	S5	N	U
Rubiaceae	*Galium mollugo*	Smooth Bedstraw				X			X	GNR	SE5	N	
Salicaceae	*Populus alba*	White Poplar				X			X	G5	SE5	N	
Salicaceae	*Populus tremuloides*	Trembling Aspen	X			X		X	X	G5	S5	N	X
Salicaceae	*Salix alba*	White Willow				X				G5	SE4	N	

Surveyor: D. Stuart

			Vegetation Communities[2]							Conservation Rankings[3]			Regional[4]
FAMILY[1]	**SCIENTIFIC NAME[1]**	**COMMON NAME[1]**	**FOCM6-3**	**FOMD11**	**MEMM4a**	**MEMM4b/c**	**THDM2-6**	**WODM5-3**	**WOMM4-1**	**GRANK**	**SRANK**	**TRACK**	**Durham**
Salicaceae	*Salix bebbiana*	Bebb's Willow			X	X	X	X	X	G5	S5	N	X
Salicaceae	*Salix discolor*	Pussy Willow			X		X		X	G5	S5	N	X
Salicaceae	*Salix eriocephala*	Cottony Willow			X	X	X	X		G5	S5	N	X
Salicaceae	*Salix euxina*	Crack Willow							X	GNR	SE	N	
Salicaceae	*Salix interior*	Sandbar Willow					X			G5	S5	N	X
Salicaceae	*Salix petiolaris*	Meadow Willow			X	X		X		G5	S5	N	X
Scrophulariaceae	*Verbascum thapsus*	Common Mullein							X	GNR	SE5	N	
Scrophulariaceae	*Veronica beccabunga*	European Speedwell						X		GNR	SE2	N	
Scrophulariaceae	*Veronica serpyllifolia*	Thyme-leaved Speedwell				X				G5	SU	N	X
Solanaceae	*Solanum dulcamara*	Bittersweet Nightshade							X	GNR	SE5	N	
Tiliaceae	*Tilia americana*	Basswood					X	X	X	G5	S5	N	X
Typhaceae	*Typha angustifolia*	Narrow-leaved Cattail				X				G5	SE5	N	X
Typhaceae	*Typha latifolia*	Broad-leaved Cattail			X	X	X		X	G5	S5	N	X
Ulmaceae	*Ulmus americana*	White Elm		X		X	X	X	X	G4	S5	N	X
Urticaceae	*Urtica dioica ssp. dioica*	European Stinging Nettle						X		G5T5?	SE2	N	
Verbenaceae	*Verbena hastata*	Blue Vervain			X					G5	S5	N	X
Violaceae	*Viola labradorica*	Labrador Violet						X		G5	S5	N	X
Violaceae	*Viola pubescens*	Yellow Violet	X							G5	S5	N	X
Vitaceae	*Parthenocissus vitacea*	Thicket Creeper		X		X	X	X	X	G5	S5	N	X
Vitaceae	*Vitis riparia*	Riverbank Grape		X	X	X	X	X	X	G5	S5	N	X

[1] Nomenclature based on Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC, 2022)

[2] ELC Codes based on Ecological Land Classification for Southern Ontario manual (Lee et al., 1998, 2008)

[3] Conservation Rankings: From Ontario Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (https://www.ontario.ca/page/natural-heritage-information-centre

[4] Varga, S., D. Leadbeater, J. Webber, J. Kaiser, B. Crins, J. Kamstra, D. Banville, E. Ashley, G. Miller, C. Kingsley, C. Jacobsen, K. Mewa, L. Tebby, E. Mosely, and E. Zajc. 2000. Distribution and Status of Vascular Plants of the Greater Toronto Area. Ontario Ministry of Natural Resources, Aurora District. August 2000. 102 pp.

Ecological Land Classification[1]					
System	**Community Class**	**Community Series**	**Ecosite/Vegetation Type**	**Composition**	**Ground Cover**
Terrestrial	Meadow	MEM, Mixed Meadow	MEMMa, Fresh-Moist Mixed Meadow	The canopy is sparse to negligible and composed of Freeman's Maple and Tamarack. The subcanopy is also somewhat sparse, composed of young Manitoba Maple, Eastern White Pine, Freeman's Maple and Black Walnut.	The understorey is somewhat sparse, composed of Red-osier Dogwood, European Buckthorn, Meadow Willow and Freeman's Maple. The ground layer is dense and the dominant layer, composed of low cool-season grasses, Panicled Aster, Hairy Willowherb and Grass-leaved Goldenrod.
				General notes: Two small wetland inclusions, MAMM2-4: Mixed Forb Mineral Meadow Marsh (0.21ha) and MAMM1-3: Reed Canary Grass Mineral Meadow Marsh (0.14ha) occur within the mixed meadow community.	
Terrestrial	Meadow	MEM, Mixed Meadow	MEMMb/c, Fresh-Moist Mixed Meadow	Overall, the canopy layer is absent. The subcanopy is sparse and composed mostly of young Manitoba Maple and White Willow.	The understorey is sparse consisting of Manitoba Maple, Bebb's Willow, Red-osier Dogwood and Cottony Willow. The ground layer is dense and the dominant layer, composed of low cool-season grasses, Canada Goldenrod and Common Tansy.
				General notes: Two small wetland inclusions, SWTM3: Willow Mineral Deciduous Thicket Swamp (0.019ha) and MAMM1-10: Horsetail Mineral Meadow Marsh (0.007ha) occur within the mixed meadow communities.	
Terrestrial	Thicket	THD, Deciduous Thicket	THDM4, Dry-Fresh Deciduous Regeneration Thicket	The canopy is sparse, composed of White Elm, Freeman's Maple and Paper Birch. The subcanopy is somewhat sparse and composed of Eastern White Pine, Freeman's Maple, Alternate-leaved Dogwood and Scots Pine.	The understory is dense and the dominant layer, composed largely of European Buckthorn, with occasional elements of Common Apple, Alternate-leaved Dogwood and Eastern White Pine. The ground layer is also dense and variable, and is composed of shorter cool-season grasses, Canada Goldenrod, Common Tansy, Common Dandelion, Panicled Aster and Coltsfoot.
Terrestrial	Woodland	WOD, Deciduous Woodland	WODM5-3a, Fresh-Moist Manitoba Maple Deciduous Woodland	The canopy is somewhat sparse consisting of White Elm, Black Walnut, Black Cherry and Trembling Aspen. The subcanopy is somewhat dense, including Manitoba Maple, Black Cherry, Basswood and Scots Pine.	The understorey is dense and composed of European Buckthorn, Manitoba Maple and lesser elements of Red-osier Dogwood and Cottony Willow. The ground layer is somewhat dense and includes European Buckthorn, Yellow Trout-lily, Broad-leaved Enchanter's Nightshade and Creeping Buttercup.
				General notes: This is a young woodland community and trees largely lack signs of decay.	

Terrestrial	Woodland	WOM, Mixed Woodland	WOMM4-1 Fresh-Moist White Cedar-Hardwood Mixed Woodland	The canopy is somewhat sparse consisting of White Poplar and Scots Pine. The subcanopy is dense and the dominant layer, consisting of Eastern White Cedar, Eastern White Pine, Freeman's Maple and Trembling Aspen.	The understorey is somewhat dense and composed of Eastern White Cedar, Black Walnut and European Buckthorn and lesser elements of Scots Pine. The ground layer is dense and includes Kentucky Bluegrass, Canada Goldenrod, Common Bedstraw and Field Horsetail.
				General notes: This is a young woodland community and trees largely lack signs of decay.	
Terrestrial	Forest	FOC, Coniferous Forest	FOCM6-3, Dry-Fresh Scotch Pine Naturalized Coniferous Plantation	There is a sparse canopy of Trembling Aspen, Black Cherry, Scots Pine and Eastern White Pine. The subcanopy is the dominant layer, and is primarily composed of Eastern White Cedar, with lesser elements of Scots Pine, Eastern White Pine and Black Cherry.	The understorey layer is absent. The ground layer is sparse and consists of European Buckthorn, Coltsfoot, Field Horsetail and Sensitive Fern.
Terrestrial	Forest	FOD, Deciduous Forest	FODM11, Naturalized Deciduous Hedgerow	The canopy is somewhat sparse, consisting of White Ash, Red Ash and Black Walnut. The sub-canopy is dense and the dominant layer, composed of Manitoba Maple, White Ash, Black Walnut and Sugar Maple.	The understorey is somewhat dense and composed of Manitoba Maple, European Buckthorn, Red Ash and European Mountain-ash. The ground layer is dense, composed Canada Goldenrod, Common Tansy, Smooth Brome and Wild Carrot.
Terrestrial	Cultural	OAG, Open Agriculture	OAGM1, Annual Row Crops	All row crops observed in 2023 were composed of Soy (*Glycine max*).	

Table 4: Dawn Breeding Bird Summary, Centre Rd Uxbridge EIS Surveyor: D. Stuart **AEC22-406**

			Location[1,2]																						Conservation Rankings[3]				
			1			2			3			4			5			6			7			Adjacent Lands	Incidental					
FAMILY	SCIENTIFIC NAME	COMMON NAME	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3			GRANK	SRANK	ESA	SARA	TRACK
Alaudidae	*Eremophila alpestris*	Horned Lark																					S		G5	S4			N
Anatidae	*Branta canadensis*	Canada Goose																					H		G5	S5			N
Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing				T					H	H							S		S		H	H		G5	S5			N
Cardinalidae	*Cardinalis cardinalis*	Northern Cardinal				S	S		S	S	S	S	T	S	S	S			S		S	T	S	S		G5	S5			N
Cardinalidae	*Passerina cyanea*	Indigo Bunting	S						S	S			S		S	S								S		G5	S5B			N
Cathartidae	*Cathartes aura*	Turkey Vulture							X																	G5	S5B,S3N			N
Columbidae	*Zenaida macroura*	Mourning Dove	P	H	S	P		P	S		S	S				FO		H	S	S		S	S	H		G5	S5			N
Corvidae	*Corvus brachyrhynchos*	American Crow		H	H		H	H	H			H				T			H					H		G5	S5			N
Corvidae	*Corvus corax*	Common Raven																							✓	G5	S5			N
Corvidae	*Cyanocitta cristata*	Blue Jay		H	H	H		FY	H	H	C	H		H	H	P				H				H		G5	S5			N
Fringillidae	*Spinus tristis*	American Goldfinch	S	H	H	H	H	C	H	H	H	H		H	S		H				H	H		H		G5	S5			N
Hirundinidae	*Hirundo rustica*	Barn Swallow																		FO						G5	S4B	SC	SC	Y
Hirundinidae	*Tachycineta bicolor*	Tree Swallow																	FO							G5	S4S5B			N
Icteridae	*Agelaius phoeniceus*	Red-winged Blackbird			H	H		C			S									S				S		G5	S5			N
Icteridae	*Icterus galbula*	Baltimore Oriole																							✓	G5	S4B			N
Icteridae	*Molothrus ater*	Brown-headed Cowbird		H		H							H								H		H	H		G5	S5			N
Icteridae	*Quiscalus quiscula*	Common Grackle	FO						CF	T	H	H		H	H	T				H	H	FY				G5	S5			N
Mimidae	*Dumetella carolinensis*	Gray Catbird								S		S	S			S								S		G5	S5B,S3N			N
Paridae	*Poecile atricapillus*	Black-capped Chickadee			S	S	S		S		S		S	S					S	T	H		S	S		G5	S5			N
Parulidae	*Geothlypis trichas*	Common Yellowthroat			S		S	S		S	S		S	S								S		H		G5	S5B,S3N			N
Parulidae	*Mniotilta varia*	Black-and-white Warbler																							✓	G5	S5B			N
Parulidae	*Setophaga petechia*	Yellow Warbler		S																				S		G5	S5B			N
Passerellidae	*Melospiza melodia*	Song Sparrow	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		G5	S5			N
Passerellidae	*Passerculus sandwichensis*	Savannah Sparrow	S			S																				G5	S5B,S3N			N
Passerellidae	*Spizella passerina*	Chipping Sparrow			S																					G5	S5B,S3N			N
Passerellidae	*Spizella pusilla*	Field Sparrow								S														S		G5	S4B,S3N			N
Passeridae	*Passer domesticus*	House Sparrow																						H		G5	SNA			N
Phasianidae	*Meleagris gallopavo*	Wild Turkey			X															X				S	✓	G5	S5			N
Picidae	*Colaptes auratus*	Northern Flicker															H							H		G5	S5			N
Picidae	*Dryobates pubescens*	Downy Woodpecker																						H		G5	S5			N
Scolopacidae	*Scolopax minor*	American Woodcock																							✓	G5	S4B			N
Sturnidae	*Sturnus vulgaris*	European Starling					H			FO			FO							H				H		G5	SNA			N
Troglodytidae	*Troglodytes aedon*	House Wren					S									S	S			S			S	S		G5	S5B			N
Turdidae	*Turdus migratorius*	American Robin		S		T	S	S	S	S	H	A	S	S		S	S	S	T	S	T	S	S	S		G5	S5			N
Tyrannidae	*Empidonax alnorum*	Alder Flycatcher																						S		G5	S5B			N
Tyrannidae	*Myiarchus crinitus*	Great Crested Flycatcher											H													G5	S5B			N
Tyrannidae	*Tyrannus tyrannus*	Eastern Kingbird												H												G5	S4B			N
Vireonidae	*Vireo gilvus*	Warbling Vireo																						S		G5	S5B			N

[1] **Visit 1**: May 26, 2023, Observer: D. Stuart, Temperature 11°C, Cloud Cover 0% , Wind: B1, Precipitation: Nil, Search Time 08:30 to 09:58; **Visit 2**: June 5, 2023, Observer: D. Stuart, Temperature 14°C, Cloud Cover 100% , Wind: B1, Precipitation: Nil, Search Time 07:30 to 09:53; **Visit 3:** June 29, 2023, Observer: D. Stuart, Temperature 15°C, Cloud Cover 0% , Wind: B1, Precipitation: Nil, Search Time 08:00 to 09:27

[2] Breeding Bird Evidence Codes: X - Species observed, C - Call heard, FO - Flyover (Species presence); H - Species observed in its breeding season in suitable nesting habitat, S - Singing male (Possible Breeding); P - Pair observed , T - Territorial behaviour, A - Agitated behaviour or anxiety calls of adult, V - Visiting a probably nest site, N - Nest building or excavation of nest hole (Probable Breeding); DD - Distraction display or injury feigning, NU - Used Nest or egg shells, FY - Recently fledged young, AE - Adult leaving or entering nest sites, FS - Adult carrying fecal sac, CF - Adult carrying food for young, NE - Nest containing eggs, NY - Nest with young seen or heard (Confirmed Breeding).

