



2648 Woodhull Road Severance

Environmental Impact Study (EIS)

Project Location:

2648 Woodhull Road, London, ON

Prepared for:

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1.0 Introduction

Brock Development Group Inc. (the 'Proponent') has initiated the Severance Application for 2598 Woodhull Road, and the Consolidation and Draft Plan Amendment with 2624 Woodhull Road (the 'Project') in the City of London. The Subject Lands are approximately 0.4ha and are located south of Elviage Drive. For the purpose of evaluating adjacent natural heritage features, a Study Area for the Environmental Impact Study (EIS) has been defined as the Subject Lands plus adjacent lands within 120m [Figure 1].

Life science data collections within the Subject Lands were completed by MTE Consultants Inc. from 2020 to 2022. This report compiled data collection results for these years.

1.1 Report Objective

This report is an Environmental Impact Study (EIS), with the first sections meeting the requirements of a Subject Lands Status Report (SLSR) to identify natural heritage areas in the Study Area. An SLSR/EIS was requested by the City of London in pre-consultation. The objective of the SLSR component of the report is to describe and define any natural features, based on field surveys and background information, and to identify potential functions to be protected or replicated on the Subject Lands. The EIS component evaluates the potential for impacts to natural heritage features and functions as a result of the Project. Following evaluation, recommendations for avoidance or mitigation of impacts, potential restoration, enhancement measures, and monitoring will be presented to protect natural features and functions.

The process and reporting are also designed to provide a support document for additional approvals that may be required, including permit applications that may be submitted to the Upper Thames River Conservation Authority (UTRCA).

1.2 Format

Natural heritage features and functions identified in this EIS are evaluated through a review of the Natural Heritage Reference Manual (NHRM, 2010) for policy 2.1 of the Provincial Policy Statement (MMAH, 2020), and Section 6 (Environmental Policies) of The London Plan (May 2021).

This report will be circulated to the City of London and UTRCA for agency review and comment on the findings and recommendations.

This EIS contains the following components, in accordance with the standards noted above:

Section 2.0	Land Use Setting and Policy Overview
Section 3.0	Triggers for EIS
Section 4.0	Description of the Natural Environment
Section 5.0	Natural Heritage Policy Considerations
Section 6.0	Description of the Development
Section 7.0	Impacts and Mitigation
Section 8.0	Summary and Conclusions
Section 9.0	References

1.3 Background Documents

The following additional documents were reviewed to provide context for the Project and conditions within Study Area:

- Slope Stability and Geotechnical Investigation, 2624 Woodhull Road (EXP Services Inc., 2021)
- Dingman Creek Watershed Report Card 2017 (UTRCA, 2017)
- Upper Thames River Source Protection Area Assessment Report (Thames-Sydenham and Region Source Protection Committee, 2015)

1.4 Pre-Consultation and Site History

The Proposal Summary for the Project was submitted to the City of London on May 10, 2022. A Record of Pre-Application Consultation [dated May 31, 2022] was provided by the City of London. This document provided City of London comments, including information requested to be included in the SLSR/EIS. An EIS scoping meeting was undertaken on July 6, 2022, to review the Environmental Study Scoping Checklist and discuss the scope of natural heritage field investigations and reporting. In attendance were members of the project teams from the City of London (Shane Butnari), Upper Thames Conservation Authority (Stefanie Pratt, Mike Serra, Eric Gaskin), EEPAC (Sandy Levin), Brock Development Group Inc. (Michelle Doornbosch), and MTE Consultants Inc. (Allie Leadbetter). The Scoping Checklist was not finalized with City staff. The Scoping Checklist is provided in Appendix A.

2.0 Land Use Setting and Policy Overview

The Subject Lands are the result of the consolidation of two parcels; the south section of 2598 Woodhull Road to be severed, and 2624 Woodhull Road to which the severed parcel will be consolidated. This area is primarily maintained lawn with a few ornamental trees on the west side. The Subject Lands also contain forest communities in the east on a slope downward to a meadow marsh wetland and Dingman Creek.

The Adjacent Lands are primarily composed of agricultural land to the west and green space associated with Dingman Creek to the east. Low-density single family residential properties are present on either side of the Subject Lands (north and south).

Provincial and municipal legislation and policies were reviewed to inform the evaluation of significant natural heritage features within the Subject Lands.

2.1 The London Plan

The London Plan (2021) includes environmental policies that provide direction for the long-term protection and conservation of natural heritage features and areas and the ecological functions, processes, and linkages that they provide in the City of London. The general environmental goals of the London Plan include, but are not limited to, the following:

- Achieve healthy terrestrial and aquatic ecosystems in the city's subwatersheds.
- Provide for the identification, protection, rehabilitation, and management of natural heritage features and areas and their ecological functions.
- Protect, maintain, and improve surface and groundwater quality and quantity by protecting wetlands, groundwater recharge areas and headwater streams.

- Maintain, restore, monitor and improve the diversity and connectivity of natural heritage features and areas and the long-term ecological function and biodiversity of Natural Heritage Systems.
- Provide opportunities for appropriate recreational activities based on the ecological sensitivities of the area.