[3] Conservation Rankings: From Ontario Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (https://www.ontario.ca/page/natural-heritage-information-centre)

Table 5: Significant Wildlife Habitat Assessment

Table 1.1 Seasonal Concentrations of Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Stopover and Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. Information Sources • Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. • Reports and other information available from Conservation Authorities • Sites documented through waterfowl planning processes (*e.g.* EHJV implementation plan) • Field Naturalist Clubs • Ducks Unlimited Canada • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • SWHMiST Index #7 provides development effects and mitigation measures.	Fields with sheet water not observed. No suitable habitat within the study area.
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). Information Sources • Environment Canada • Naturalist clubs often are aware of staging/stopover areas • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (*e.g.* EHJV implementation plan) • Ducks Unlimited projects • Element occurrence specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas	Studies carried out and verified presence of: • Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. • The combined area of the ELC ecosites and a 100m radius area is the SWH. • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • SWHMiST Index #7 provides development effects and mitigation measures.	Shoreline wetlands with potential for abundant food supply not observed. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Shorebird Migratory Stopover Area **Rationale:** High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH. Information Sources • Western hemisphere shorebird reserve network • Canadian Wildlife Service (CWS) Ontario Shorebird Survey • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs • Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	Studies confirming: • Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) • Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #8 provides development effects and mitigation measures.	Beach areas, bars, and seasonally-flooded muddy shoreline habitat associated with shorebird migratory stopover areas not observed. No suitable habitat within the study area.
Raptor Wintering Area **Rationale:** Sites used by multiple species of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **Special Concern:** Short-eared Owl Bald Eagle	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. • Field area of the habitat is to be windswept with limited snow depth or accumulation. • Eagle sites have open water, large trees and snags available for roosting. Information Sources: • OMNRF Ecologist or Biologist Field Naturalist Clubs • Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area • Data from Bird Studies Canada • Results of Christmas Bird Counts Reports and other information available from Conservation Authorities.	Studies confirm the use of these habitats by: • One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #10 and #11 provides development effects and mitigation measures.	Idle/fallow meadow (MEMM4) minimal within the study area limits and significantly below the 15ha threshold required for consideration as Raptor Wintering Area. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Bat Hibernacula **Rationale:** Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH • The locations of bat hibernacula are relatively poorly known. Information Sources • OMNRF for possible locations and contact for local experts • Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern • Development and Mines for location of mine shafts. • Clubs that explore caves (*e.g.* Sierra Club) • University Biology Departments with bat experts.	• All sites with confirmed hibernating bats are SWH. • The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms • Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects. • SWHMiST Index #1 provides development effects and mitigation measures.	No caves, mine shafts, underground foundations and karsts. No suitable habitat within the study area.
Bat Maternity Colonies **Rationale:** Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario. • Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. Information Sources • OMNRF for possible locations and contact for local experts • University Biology Departments with bat experts.	• Maternity Colonies with confirmed use by; ○ >10 Big Brown Bats ○ >5 Adult Female Silver-haired Bats • The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. • Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #12 provides development effects and mitigation measures.	No suitable snag trees >25cm DBH were identified onsite or within the riparian corridor during bat snag density surveys completed in November 2022. Woodlands in adjacent lands to the northeast of the property have potential to provide maternity roast habitat for bats.
Turtle Wintering Areas **Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle **Special Concern:** Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	• For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. Information Sources • EIS studies carried out by Conservation Authorities. • Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites. • OMNRF Ecologist or Biologist • Field Naturalist clubs • Natural Heritage Information Center (NHIC)	• Presence of 5 over-wintering Midland Painted Turtles is significant. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. • Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May) • Congregation of turtles is more common where wintering areas are limited and therefore significant • SWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat.	Wetlands with open water and soft mud substrate are not located within the study area limits. No suitable habitat.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Reptile Hibernaculum **Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	**Snakes:** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **Special Concern:** Milksnake Eastern Ribbonsnake **Lizard:** **Special Concern** (Southern Shield population)**:** Five-lined Skink	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. • Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. Information Sources • In spring, local residents or landowners may have observed the emergence of snakes on their property (*e.g.* old dug wells). • Reports and other information available from Conservation Authorities. • Field Naturalists clubs • University herpetologists • Natural Heritage Information Center (NHIC) • OMNRF ecologist or biologist may be aware of locations of wintering skinks	Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (*e.g.* foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) • Note: If there are Special Concern Species present, then site is SWH • Note: Sites for hibernation possess specific habitat parameters (*e.g.* temperature, humidity, *etc.*) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (*e.g.* mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH. • SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for skink is significant. • SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.	No features were identified on the property that could provide suitable reptile hibernacula. No suitable habitat within the study area.
Colonially -Nesting Bird Breeding Habitat (Bank and Cliff) **Rationale:** Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation. Information Sources • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas • Bird Studies Canada; *NatureCounts* http://www.birdscanada.org/birdmon/ • Field Naturalist Clubs.	Studies confirming: • Presence of 1 or more nesting sites with 8or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #4 provides development effects and mitigation measures.	No exposed/eroding soil banks present within the study area. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs) **Rationale:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. Information Sources • Ontario Breeding Bird Atlas, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony • Aerial photographs can help identify large heronries. • Reports and other information available from CAs. • MNRF District Offices • Local naturalist clubs	Studies confirming: • Presence of 5 or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH. • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells. • SWHMiST Index #5 provides development effects and mitigation measures.	None of the listed bird species were observed during the field program and none of the listed ELC codes present within the study area. No suitable habitat within the study area.
Colonially-Nesting Bird Breeding Habitat (Ground) **Rationale:** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6; MAS1 – 3; CUM CUT CUS	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. Information Sources • Ontario Breeding Bird Atlas , rare/colonial species records. • Canadian Wildlife Service • Reports and other information available from CAs. • Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area • MNRF District Offices • Field Naturalist clubs	Studies confirming: • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #6 provides development effects and mitigation measures.	No rocky island/peninsula observed. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Migratory Butterfly Stopover Areas **<u>Rationale:</u>** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral <u>Special Concern</u> Monarch	Combination of ELC Community Series; need to have present one Community Series from each land class: <u>Field:</u> CUM CUT CUS <u>Forest:</u> FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario. • The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south. • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. <u>Information Sources</u> • OMNRF (NHIC) • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs • Toronto Entomologists Association • Conservation Authorities	Studies confirm: • The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 **or** >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • SWHMiST Index #16 provides development effects and mitigation measures.	Not located within 5km of Lake Ontario.
Landbird Migratory Stopover Areas **<u>Rationale:</u>** Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website. All migratory songbirds. Canadian Wildlife Service Ontario website:	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. • If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes. • The largest sites are more significant. • Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH. <u>Information Sources</u> • Bird Studies Canada • Ontario Nature • Local birders and naturalist club • Ontario Important Bird Areas (IBA) Program	Studies confirm: • Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #9 provides development effects.	Not located within 5km of Lake Ontario.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Deer Yarding Areas **<u>Rationale:</u>** Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in "yards" to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.	White-tailed Deer	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	• Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. • OMNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual". • Woodlots with high densities of deer due to artificial feeding are not significant.	No Studies Required: • Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. • Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). • Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures.	See Deer Winter Congregation Area assessment below. Not identified as a Deer Yarding Area by MNRF.
Deer Winter Congregation Areas **<u>Rationale:</u>** Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. • Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. • If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. • Woodlots with high densities of deer due to artificial feeding are not significant. <u>Information Sources</u> • MNRF District Offices • LIO/NRVIS	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures.	Not identified as Deer Winter Congregation Area by MNRF, or by municipal mapping resources.

Table 1.2.1 Rare Vegetation Communities

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Cliffs and Talus Slopes **Rationale:** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	Most cliff and talus slopes occur along the Niagara Escarpment. Information Sources • The Niagara Escarpment Commission has detailed information on location of these habitats. • OMNRF District • Natural Heritage Information Center (NHIC) has location information available on their website • Field Naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes • SWHMiST Index #21 provides development effects and mitigation measures.	No cliffs or talus slopes identified during the field program.
Sand Barren **Rationale;** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.	A sand barren area >0.5ha in size. Information Sources • MNRF Districts • Natural Heritage Information Center (NHIC) has location information available on their website. • Field Naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Sand Barrens • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) • SWHMiST Index #20 provides development effects and mitigation measures.	No sand barrens identified during the field program.
Alvar **Rationale;** Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Species:** 1) *Carex crawei* 2) *Panicum philadelphicum* 3) *Eleocharis compressa* 4) *Scutellaria parvula* 5) *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 6E.	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.	An Alvar site > 0.5 ha in size. Information Sources • Alvars of Ontario (2000), Federation of Ontario Naturalists. • Ontario Nature – Conserving Great Lakes Alvars. • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	• Field studies that identify four of the five **Alvar Indicator Species** at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. • SWHMiST Index #17 provides development effects and mitigation measures.	No alvar identified during the field program.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Old Growth Forest **Rationale:** Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest. Information Sources • OMNRF Forest Resource Inventory mapping • OMNRF Districts. • Field Naturalist clubs • Conservation Authorities • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments	Field Studies will determine: • If dominant trees species are >140 years old, then the area containing these trees is Significant Wildlife Habitat. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics. • SWHMiST Index #23 provides development effects and mitigation measures.	Woodlands within the study area are immature and consist partially of plantation. No old growth forest within the study area.
Savannah **Rationale:** Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #18 provides development effects and mitigation measures.	No savannah identified during the field program.
Tallgrass Prairie **Rationale:** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #19 provides development effects and mitigation measures.	No tallgrass prairie identified during the field program.
Other Rare Vegetation Communities **Rationale:** Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. • Area of the ELC Vegetation Type polygon is the SWH. • SWHMiST Index #37 provides development effects and mitigation measures.	No rare vegetation communities identified during the field program.

1.2.2 Specialized Habitat for Wildlife

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Nesting Area **Rationale;** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 **Note: includes adjacency to Provincially Significant Wetlands**	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. Information Sources • Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. • Reports and other information available from Conservation Authorities.	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWHMiST Index #25 provides development effects and mitigation measures.	Wetland inclusions are <0.5ha and none of the listed wildlife species were documented during the field program.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat **Rationale;** Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey **Special Concern** Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. • Nests located on man-made objects are not to be included as SWH (*e.g.* telephone poles and constructed nesting platforms). Information Sources • Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. • MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF Districts • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented • Reports and other information available from Conservation Authorities. • Field Naturalists clubs	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #26 provides development effects and mitigation measures.	Large rivers or open water features are not located within the study area limits. Wetland inclusions are small in size (<0.5ha) and are not along suitable forest communities. No active or inactive Osprey or Bald Eagle nests were observed during the field survey program.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Woodland Raptor Nesting Habitat **<u>Rationale:</u>** Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <u>Information Sources</u> • OMNRF Districts. • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH. (The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl – A 200m radius around the nest is the SWH. • Broad-winged Hawk and Coopers Hawk– A 100m radius around the nest is the SWH. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial. (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWHMiST Index #27 provides development effects and mitigation measures.	No nesting activity was observed during the field survey program. Woodlands within the study area are significantly smaller than 30ha and do not contain interior habitat with a 200m buffer from the woodland edge. No suitable habitat within the study area.
Turtle Nesting Areas **<u>Rationale;</u>** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <u>Information Sources</u> • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Center (NHIC) • Field Naturalist clubs	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles. • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • SWHMiST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	No exposed mineral soils within 100m of permanent or semi-permanent standing water that could be utilized for turtle nesting. Open water wetlands are not located within the study area limits. No suitable habitat.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Seeps and Springs **<u>Rationale;</u>** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. <u>Information Sources</u> • Topographical Map • Thermography • Hydrological surveys conducted by Conservation Authorities and MOE. • Field Naturalists clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. • SWHMiST Index #30 provides development effects and mitigation measures.	No seeps and springs documented within forests (upland woodlands) during Azimuth's field investigations.
Amphibian Breeding Habitat (Woodland). **<u>Rationale:</u>** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	• Presence of a wetland, pond or woodland pool (including vernal pools) >500m^2 (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. <u>Information Sources</u> • Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records. • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. • OMNRF District • OMNRF wetland evaluations • Field Naturalist clubs • Canadian Wildlife Service • Amphibian Road Call Survey • Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm; • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWHMiST Index #14 provides development effects and mitigation measures.	No woodland breeding pools were documented within the study area limits. No amphibian activity was documented within the study area during the evening calling amphibian surveys.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SHW	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Breeding Habitat (Wetlands) **Rationale:** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (*e.g.* Bull Frog) may be adjacent to woodlands.	• Wetlands>500m^2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation. Information Sources • Ontario Herpetofaunal Summary Atlas (or other similar atlases) • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. • OMNRF Districts and wetland evaluations • Reports and other information available from Conservation Authorities	Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. **or;** Wetland with confirmed breeding Bullfrogs are significant. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #15 provides development effects and mitigation measures.	No permanent water bodies or ponds within the study area located >120m from a woodland. Refer to the amphibian habitat assessment described under Amphibian Breeding Habitat (Woodland) above.
Woodland Area-Sensitive Bird Breeding Habitat **Rationale:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren **Special Concern:** Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. • Interior forest habitat is at least 200 m from forest edge habitat. Information Sources • Local bird clubs. • Canadian Wildlife Service (CWS) for the location of forest bird monitoring. • Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #34 provides development effects and mitigation measures.	None of the listed wildlife species documented during the field program. No portion of the study area occurs within interior forest located >200m from a woodland edge. No suitable habitat within the study area.

1.3 Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Marsh Breeding Bird Habitat **Rationale;** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. Information Sources • OMNRF District and wetland evaluations. • Field Naturalist clubs • Natural Heritage Information Center (NHIC) Records. • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes; **or** breeding by any combination of 5 or more of the listed species. • Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #35 provides development effects and mitigation measures.	Wetlands with shallow water and emergent vegetation are not located within the study area limits. No suitable habitat.
Open Country Bird Breeding Habitat Sources Defining Criteria **Rationale;** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha. • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #32 provides development effects and mitigation measures.	The study area does not provide habitat for grassland birds exceeding the minimum 30ha threshold. No suitable habitat within the study area.
Shrub/Early Successional Bird Breeding Habitat **Rationale;** This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats>10ha in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (*i.e*. no row-cropping, haying or live-stock pasturing in the last 5 years). • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #33 provides development effects and mitigation measures.	The study area does not provide habitat for shrub/early successional birds exceeding the minimum 10ha threshold. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Terrestrial Crayfish **<u>Rationale:</u>** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish; (*Cambarus Diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> • Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998.	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. • SWHMiST Index #36 provides development effects and mitigation measures.	No crayfish chimneys were documented during Azimuth's field investigations.
Special Concern and Rare Wildlife Species **<u>Rationale:</u>** These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <u>Information Sources</u> • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website "Get Information" : http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species *e.g.* specific nesting habitat or foraging habitat. • SWHMiST Index #37 provides development effects and mitigation measures.	While no Special Concern species were detected during the field program, the study area may provide potential habitat for Snapping Turtle.

1.4 Animal Movement Corridors

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Movement Corridors **Rationale;** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. • Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (**Amphibian Breeding Habitat –Wetland)** of this Schedule. Information Sources • MNRF District Office • Natural Heritage Information Center (NHIC) • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. • Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • SWHMiST Index #40 provides development effects and mitigation measures.	No Amphibian Breeding Habitat - Wetland function, therefore no potential Amphibian Movement Corridor function within study area.
Deer Movement Corridors **Rationale:** Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	White-tailed Deer	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when **Deer Wintering Habitat** is confirmed as SWH from Table 1.1 of this schedule. • A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). Information Sources • MNRF District Office • Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway. • Shorter corridors are more significant than longer corridors. • SWHMiST Index #39 provides development effects and mitigation measures.	No Deer Wintering Habitat present, therefore no potential Deer Movement Corridor function within study area.

1.5 Exceptions for EcoRegion 6E

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
6E-14 **Rationale:** The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bears.	**Mast Producing Areas** Black Bear	All Forested habitat represented by ELC Community Series: FOM FOD	• Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species. • Forested habitats need to be large enough to provide cover and protection for black bears.	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). Information Sources Important forest habitat for black bears may be identified by OMNRF.	All woodlands > 30ha with a 50%composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST Index #3 provides development effects and mitigation measures.	Site not located on Bruce Peninsula.
6E- 17 **Rationale:** Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population	Lek Sharp-tailed Grouse	CUM CUS CUT	• The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. • Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated.	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. • Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) • Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting Information Sources • OMNRF district office • Bird watching clubs • Local landowners • Ontario Breeding Bird Atlas	Studies confirming lek habitat are to be completed from late March to June. • Any site confirmed with sharp-tailed grouse courtship activities is considered significant • The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat • SWHMiST Index #32 provides development effects and mitigation measures	Site not located on Manitoulin Island.

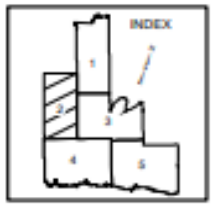
APPENDICES

Appendix A: Municipal Background and Correspondence
Appendix B: Provincial Background and Correspondence
Appendix C: Fish Habitat Photographs
Appendix D: Proposed Development Concept

APPENDIX A

Municipal Background and Correspondence

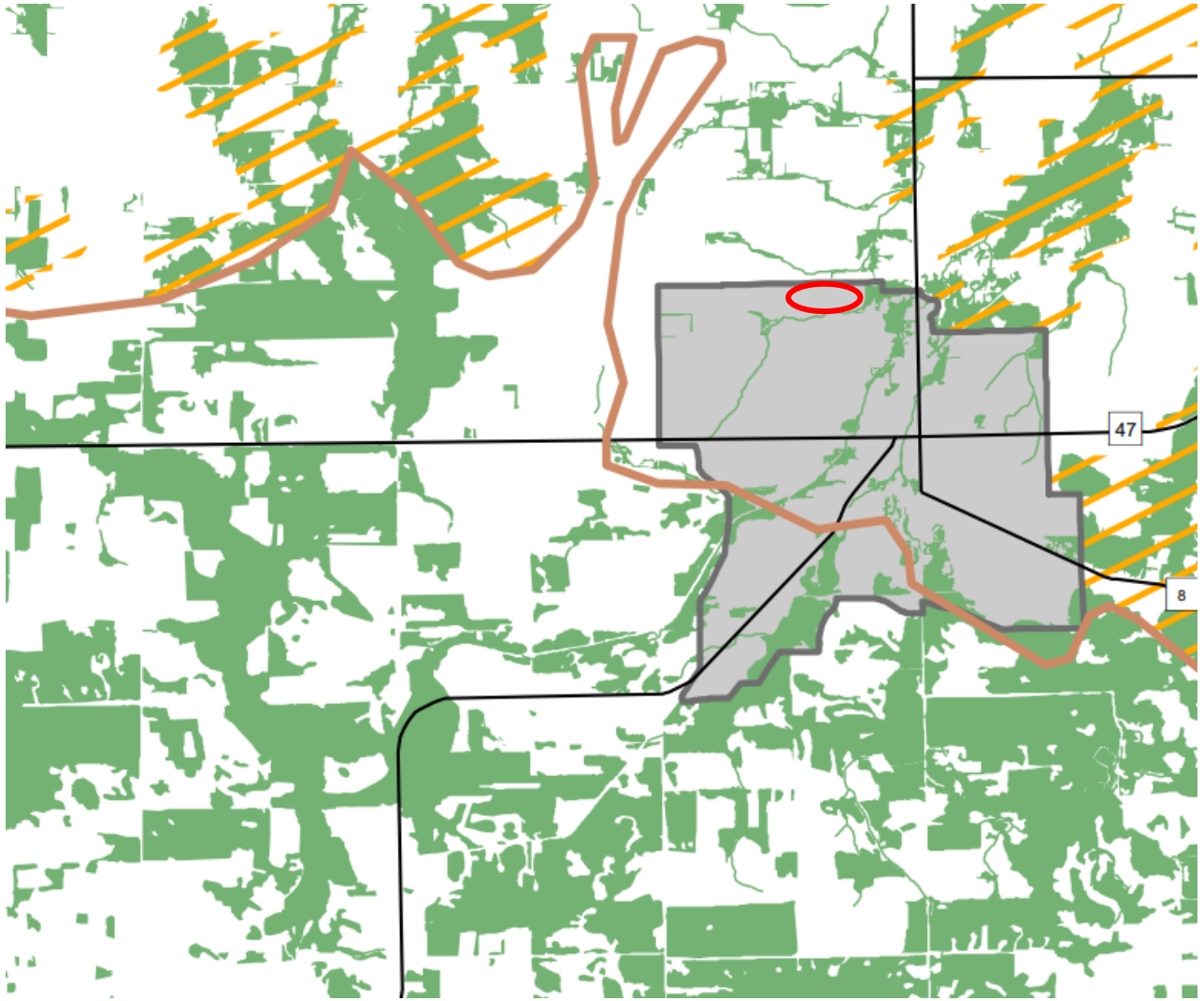
OFFICIAL PLAN OF THE REGIONAL MUNICIPALITY OF DURHAM



SCHEDULE 'B' - MAP 'B1b' GREENBELT NATURAL HERITAGE SYSTEM & KEY NATURAL HERITAGE AND HYDROLOGIC FEATURES

LEGEND

- KEY NATURAL HERITAGE AND HYDROLOGIC FEATURES
- GREENBELT NATURAL HERITAGE SYSTEM
- OAK RIDGES MORAINE CONSERVATION PLAN AREA BOUNDARY
- URBAN AREA
- LANDS APPEALED TO OMB, REFER TO POLICY 14.13.7.
- A — SPECIFIC POLICY AREA



Official Plan of the Regional Municipality of Durham

Map 1.

Regional Structure – Urban & Rural Systems

Urban System

- Urban Area Boundary
- 2051 Urban Expansion Areas
- Urban Growth Centres (UGC)
- Protected Major Transit Station Area (PMTSA)
- UGC / PMTSA Overlap
- Regional Centres
- Rapid Transit Corridor
- Regional Corridor
- Rural Regional Centres
- Waterfront Place
- Community Areas
- Employment Areas
- Rapid Transit Corridor - Employment
- Delineated Built Boundary
- Former Hamlet Areas

Greenlands System

- Major Open Space Areas
- Waterfront Areas
- Oak Ridges Moraine
- Greenbelt Boundary (excluding Urban River Valleys)

Rural System

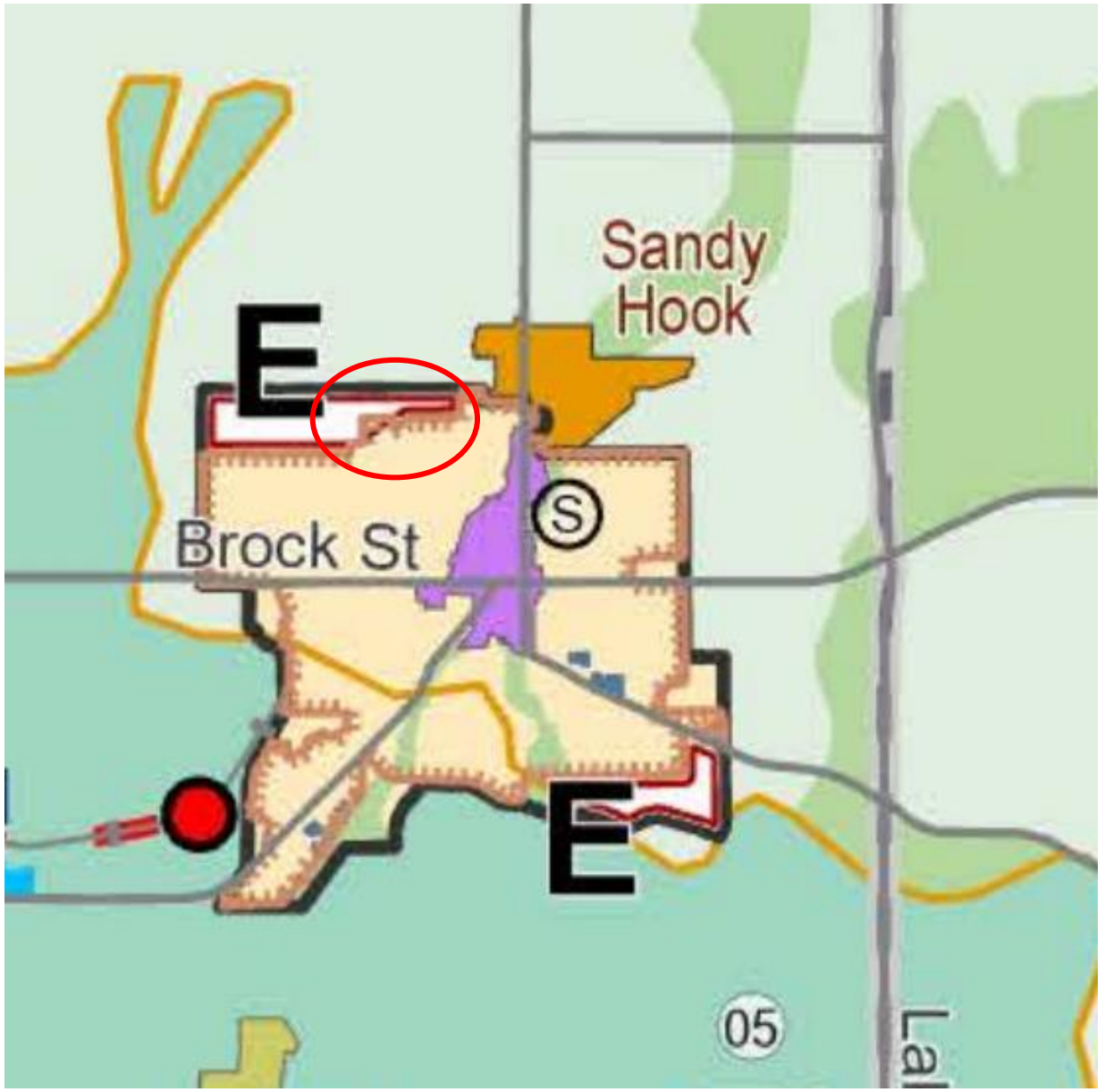
- Hamlets
- Country Residential Subdivision
- Rural Employment Areas
- Shoreline Residential
- Prime Agricultural Areas

Infrastructure

- Existing GO Station
- Proposed GO Station
- Existing GO Rail
- Proposed GO Rail
- Rail
- Existing Airport
- Future Airport
- NGS Nuclear Generating Station
- (S) Municipal Service

Special Areas

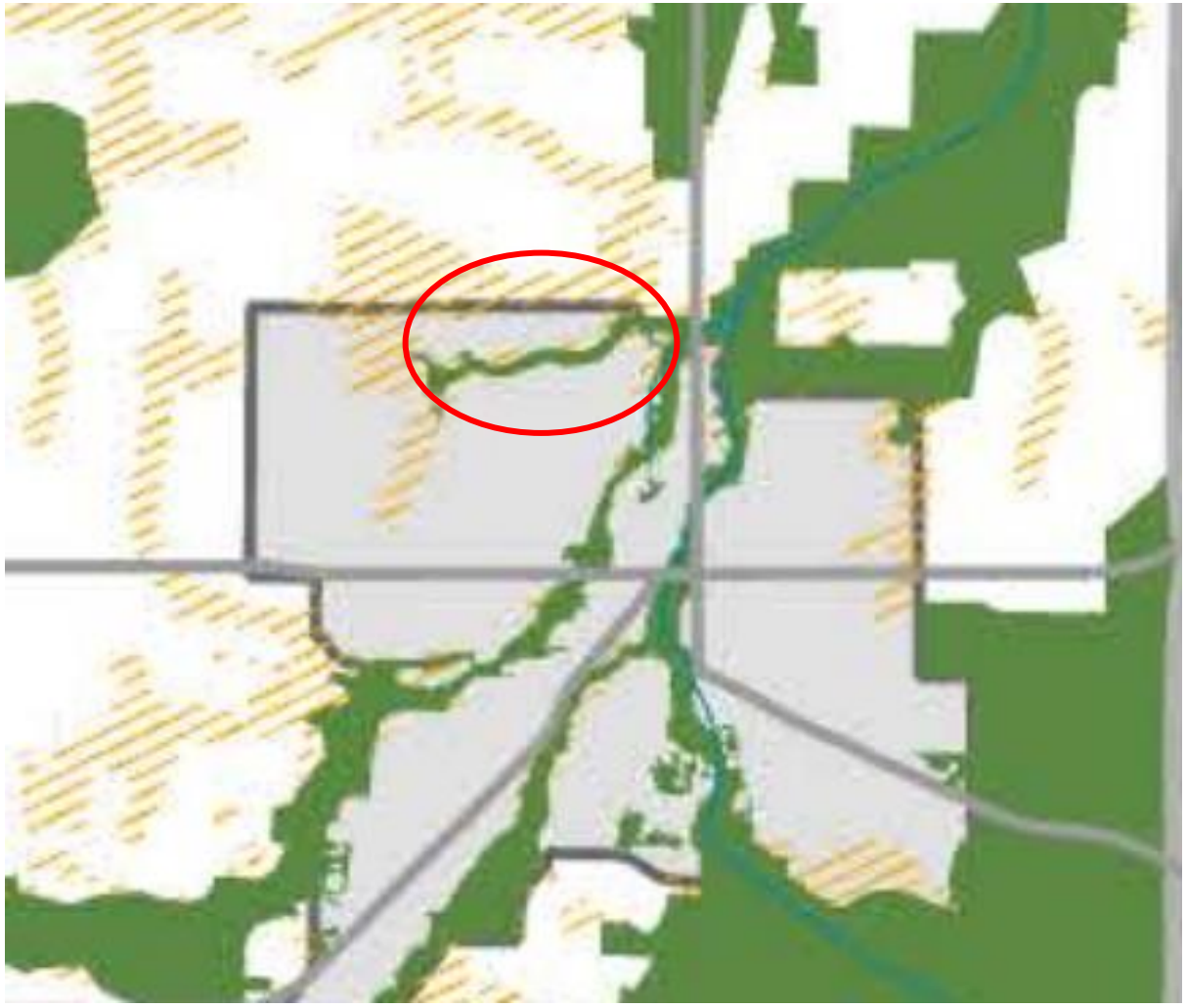
- Special Study Areas
- Specific Policy Areas



Official Plan of the Regional Municipality of Durham

Map 2a.
Regional Natural Heritage System

- Regional Natural Heritage System
- Enhancement Opportunity Areas
- Urban Area
- 2051 Urban Expansion Areas



Official Plan of the Regional Municipality of Durham

Map 2c.
Water Resources System – Key Hydrologic Features

Key Hydrologic Features

- Provincially Significant Wetland
- Other Evaluated Wetlands
- Unevaluated Wetlands
- Lakes
- Permanent and Intermittent Streams
- Kettle Lakes

Greenbelt Plan

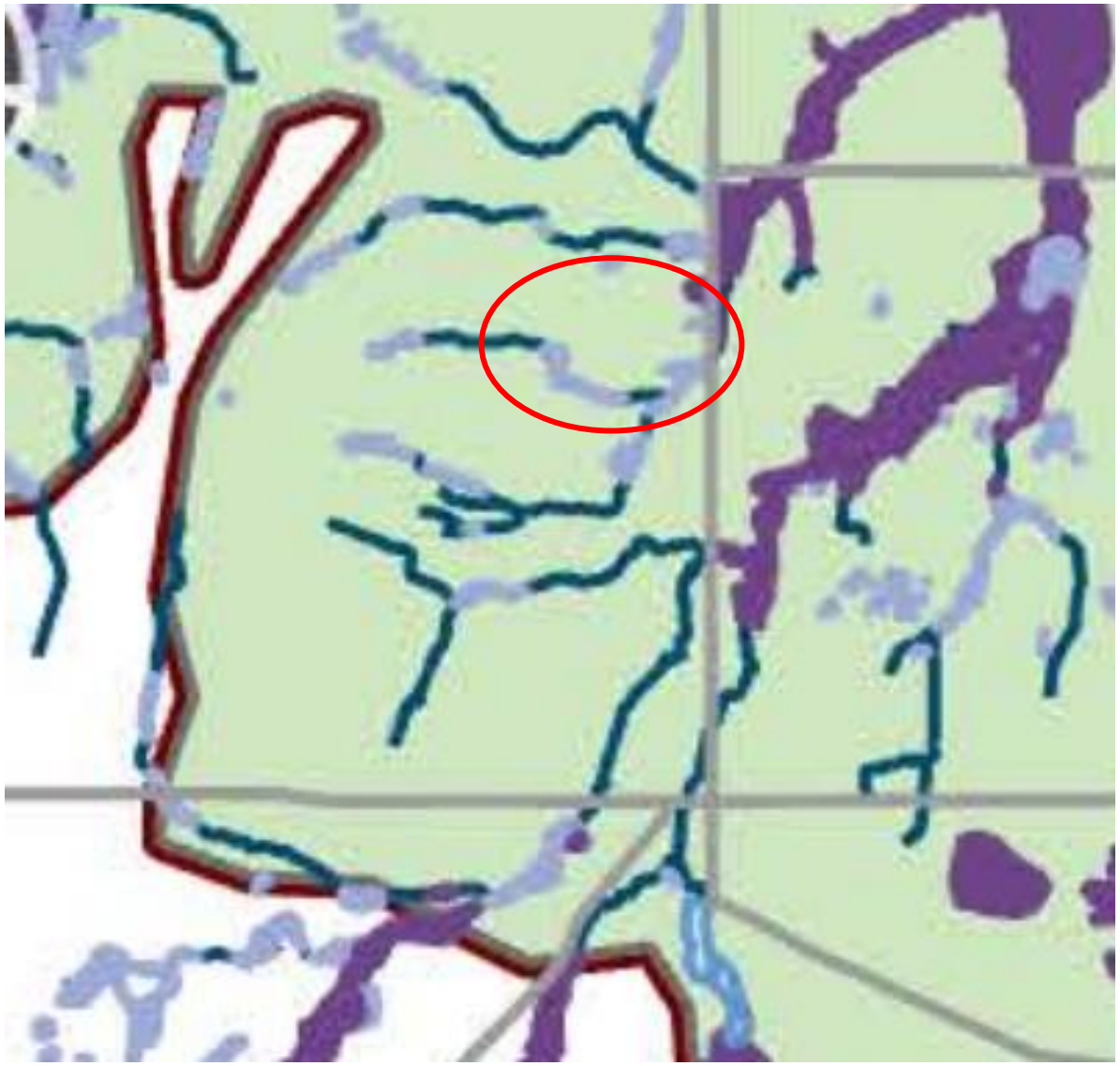
- Protected Countryside
- Urban River Valley
- Oak Ridges Moraine Conservation Plan Boundary

Lake Simcoe Protection Plan

- Lake Simcoe Protection Plan Boundary

Lake Iroquois Shoreline

- Lake Iroquois Shoreline Boundary



The Township of UXBRIDGE
Trail Capital of Canada

Schedule "A"
Land Use and Transportation Plan
Uxbridge Urban Area

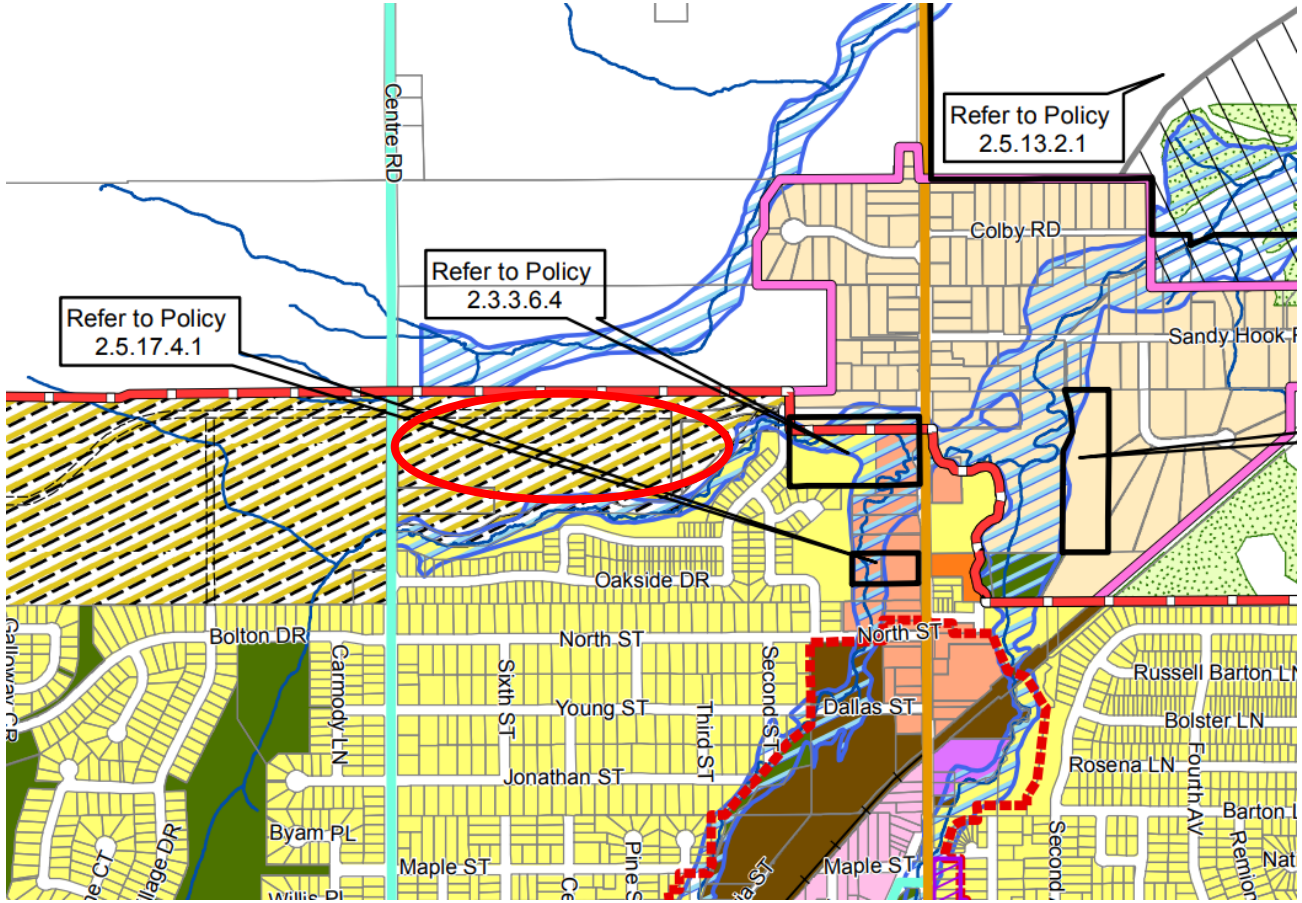
Official Plan of the Township of Uxbridge

Transportation
- Type A Arterial
- Type B Arterial
- Collector Road
- Regional Transit Spine
- Potential Future Collector Road
- Proposed Local Road

Natural Heritage
- Natural Hazard Area
- Environmental Constraint Area
- Watercourses & Waterbodies

Oak Ridges Moraine
- Oak Ridges Moraine Conservation Plan Area Boundary
- Countryside Area
- Natural Linkage Area
- Natural Core Area

General Land Use
- Secondary Plan Area
- Urban Area Boundary
- Downtown
- Main Central Area
- Mixed Use Area
- Brock Street Mixed Use Area
- Recreational Mixed Use Area
- Corridor Commercial Area
- Local Commercial Area
- Residential Area
- Residential Area Higher Density
- Future Residential Area
- Institutional Area
- Employment Area
- Park and Open Space Area
- Major Open Space Areas
- Private Open Space Area
- Cemetery Area
- HamletBoundary
- Hamlet Area
- Rural Estate Area
- Prime Agricultural Areas
- Waste Disposal Area
- Special Policy Area D2
- Policy Area 2.1.6.7 Approved Major Recreation Use
- Mixed Use Special Policy Area
- Lands Subject to 18(6) of the Moraine Plan
- D2 Deferral



The Township of UXBRIDGE
Trail Capital of Canada

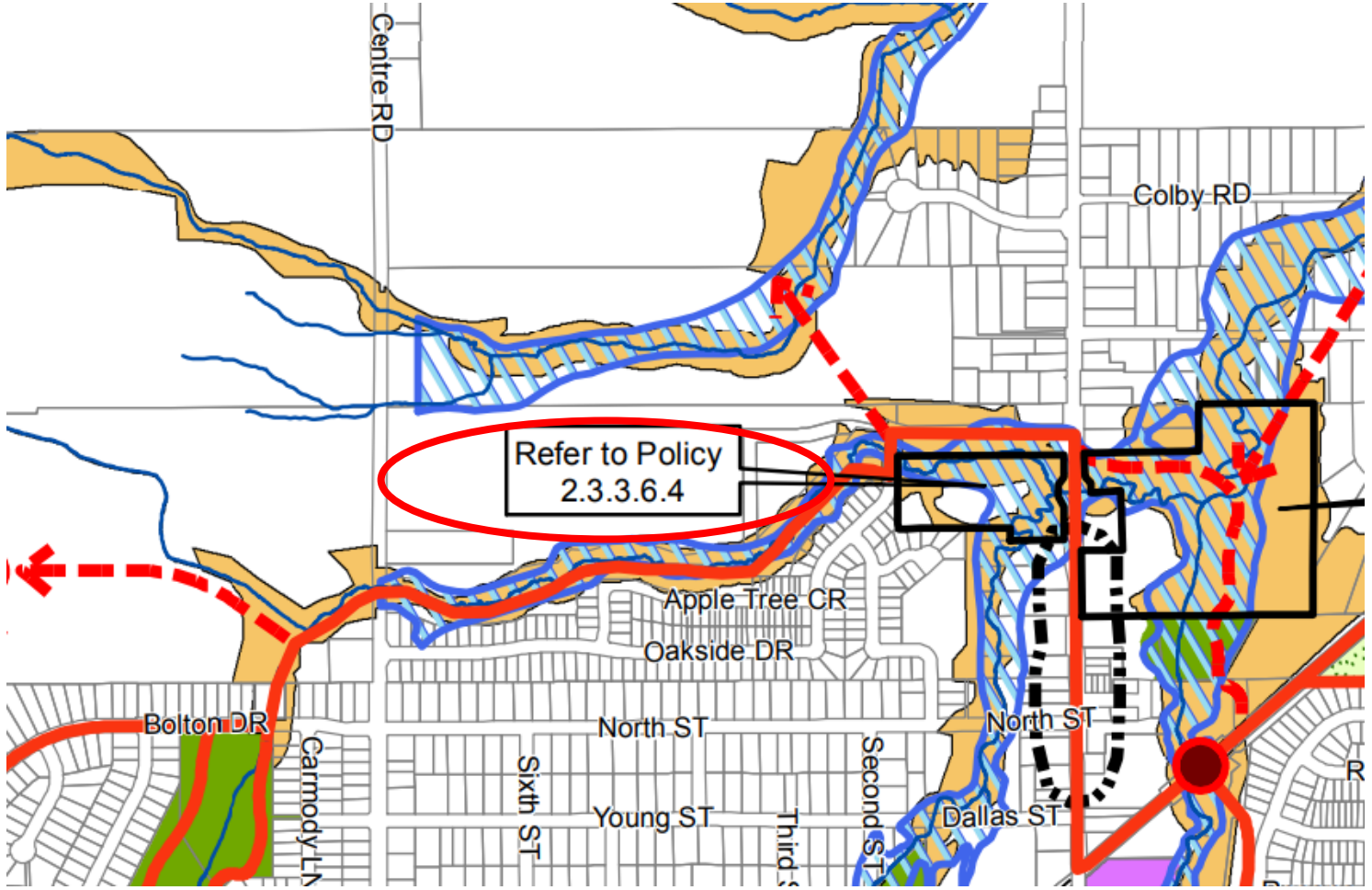
Schedule "B"
Natural Heritage System and Supportive Uses Uxbridge Urban Area
Official Plan of the Township of Uxbridge

Supporting Uses
- Secondary Plan Area
- Main Central Area
- Private Open Space Area
- Cemetery Area
- Institutional Area
- Park and Open Space Area
- Gateway Area
- Land Subject to Section 18(6) of the Moraine Plan
- Minimum Area of Influence

Trail System
- Potential Pedestrian/Bicycle Railroad Crossing
- Open Space Nodes
- Existing Trails
- Proposed Trails

Natural Heritage
- Natural Hazard Area
- Environmental Constraint Area
- Environmental Potential Area
- Watercourses & Waterbodies

Oak Ridges Moraine
- Oak Ridges Moraine Conservation Plan Area Boundary
- Wetlands
- Significant Woodlands
- Minimum Vegetation Protection Zone



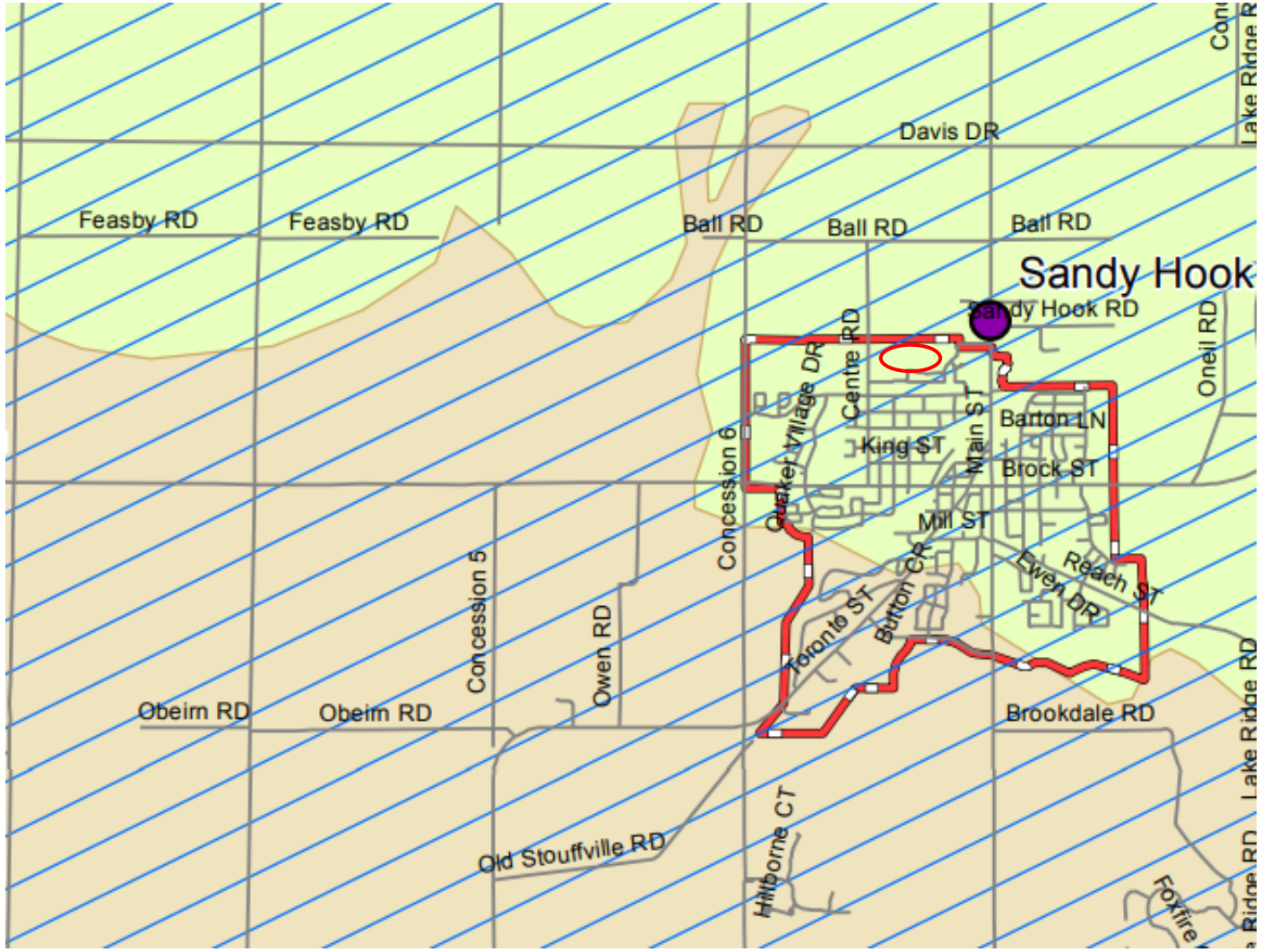
The Township of UXBRIDGE
Trail Capital of Canada

Map 1
Township of Uxbridge

Community Structure & Provincial Plan Areas

Legend

- Hamlets
- Township of Uxbridge Boundary
- Uxbridge Urban Area Boundary
- Oak Ridges Moraine Conservation Plan Area
- Greenbelt Plan Area
- Lake Simcoe Protection Act Watershed Boundary



APPENDIX B

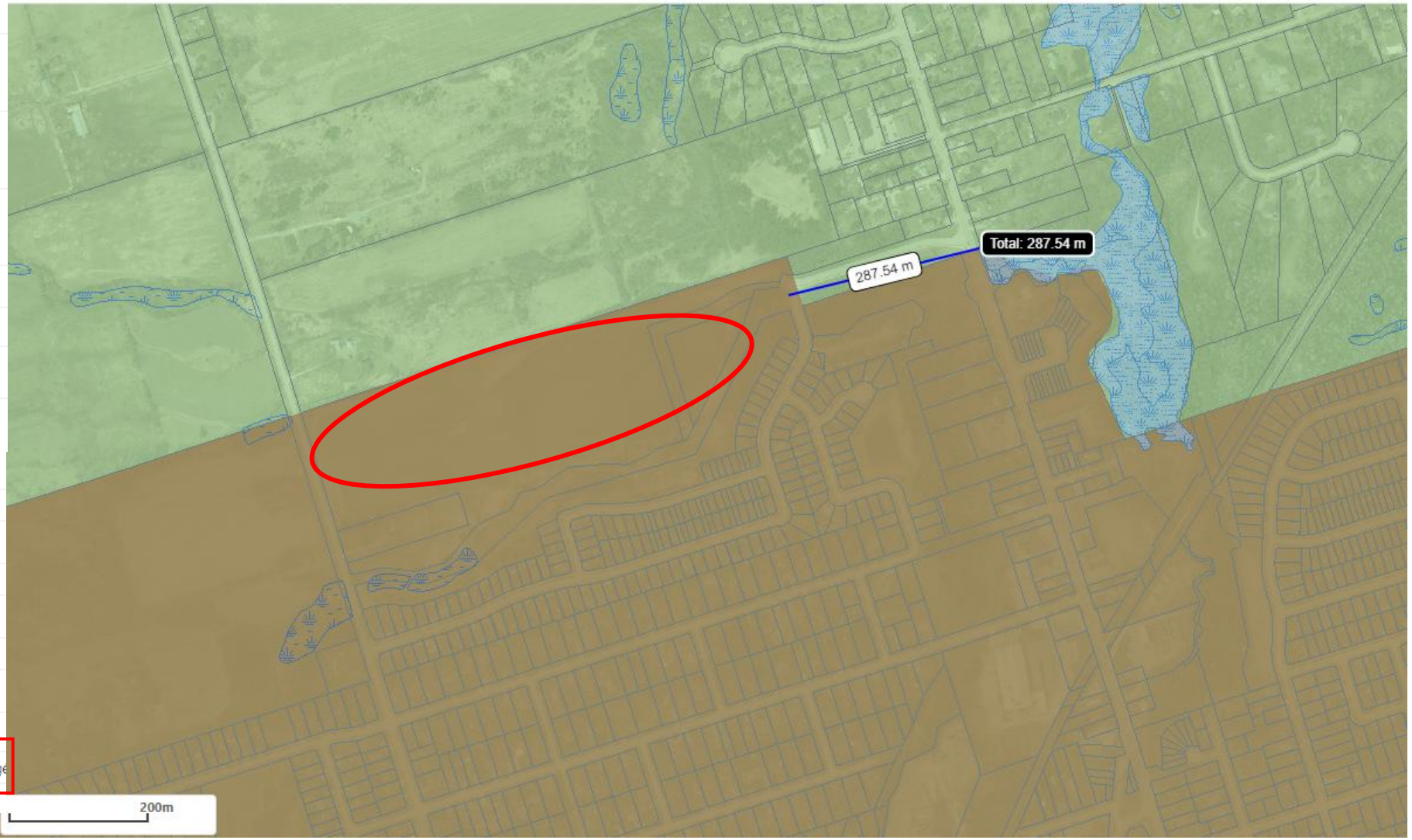
Provincial Background and Correspondence

Ontario

Make A Map: Natural Heritage Areas

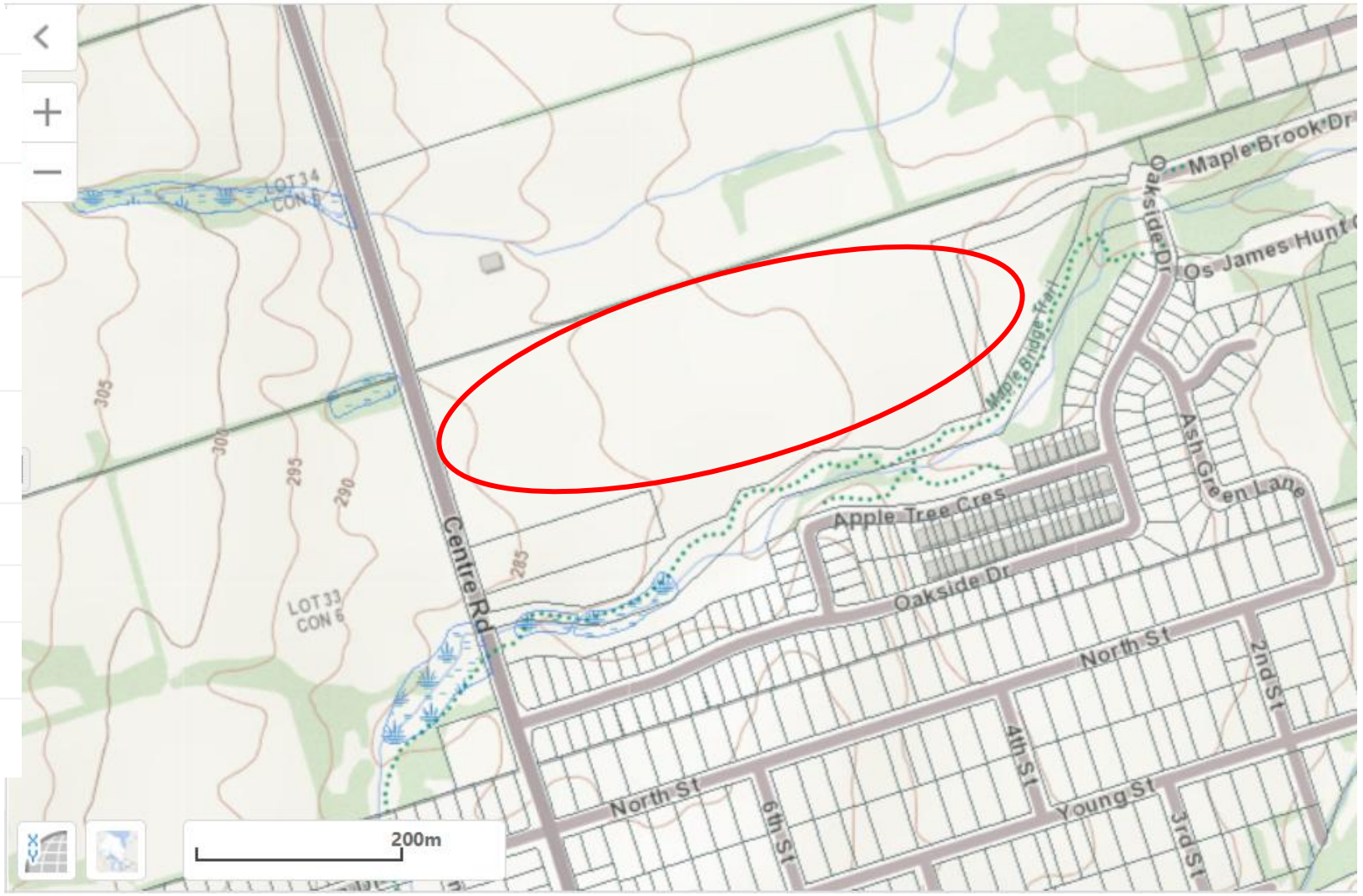
Ministry of Natural Resources and Forestry

- ANSI
  - Earth Science Provincially Significant/sciences de la terre d'importance provinciale
  - Earth Science Regionally Significant/sciences de la terre d'importance régionale
  - Life Science Provincially Significant/sciences de la vie d'importance provinciale
  - Life Science Regionally Significant/sciences de la vie d'importance régionale
- Wetland
  - Evaluated Wetland
    - Provincially Significant/considérée d'importance provinciale
    - Non-Provincially Significant/non considérée d'importance provinciale
- Conservation Reserve
  - Conservation Reserve
- Provincial Park
  - Provincial Park
- Greenbelt Towns and Villages
  - Greenbelt Towns and Villages
- Greenbelt Land Use Designation
  - Greenbelt Land Use Designation
    - Protected Countryside/campagne protégé
    - Urban River Valley/vallée fluviale urbaine



Ontario **Make A Map: Natural Heritage Areas**
Ministry of Natural Resources and Forestry

- **ANSI**
  - Earth Science Provincially Significant/sciences de la terre d'importance provinciale
  - Earth Science Regionally Significant/sciences de la terre d'importance régionale
  - Life Science Provincially Significant/sciences de la vie d'importance provinciale
  - Life Science Regionally Significant/sciences de la vie d'importance régionale
- **Wetland**
  - **Evaluated Wetland**
    - Provincially Significant/considérée d'importance provinciale
    - Non-Provincially Significant/non considérée d'importance provinciale



AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

August 16, 2023

Ministry of the Environment, Conservation and Parks
Client Services and Permissions Branch

Report issued via e-mail

Re: **Butternut Health Assessment Report # 609-008 for 7309 Centre Road, Township of Uxbridge**

To Whom It May Concern:

Per the instructions of the amended Butternut Health Assessment (BHA) Guidelines (December 2021, Version 3) attached please find a BHA report (Report # 609-008) prepared in regard to the above noted property.

Should you have any questions or concerns, please do not hesitate to contact the undersigned.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Dan Stuart, M.Env.Sc.
Ecology Lead/Partner
BHA #609/Butternut Health Expert

Attached: BHA Report # 609-008

cc: Bryanne Robinson, Mason Homes Limited

642 Welham Road, Barrie, Ontario L4N 9A1
telephone: (705) 721-8451 • fax: (705) 721-8926 • info@azimuthenvironmental.com • www.azimuthenvironmental.com

BHA Report Template – Version March 2015

Note to BHAs:

This BHA Report template identifies where you need to insert customized text in blue. Do **not** edit or delete black text.

Insert your cover letter to the client here and include the list of enclosures.

Please enter the BHA Report number in the footer of this document (6 digits, to be assigned by BHA using format: 3 digit BHA ID#, followed by BHA's own 3 digit report numbering system).

Delete this instructional text and save document as a pdf when completed.

Enclosures:

1. Information from the Ministry of Natural Resources and Forestry about Butternut and the *Endangered Species Act, 2007*
2. Butternut Health Assessor's Report
3. Original data forms
4. Electronic and printed copies of the Excel data spreadsheet (BHA Tree Analysis)

Ministry of Natural Resources and Forestry

Species At Risk
P.O. Box 7000, 300 Water Street
Peterborough ON K9J 8M5

Ministère des Richesses naturelles et des Forêts

Espèces en péril
C.P. 7000, 300, rue Water
Peterborough ON K9J 8M5

The enclosed Butternut Health Assessor's Report documents the results of the Butternut health assessment that was conducted by the designated Butternut Health Assessor (BHA) identified in the top section of the report. If there are other Butternut trees (of any size or age) at the site that may be affected by the activity and they are not identified in the enclosed BHA Report, they too must be assessed by a designated BHA.

Butternut is listed as an endangered species on the Species at Risk in Ontario List, and as such, it is protected under the *Endangered Species Act, 2007* (ESA) from being killed, harmed, or removed. If you are planning to undertake an activity that may affect Butternut, you may be eligible to follow the requirements set out in section 23.7 of Ontario Regulation 242/08 under the ESA, or you may need to seek an authorization under the ESA (e.g., a permit).

Please visit e-laws at the link provided below for the legal requirements of eligible activities under section 23.7 of Ontario Regulation 242/08 and conditions that must be fulfilled. Information about Butternut is also available at: http://www.ontario.ca/environment-and-energy/butternut-trees-your-property.

If you are eligible to kill, harm or take Butternut under section 23.7 of the regulation, your first step is to submit the BHA Report and the original data forms enclosed in this package to the local Ministry of Natural Resources and Forestry (MNRF) District Manager. Note that MNRF cannot accept photocopies or scanned electronic copies of the data forms.

Note regarding changes:

If the enclosed BHA Report does not identify which Butternut tree(s) are proposed to be killed, harmed, or taken in Table 1 (i.e., if "unknown" is indicated in the second last column of Table 1), or, if the information in the last two columns of Table 1 has changed since the date this BHA Report was produced, **do not make any edits to the BHA Report**. Instead, please attach a cover letter that identifies which Butternut tree(s) are proposed to be killed, harmed, or taken (by referencing the tree identification numbers) when you submit the enclosed BHA Report to the local MNRF District Manager.

The BHA Report must be submitted at least 30 days prior to registering an eligible activity to kill, harm, or remove a Butternut tree. During this 30 day period, no Butternut trees (of any category) may be killed, harmed, or removed, and MNRF may contact you for an opportunity to examine the trees. If MNRF chooses to examine the trees, a representative of MNRF will contact you using the information you supplied when you submitted the BHA Report.

If you are eligible to follow the rules in regulation under section 23.7, you may register your activity using the "Notice of Butternut Impact" form on the MNRF Registry **after the 30 day period has elapsed**.

If you are **not** eligible to follow the rules in regulation under section 23.7, please contact the local MNRF district office to determine whether you will need to seek an authorization (e.g., a permit). A link to the directory of MNRF offices is provided below.

Note that municipal by-laws and legislation other than the ESA may also be applicable to the removal or harming of trees.

Please retain this information and a copy of the BHA Report (including copies of all data forms) for your records, along with any other documentation you may receive from MNRF should an examination of the trees occur. If you have any questions, please contact your local MNRF district office.

Links:

Endangered Species Act, 2007:
http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_07e06_e.htm

Ontario Regulation 242/08 (refer to section 23.7):
http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080242_e.htm

MNRF Office Locations:
https://www.ontario.ca/government/ministry-natural-resources-and-forestry-regional-and-district-offices

Butternut Health Assessor's Report Number: **609-008** (6 digits, to be assigned by BHA using format: 3 digit BHA ID#, followed by BHA's own 3 digit report numbering system)

Dan Stuart, BHA#609/Butternut Health Expert
642 Welham Road
Barrie, Ontario
L4N 9A1
705.721.8451 x208
dstuart@azimuthenvironmental.com

Mason Homes Limited
70 Innovator Avenue, Unit #1
Stouffville, Ontario
L4A 0Y2
905.640.6777 x.42
brobinson@masonhomes.ca

Site location: 7309 Centre Road (Uxbridge), Township of Uxbridge

Date(s) of Butternut health assessment: August 4, 2023
Date BHA Report prepared: August 16, 2023

Map datum used: ☒ NAD83 ☐ WGS84

Total number of trees assessed in this BHA Report: 18

The assessed trees were numbered on site using orange/black flagging tape with affixed tree tag. The numbers at the site correspond to the tree numbers referenced in this report.

This BHA Report includes the following tables:

- Table 1: Butternut Trees Assessed
- Table 2: Trees Determined by BHA to be Butternut Hybrids
- Table 3: Summary of Assessment Results

Table 1: Butternut Trees Assessed

Tree #	UTM coordinates	Category[1] *(1, 2, or 3[2])*	dbh[3] (cm)	Cultivated? *(Y/N)*	Proposed to be: *(enter one: unknown[4], killed, harmed or taken)*	If tree is proposed to be killed, harmed, or taken, indicate reason tree is proposed to be killed, harmed or taken:
001	17T 649084 4886579	1	19	N	Unknown	N/A
002	17T 649102 4886585	1	28	N	Unknown	N/A
003	17T 649110 4886587	1	12	N	Unknown	N/A
004	17T 649111 4886587	1	42	N	Unknown	N/A
005	17T 649743 4886748	1	19	N	Unknown	N/A
006	17T 649473 4886489	1	20	N	Unknown	N/A
007	17T 649160 4886320	2	1	N	Unknown	N/A
008	17T 649164 4886322	2	1	N	Unknown	N/A
009	17T 649158 4886309	1	3	N	Unknown	N/A
010	17T 649174 4886308	2	4	N	Unknown	N/A
011	17T 649183 4886312	2	5	N	Unknown	N/A
012	17T 649212 4886315	2	1	N	Unknown	N/A
013	17T 649248 4886330	2	3	N	Unknown	N/A
014	17T 649184 4886340	1	5	N	Unknown	N/A
015	17T 649174 4886343	1	2	N	Unknown	N/A
016	17T 649170 4886329	1	4	N	Unknown	N/A
017	17T 649155 4886344	1	51	N	Unknown	N/A
018	17T 649158 4886299	2	4	N	Unknown	N/A

[1] The extent to which the tree is affected by Butternut Canker is presented in the Excel document titled, “BHA Tree Analysis” that accompanies this BHA Report.
[2] Category 3 trees are not eligible to be killed, harmed or taken under section 23.7 of Ontario Regulation 242/08.
[3] dbh: diameter at breast height, rounded to nearest cm (if tree is shorter than breast height, enter zero)
[4] In this column, “unknown” indicates that at the time of assessment, there are no proposals to kill, harm or take this tree that are known to the BHA.

Table 2: Trees Determined by BHA to be Butternut Hybrids

Tree #	UTM coordinates	Method used (genetic testing or field identification):
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Table 3: Summary of Assessment Results

Result:	**Total #:**	**Important information for persons planning activities that may affect Butternut:**
Category 1	11	• A Category 1 tree is one that is affected by butternut canker to such an advanced degree that retaining the tree would not support the protection or recovery of butternut in the area in which the tree is located; and is considered “non-retainable”. • During the 30 day period that follows your submission of this BHA Report to the MNRF District Manager, no Butternut trees (of Category 1, 2, or 3) may be killed, harmed, or taken, and MNRF may contact you for an opportunity to examine the trees. • Category 1 trees may be killed, harmed or taken **after** the 30 day period that follows submission of this BHA Report to the MNRF District Manager, unless the results of an MNRF examination indicate that the assessment has not been conducted in accordance with the document entitled “Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the *Endangered Species Act, 2007”*.
Category 2	7	• A Category 2 tree is one that is not affected by Butternut Canker, or is affected by Butternut Canker but the degree to which it is affected is not too advanced and retaining the tree could support the protection or recovery of butternut in the area in which the tree is located, and is considered “retainable”. • During the 30 day period that follows your submission of this BHA Report to the MNRF District Manager, no Butternut trees (of Category 1, 2, or 3) may be killed, harmed, or taken, and MNRF may contact you for an opportunity to examine the trees. • Activities that may kill, harm or take up to a **maximum of ten (10)** Category 2 trees may be eligible to follow the rules in section 23.7 of Ontario Regulation 242/08, in accordance with the conditions and requirements set out in the regulation. • Refer to e-Laws for the legal requirements of eligible activities under section 23.7 of Ontario Regulation 242/08 and conditions that must be fulfilled: http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080242_e.htm • Activities that may kill, harm or take more than ten (10) Category 2 trees are not eligible to follow the rules in section 23.7 of Ontario Regulation 242/08. Contact the local MNRF district office for information on how to seek an ESA authorization (e.g., a permit) or consider an alternative that would be eligible for the regulation.
Category 3	0	• A Category 3 tree is one that may be useful in determining sources of resistance to Butternut Canker, and is considered “archivable”. • Category 3 trees are not eligible to be killed, harmed or taken under section 23.7 of Ontario Regulation 242/08. • Contact the local MNRF district office for information on how to seek an ESA authorization, or consider an alternative that will avoid killing, harming or taking any Category 3 trees.
Cultivated	0	• An activity that involves killing, harming, or taking a cultivated Butternut tree that was not required to be planted to fulfill a condition of an ESA permit or a condition of a regulation, may be eligible for the exemption provided by subsection 23.7 (11) of O. Reg. 242/08.

Result:	Total #:	Important information for persons planning activities that may affect Butternut:
		• Prior to undertaking the activity, the owner or occupier of the land on which the Butternut is located (or person acting on their behalf) will need to determine whether the exemption for cultivated trees is applicable by determining whether or not the tree was cultivated as a result of the requirements for an exemption under O. Reg. 242/08 or a condition of a permit issued under the ESA. This information can be accessed by contacting the local MNRF district office. • The owner or occupier of the land on which the Butternut is located (or person acting on their behalf) is encouraged to append the details regarding whether the tree was planted to satisfy a requirement (e.g., the permit number or registration number) to this BHA Report for their records.
Hybrid	0	• Hybrid Butternut trees are not protected under the ESA, but their removal may be subject to municipal by-laws and other legislation.

Butternut Health Assessor's Comments:

Most intermediate-aged to mature stems with good canopy cover but heavy cankering. Generally young stems (<5cm DBH) with few to no cankers. All Category 2 stems measured 5cm DBH or less.

This concludes the summary of the BHA Report. A complete BHA Report must also include:

1. All original (hard copy) data forms (i.e., all completed sets of Form 1 and Form 2), and
2. Electronic and printed copies of the Excel data analysis spreadsheet.

BHA Tree Analysis (version: December 2013)

This table is to be completed by a designated Butternut Health Assessor (BHA).

BHA Report #	609-008	Assessment Date(s)	04-Aug-23	Total # Butternut Trees in BHA Report	18
BHA ID #	609	BHA Name	Daniel Stuart, Azimuth Environmental Consulting, Inc.		
Landowner / Client Name			Mason Homes Limited		
Property Location			7309 Centre Road, Township of Uxbridge		

input field data										automatic calculations from field data						Categories: 1: non-retainable, 2: retainable, 3: archivable				
			# bole cankers				# root flare (RF) cankers													
Tree #	Live Crown %	Tree dbh (cm)	sooty (S) (will be assigned 2.5 cm per canker)		open (O) (will be assigned 5 cm per canker)				<40 m from cankered tree? (Y or N)	**Circ.** (cm) = Pi x dbh	total **bole canker width** (sooty x 2.5 + open x 5)	total **RF canker width** (sooty x 2.5 + open x 5)	bole canker **%** of circ.	RF canker **%** of circ.	total bole & root canker % of 2xCirc	LC% >/= 50 & BC% = 0	LC% >70 & BRC% <20	LC% >70 & BC% <20	**Preliminary tree call**	**FINAL TREE CALL** a Cat 2, dbh>20cm <40m from a Cat 1
			S <2 m	S >2 m	O <2 m	O >2 m	RF S	RF O		**Circ** (cm)	**BC** (cm)	**RC** (cm)	**BC%**	**RC%**	**BRC%**					
1	25	19	9	1	7	6	3	6	Y	59.66	90.0	37.5	**150.9**	**62.9**	**106.9**	1	1	1	**1**	**1**
2	95	28	8	2	1	0	2	2	Y	87.92	30.0	15.0	**34.1**	**17.1**	**25.6**	1	1	1	**1**	**1**
3	80	12	9	0	13	2	4	3	Y	37.68	97.5	25.0	**258.8**	**66.3**	**162.6**	1	1	1	**1**	**1**
4	95	42	15	4	12	3	10	3	Y	131.9	122.5	40.0	**92.9**	**30.3**	**61.6**	1	1	1	**1**	**1**
5	90	19	13	2	9	0	4	0	N	59.66	82.5	10.0	**138.3**	**16.8**	**77.5**	1	1	1	**1**	**1**
6	95	20	13	9	15	3	0	3	N	62.8	145.0	15.0	**230.9**	**23.9**	**127.4**	1	1	1	**1**	**1**
7	100	1	0	0	0	0	0	0	Y	3.14	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
8	100	1	0	0	0	0	0	0	Y	3.14	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
9	100	3	2	0	0	0	0	0	Y	9.42	5.0	0.0	**53.1**	**0.0**	**26.5**	1	1	1	**1**	**1**
10	100	4	2	0	0	0	0	0	Y	12.56	5.0	0.0	**39.8**	**0.0**	**19.9**	1	2	1	**2**	**2**
11	100	5	0	0	0	0	0	0	Y	15.7	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
12	100	1	0	0	0	0	0	0	N	3.14	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
13	100	3	0	0	0	0	0	0	N	9.42	0.0	0.0	**0.0**	**0.0**	**0.0**	2	2	2	**2**	**2**
14	95	5	2	0	0	0	1	1	Y	15.7	5.0	7.5	**31.8**	**47.8**	**39.8**	1	1	1	**1**	**1**
15	100	2	5	0	1	0	1	0	Y	6.28	17.5	2.5	**278.7**	**39.8**	**159.2**	1	1	1	**1**	**1**
16	80	4	7	0	3	0	1	1	Y	12.56	32.5	7.5	**258.8**	**59.7**	**159.2**	1	1	1	**1**	**1**
17	95	51	12	4	3	1	6	2	Y	160.1	60.0	25.0	**37.5**	**15.6**	**26.5**	1	1	1	**1**	**1**
18	100	4	0	0	0	0	1	1	Y	12.56	0.0	7.5	**0.0**	**59.7**	**29.9**	2	1	2	**2**	**2**
19										0	0.0	0.0	#####	#####	#####	####	####	###	**##**	**#DIV/0!**
20										0	0.0	0.0	#####	#####	#####	####	####	###	**##**	**#DIV/0!**
21										0	0.0	0.0	#####	#####	#####	####	####	###	**##**	**#DIV/0!**
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30										0	0.0	0.0	#####	#####	#####	####	####	###	**##**	**#DIV/0!**
31										0	0.0	0.0	#####	#####	#####	####	####	###	**##**	**#DIV/0!**

0cm 3cm 15cm

Butternut Data Collection Form 1 - 2010 Edition

Surveyor ID or BHA #: 0609

(PLEASE USE BLOCK LETTERS)

Date (dd/mm/yyyy): 04 - 08 - 2023

Shaded fields are mandatory for Butternut Health Assessments

Surveyor Contact

First: DANIEL Last: STUART

Email: DSTUARTGAZIMUTHENVIRONMENTAL.COM

Telephone ( ) - Telephone Other ( ) - X

Property Owner (check if same as surveyor) ☐

First: Last:

or Company: MASON HOMES LIMITED

Email: BROBINSONMASONHOMES.CA

Telephone ( ) - Telephone Other (905) 660-6777 X42

Property Owner's Mailing address

Address: 70 INNOVATOR AVENUE, UNIT 2 Postal Code: L4A0Y2 Prov.: ON

City: STOUFFVILLE

Tree Location *(if different from mailing address)*

Address/(911#): 7309 CENTRE ROAD

Township: VXBRIDGE Lot: 34 Con: 06

City: VXBRIDGE

Directions

☒ Yes ☐ No Can Share Location Information with other Butternut Recovery Organizations?

☒ Yes ☐ No Site visits OK? (prior arrangments will always be made for a site vist)

Butternut Trees Tally by Diameter Class

> (Greater than)
< (Less than)

(Do a dot tally in blank space; write total# in box for each)

Tree Condition	< 3 cm	3-15 cm	16-30cm	>30 cm
Vigorous: > 50% Live Crown Minor or no cankers	03	04	00	00
Poor Vigor: <50% Live Crown or >50% Live Crown + heavily cankered stem	01	04	04	02
Dead	00	00	00	00

Historically, do some trees produce seeds? ☐ Y ☐ N ☒ Unkown

Estimated area containing butternut for properties > 1 acre (0.4 hectares): 0.75 ☐ Acres ☒ Hectares

Located in four (4) sections of property -
4x Cat 1 trees in northwest
1x Cat 1 tree in northeast
1x Cat 1 tree in south-central
5x Cat 1 trees + 7x Cat 2 trees in southwest

Overall Property Description (area(s) containing Butternut)

☐ Rolling Upland ☐ Bottomland
☐ Valley Slope ☐ Variable
☒ Tableland ☐ Unknown

Vegetation Community/ies

☒ Open ☒ Fencerow
☒ Shrubland ☒ Roadside
☐ DeciduousForest ☐ Quary
☒ ConiferForest ☐ UrbanYard
☐ MixedForest ☒ UrbanPark

Other

Soil Drainage

☒ Well Drained
☒ Moderately Drained
☐ Poorly Drained
☐ Unknown

Soil Texture

☐ Clay ☐ Sand
☐ Clay Loam ☐ Variable
☐ Loam ☐ Unknown
☒ Loamy Sand

Soil Depth

☒ > 1metre
☐ 30 - 99cm
☐ < 30cm
☐ Variable
☐ Unknown

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Butternut Data Collection FORM 2 (2010 Edition)

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Shaded fields are mandatory for Butternut Health Assessments

Fill when Form 1 indicates canker is well established. The information opn Form 2 must be filled out for all trees when doing a Butternut Health Assessment.

Site Code(A,B,...Z, AA...) | Surveyor ID or BHA # 0609

Surveyor Last Name STUART

Date (dd/mm/yyyy) 04 - 08 - 2023

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree # 001 | Zone 17 | Easting 649084 | Northing 4886579

Crown Class: D | Live Crown %: 025 | Main Stem Length(m) Below crown: 02

Twig Dieback ☒ | Branch Dieback ☒ | Defoliation ☒ | Discolouration ☒ | #Stems: 1 | DBH(cm): 019

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live 01 | #Epic-Dead 01 | Bark Type S | # Callused Wounds 01

	#Open	#Sooty
Root	03	03
=<2m	07	09
>2m	06	01

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: COMMON PARVITA

Tree tag 1058. Minor insect browse

Tree # 002 | Zone 17 | Easting 649102 | Northing 4886585

Crown Class: D | Live Crown %: 095 | Main Stem Length(m) Below crown: 02

Twig Dieback ☒ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 1 | DBH(cm): 028

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live 00 | #Epic-Dead 00 | Bark Type S | # Callused Wounds 00

	#Open	#Sooty
Root	02	02
=<2m	01	08
>2m	00	02

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: VITRIPA PARVITA

Tree tag 1059.

Tree # 003 | Zone 17 | Easting 649110 | Northing 4886587

Crown Class: I | Live Crown %: 080 | Main Stem Length(m) Below crown: 04

Twig Dieback ☒ | Branch Dieback ☐ | Defoliation ☒ | Discolouration ☐ | #Stems: 1 | DBH(cm): 012

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live 03 | #Epic-Dead 08 | Bark Type S | # Callused Wounds 03

	#Open	#Sooty
Root	03	04
=<2m	13	09
>2m	02	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: JUGCINE VITRIPA

Tree tag 1060

Tree # 004 | Zone 17 | Easting 649111 | Northing 4886587

Crown Class: D | Live Crown %: 095 | Main Stem Length(m) Below crown: 05

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐ | #Stems: 2 | DBH(cm): 042

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live 01 | #Epic-Dead 03 | Bark Type S | # Callused Wounds 03

	#Open	#Sooty
Root	03	10
=<2m	12	15
>2m	04	03

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree tag 1061. 31cm DBH + 28cm DBH (split <30cm) : 41.7cm DBH = 42cm DBH

Tree # 005 | Zone 17 | Easting 649743 | Northing 4886748

Crown Class: D | Live Crown %: 090 | Main Stem Length(m) Below crown: 02

Twig Dieback ☒ | Branch Dieback ☒ | Defoliation ☐ | Discolouration ☐ | #Stems: 1 | DBH(cm): 019

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live 00 | #Epic-Dead 02 | Bark Type S | # Callused Wounds 04

	#Open	#Sooty
Root	00	04
=<2m	09	13
>2m	00	02

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species:

Tree tag 1062.

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Butternut Data Collection FORM 2 (2010 Edition)

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Shaded fields are mandatory for Butternut Health Assessments

Fill when Form 1 indicates canker is well established. The information opn Form 2 must be filled out for all trees when doing a Butternut Health Assessment.

Site Code(A,B,...Z, AA...) | Surveyor ID or BHA # 0609

Surveyor Last Name: STUART

Date (dd/mm/yyyy): 04 - 08 - 2023

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree # 006 | Zone 17 | Easting 649473 | Northing 4886489

Crown Class: I | Live Crown %: 095 | Main Stem Length(m) Below crown: 02

Twig Dieback: ☒ | Branch Dieback: ☒ | Defoliation: ☐ | Discolouration: ☐

#Stems: 1 | DBH(cm): 020

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 00		
#Epic-Dead: 00	Root: 03	00
Bark Type: S	=<2m: 15	13
# Callused Wounds: 06	>2m: 09	03

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species: RHACATH

Tree tag 1063

Tree # 007 | Zone 17 | Easting 649160 | Northing 4886320

Crown Class: D | Live Crown %: 100 | Main Stem Length(m) Below crown: 01

Twig Dieback: ☐ | Branch Dieback: ☐ | Defoliation: ☐ | Discolouration: ☒

#Stems: 1 | DBH(cm): 001

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 00		
#Epic-Dead: 00	Root: 00	00
Bark Type: S	=<2m: 00	00
# Callused Wounds: 00	>2m: 00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree tag 1065

Tree # 008 | Zone 17 | Easting 649164 | Northing 4886322

Crown Class: D | Live Crown %: 100 | Main Stem Length(m) Below crown: 01

Twig Dieback: ☐ | Branch Dieback: ☐ | Defoliation: ☐ | Discolouration: ☐

#Stems: 5 | DBH(cm): 001

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 00		
#Epic-Dead: 00	Root: 00	00
Bark Type: S	=<2m: 00	00
# Callused Wounds: 00	>2m: 00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree tag 1066

Tree # 009 | Zone 17 | Easting 649158 | Northing 4886309

Crown Class: S | Live Crown %: 100 | Main Stem Length(m) Below crown: 01

Twig Dieback: ☐ | Branch Dieback: ☐ | Defoliation: ☐ | Discolouration: ☐

#Stems: 1 | DBH(cm): 003

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 00		
#Epic-Dead: 00	Root: 00	00
Bark Type: S	=<2m: 00	02
# Callused Wounds: 00	>2m: 00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: JUGNIGR / ULMAMER

Tree tag 1067

Tree # 010 | Zone 17 | Easting 649174 | Northing 4886308

Crown Class: D | Live Crown %: 100 | Main Stem Length(m) Below crown: 01

Twig Dieback: ☐ | Branch Dieback: ☐ | Defoliation: ☐ | Discolouration: ☐

#Stems: 1 | DBH(cm): 004

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
#Epic-Live: 00		
#Epic-Dead: 00	Root: 00	00
Bark Type: S	=<2m: 00	02
# Callused Wounds: 00	>2m: 00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree tag 1068

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Butternut Data Collection FORM 2 (2010 Edition)

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Fill when Form 1 indicates canker is well established. The information opn Form 2 must be filled out for all trees when doing a Butternut Health Assessment.

Shaded fields are mandatory for Butternut Health Assessments

Site Code(A,B,...Z, AA...) | Surveyor ID or BHA # 0609 | Date (dd/mm/yyyy) 04-08-2023

Surveyor Last Name STUART

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree # 011 | Zone 17 | Easting 691883 | Northing 4886312

Crown Class: S | Live Crown %: 100 | Main Stem Length(m) Below crown: 01

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐

#Stems: 1 | DBH(cm): 005

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
00 #Epic-Live		
01 #Epic-Dead		
S Bark Type	Root 00	00
02 # Callused Wounds	=<2m 00	00
	>2m 00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: PINSTRO

Tree tag 1069

Tree # 012 | Zone 17 | Easting 649212 | Northing 4886315

Crown Class: D | Live Crown %: 100 | Main Stem Length(m) Below crown: 01

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐

#Stems: 1 | DBH(cm): 001

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
00 #Epic-Live		
00 #Epic-Dead		
S Bark Type	Root 00	00 C
00 # Callused Wounds	=<2m 00	00
	>2m 00	00

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species:

Tree tag 1070

Tree # 013 | Zone 17 | Easting 649248 | Northing 4886330

Crown Class: C | Live Crown %: 100 | Main Stem Length(m) Below crown: 02

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☒

#Stems: 1 | DBH(cm): 003

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
00 #Epic-Live		
00 #Epic-Dead		
S Bark Type	Root 00	00 C
00 # Callused Wounds	=<2m 00	00
	>2m 00	00

Metres from badly cankered tree: ☐ < 40 ☒ > 40 ☐ None Found

Competing Species: PINSTRO

Tree tag 1071

Tree # 014 | Zone 17 | Easting 649184 | Northing 4886340

Crown Class: C | Live Crown %: 095 | Main Stem Length(m) Below crown: 02

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☐

#Stems: 1 | DBH(cm): 005

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
00 #Epic-Live		
00 #Epic-Dead		
S Bark Type	Root 01	01
00 # Callused Wounds	=<2m 00	02
	>2m 00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: JUGNIGR

Tree tag 1072

Tree # 015 | Zone 17 | Easting 649174 | Northing 4886543

Crown Class: D | Live Crown %: 100 | Main Stem Length(m) Below crown: 01

Twig Dieback ☐ | Branch Dieback ☐ | Defoliation ☐ | Discolouration ☒

#Stems: 1 | DBH(cm): 002

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

Seed Signs: ☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown:

	#Open	#Sooty
00 #Epic-Live		
01 #Epic-Dead		
S Bark Type	Root 00	01
00 # Callused Wounds	=<2m 01	05
	>2m 00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree tag 1073

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Butternut Data Collection FORM 2 (2010 Edition)

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Fill when Form 1 indicates canker is well established. The information opn Form 2 must be filled out for all trees when doing a Butternut Health Assessment.

Shaded fields are mandatory for Butternut Health Assessments

Site Code(A,B,...Z, AA...):

Surveyor ID or BHA #: 0609

Surveyor Last Name: STUART

Date (dd/mm/yyyy): 04 - 08 - 2023

Tree ID Numbering: 1,2,3,...Starting from 1 for each site

Tree #: 016 | **Zone:** 17 | **Easting:** 649170 | **Northing:** 4886329

Crown Class: S | Live Crown %: 080 | Main Stem Length(m) Below crown: 01 | Seed Signs: None

☐ Twig Dieback ☐ Branch Dieback ☒ Defoliation ☒ Discolouration | #Stems: 1 | DBH(cm): 004

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live: 01 | #Epic-Dead: 00 | Bark Type: S | # Callused Wounds: 03

	#Open	#Sooty
Root	01	01
=<2m	03	07
>2m	00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: ACENELU; POPALBA

Tree tag 1074. Split in stem ~40cm above root.

Tree #: 017 | **Zone:** 17 | **Easting:** 649155 | **Northing:** 4886344

Crown Class: C | Live Crown %: 095 | Main Stem Length(m) Below crown: 03 | Seed Signs: None

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☒ Discolouration | #Stems: 7 | DBH(cm): 051

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live: 01 | #Epic-Dead: 02 | Bark Type: S | # Callused Wounds: 31

	#Open	#Sooty
Root	02	06
=<2m	03	12
>2m	01	04

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: VITRIPA

Tree tag 1075. Split ~30cm above rootmass. 26cm + 24cm + 21cm + 20cm + 17cm + 12cm + 9cm = 51.1cm

51cm

Tree #: 018 | **Zone:** 17 | **Easting:** 649158 | **Northing:** 4886299

Crown Class: C | Live Crown %: 100 | Main Stem Length(m) Below crown: 02 | Seed Signs: None

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☒ Discolouration | #Stems: 1 | DBH(cm): 004

Butternut Origin: ☒ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☒ None

Assess below live crown: #Epic-Live: 00 | #Epic-Dead: 00 | Bark Type: S | # Callused Wounds: 01

	#Open	#Sooty
Root	01	01
=<2m	00	00
>2m	00	00

Metres from badly cankered tree: ☒ < 40 ☐ > 40 ☐ None Found

Competing Species: POPALBA

Tree tag 1076.

Tree #: | **Zone:** 1 | **Easting:** | **Northing:**

Crown Class: | Live Crown %: | Main Stem Length(m) Below crown: | Seed Signs:

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration | #Stems: | DBH(cm):

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live: | #Epic-Dead: | Bark Type: | # Callused Wounds:

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species:

Tree #: | **Zone:** 1 | **Easting:** | **Northing:**

Crown Class: | Live Crown %: | Main Stem Length(m) Below crown: | Seed Signs:

☐ Twig Dieback ☐ Branch Dieback ☐ Defoliation ☐ Discolouration | #Stems: | DBH(cm):

Butternut Origin: ☐ Natural ☐ Planted ☐ Unknown

☐ Male Flowers ☐ Female Flowers ☐ Seed Set ☐ None

Assess below live crown: #Epic-Live: | #Epic-Dead: | Bark Type: | # Callused Wounds:

	#Open	#Sooty
Root		
=<2m		
>2m		

Metres from badly cankered tree: ☐ < 40 ☐ > 40 ☐ None Found

Competing Species:

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APPENDIX C

Fish Habitat Photographs

Photograph 1: Uxbridge Brook Tributary, looking upstream on west side of Centre Road.

Photograph 2: Uxbridge Brook Tributary, looking upstream at Centre Road culvert outlet.

Photograph 3: Uxbridge Brook Tributary, looking downstream near Centre Road culvert.

Photograph 4: Uxbridge Brook Tributary, looking upstream at entrenched feature in grassland area, west segment of property.

Photograph 5: Uxbridge Brook Tributary, looking upstream at entrenched feature in grassland area, west segment of property.

Photograph 6: Uxbridge Brook Tributary, typical foot bridge structure.

Photograph 7: Uxbridge Brook Tributary, looking downstream - typical feature characteristics in east segment of feature.

Photograph 8: Uxbridge Brook Tributary, looking downstream inside arch culvert at Oakside Drive.

Photograph 9: DF1 - Ephemeral feature north of property, looking east from Centre Road.

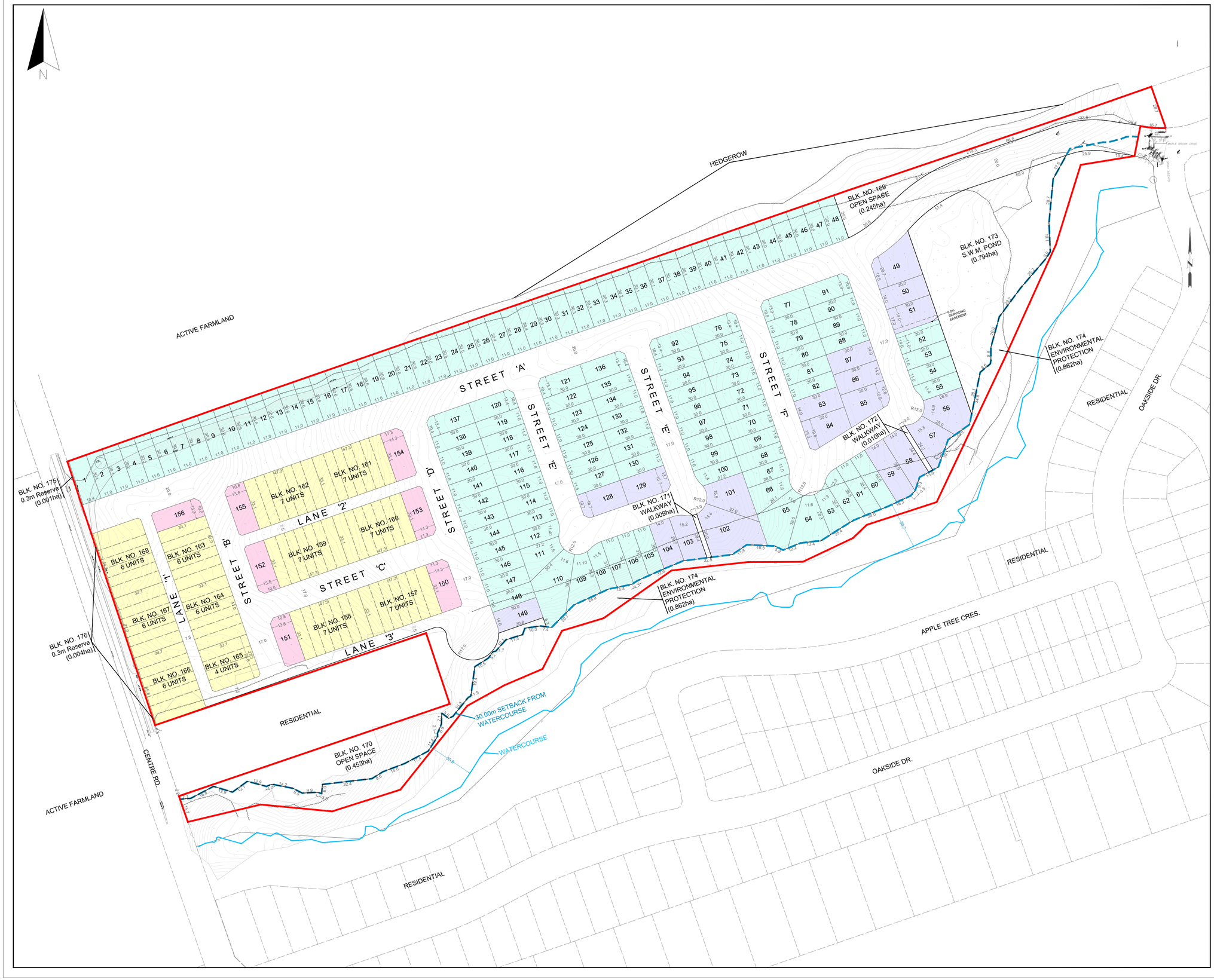
Photograph 10: DF1 - Ephemeral feature north of property, looking east from Centre Road.

Photograph 11: DF1 - Ephemeral feature north of property, looking west from Centre Road.

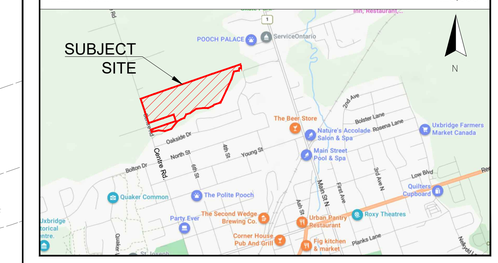
Photograph 12: DF1 - Ephemeral feature north of property, culvert inlet at Centre Road.

APPENDIX D

Proposed Development Concept



KEY MAP 1:20,000



DRAFT PLAN OF SUBDIVISION

Part of Lot 33, Concession 6,
Township of Uxbridge,
(formerly in the County of Ontario)
Regional Municipality of Durham

Scale

0 25 50 75 100m

LEGEND

SUBJECT LANDS (135,746.80m^2 / 13.575ha)

OWNER'S CERTIFICATE
I HEREBY AUTHORIZE INNOVATIVE PLANNING SOLUTIONS TO PREPARE THIS DRAFT PLAN OF SUBDIVISION AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION FOR APPROVAL.

DATE 2001976 ONTARIO LIMITED

SURVEYOR'S CERTIFICATE
I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE IVAN B. WALLACE, O.L.S.

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

a) SHOWN ON PLAN
b) SHOWN ON PLAN
c) SEE KEY PLAN
d) RESIDENTIAL
e) SHOWN ON PLAN
f) SHOWN ON PLAN
g) SHOWN ON PLAN
h) MUNICIPAL WATER
i) SILTY SAND, GLACIAL TILL AND/OR CLAYEY SILT
j) SHOWN ON PLAN
k) MUNICIPAL WATER & SEWAGE
l) NONE

LAND USE STATISTICS

Land Use	Lot / Blk. No.	Units	Area (ha)
Residential Single Lot (10.97m / 36')	1 - 48, 52 - 55, 60 -82, 88 - 100, 105 - 127, 130 - 148	130	4.554
Residential Single Lot (14.02m / 46')	49 - 51, 56 - 59, 83 - 87, 101 - 104, 128 - 129, 149	19	1.015
Residential Single Lot - Rear Lane (10.97m / 36')	150 - 156	7	0.318
Residential Townhouses (6.30m / 20.76')	157 - 168	76	1.757
Open Space	169 - 170		0.698
3.00m Walkways	171 - 172		0.019
S.W.M. Pond	173		0.794
Environmental Protection	174		0.862
0.3m Reserves	175 - 176		0.005
Roads			3.553
TOTAL	**176**	**232**	13.575

IPS
INNOVATIVE PLANNING SOLUTIONS
PLANNERS • PROJECT MANAGERS • LAND DEVELOPERS
647 WELHAM ROAD, UNIT 9, BARRIE, ON, L4N 0B7
tel: 705 • 812 • 3281 fax: 705 • 812 • 3438 e: info@ipsconsultinginc.com www.ipsconsultinginc.com

Date:	November 21, 2023	Drawn By:	A.S.
File:	21 - 1241	Checked:	K.B. / M.A.