Natural Heritage features are identified and mapped on Map 5 of the London Plan (May 2021). Development and site alteration is not permitted within or adjacent to Unevaluated Wetlands, Provincially Significant Wetlands, Significant Valleys and Woodlands, Habitat of Endangered or Threatened Species, Areas of Natural and Scientific Interest, and Environmentally Significant Areas unless evaluated by a professional and proven to have no negative impacts on the features or ecological functions.

2.1.1 Environmental Classifications

Map 5 of the London Plan (2021) identifies an Environmentally Significant Area (Delaware East Woodland ESA), Potential ESA, Significant Valleyland, and Unevaluated Wetland within the Subject Lands [Figure 2]. In addition to those features, there is a small watercourse near the east Subject Lands boundary and Dingman Creek is located within the east 120 m Adjacent Lands.

2.1.2 Land Use Designations

The Subject Lands are designated as Green Space and Farmland on Map 1 of the London Plan (2021) [Figure 3]. The Green Space is associated with the woodlands surrounding Dingman Creek. The Adjacent Lands are designated similarly. Dingman Creek is also shown east of the Subject Lands.

2.2 City of London Zoning Bylaws

The Subject Lands consist of multiple zoning designations [Figure 4]. The eastern portion of the Subject Lands are zoned Open Space (OS4), which is a zone applied to hazard lands (floodways, steep slopes, erosion hazards) that are often regulated by Conservation Authorities. On the western portion of the Subject Lands, the zoning designation is Agricultural Zone (AG2) which allows for a farm dwelling, along with other uses listed in the bylaw. There is an h-4 holding provision on the tableland which requires refinement of the slope and erosion hazards. Below the slope, there is an h-2 provision to refine the OS4 zone through and EIS. The proposal will require refinement and lifting of the holding provisions to the zone boundaries.

The Adjacent Lands also have similar landuse (farm dwellings), zoning designations including Agricultural (AG2 and AG4) and Open Space (OS4 and OS5).

2.3 Upper Thames River Conservation Authority (UTRCA) Regulation

The Upper Thames River Conservation Authority (UTRCA) regulates lands within its watershed under Ontario Regulation 157/06, pursuant to Section 28 of the *Conservation Authorities Act*. The UTRCA has jurisdiction over riverine flooding and erosion hazards, wetlands, and the surrounding area, and requires that landowners obtain written approval from the Authority prior to undertaking any site alteration or development within the regulation limit.

Almost the entirety of the Subject Lands is within the UTRCA Screening Area [Figure 5] and are subject to regulations under the *Conservation Authorities Act*. This regulation area is associated with flooding hazard from Dingman Creek and the erosion hazard from the steep east slope. Any development within the regulated areas will require a Section 28 Permit Application from the UTRCA.

2.4 Planning Act

The Provincial Policy Statement (PPS; MMAH, 2020) was issued under the *Planning Act, 1990* to provide direction to regional and local municipalities regarding planning policy, ensuring that decisions made by planning authorities were consistent with provincial policy. With respect to natural heritage features and resources, the PPS defines seven natural heritage features:

- Significant Wetlands and Significant Coastal Wetlands
- Significant Woodlands
- Significant Valleylands
- Significant Wildlife Habitat (SWH)
- Significant Areas of Natural and Scientific Interest (ANSI's)
- Fish Habitat, and,
- Habitat of Endangered and Threatened Species

The Subject Lands are within Ecoregion 7E where no development or site alteration are permitted in Provincially Significant Wetlands or Coastal Wetlands. Development and site alteration are not permitted in Habitat of Endangered or Threatened Species or Fish Habitat or, except in accordance with provincial and federal legislation. For the remaining features, development and site alteration shall not be permitted unless it has been demonstrated through an EIS that there will be no negative impacts on the features or their ecological functions.

While not all features and functions of provincial interest noted above are provided on provincial maps, a review of the Make a Natural Heritage Map (NHIC, 2019) suggests there are no additional mapped features not already covered by the Official Plan Maps. However, the policies noted above are reviewed later in this report supported by site specific field work and consultation with the municipal review agencies.

2.5 Endangered Species Act

The *Endangered Species Act, 2007* protects species listed as Threatened, Endangered or Extirpated in Ontario (SARO, 2007) from killing, harm, harassment or possession, and also protects their habitats from damage or destruction. Activities that may impact a protected species or its habitat require prior authorization from the Ministry of Environment, Conservation and Parks (MECP), unless the activities are exempt under a Regulation.

2.6 Fisheries Act

The federal *Fisheries Act, 1985* (amended 2019) manages fisheries resources, as well as conserves and protects fish and fish habitat, including by preventing pollution. The Act presents two main prohibitions: the prohibition of any work, undertaking, or activity that result in the harmful alteration, disruption or destruction of fish habitat [section 35(1)] and the prohibition of any work, undertaking, or activity that results in the death of fish by any other means other than fishing [section 34.4(1)]. Authorizations to proceed with a proposed work, undertaking, or activity that may harm fish or fish habitat may be provided by the Minister of Fisheries and Oceans, in accordance with sections 34.4(2)(b) and 35(2)(b).

There is an identified watercourse (UT-DC-64) in the northeast corner that will need consideration in this EIS. Field investigations were not required for this EIS in Adjacent Lands.

2.7 Migratory Birds Convention Act

The federal *Migratory Birds Convention Act, 1994* aims to protect and conserve migratory birds as populations and individual birds in Canada and the United States. No work is permitted to proceed that would result in the destruction of active nests (nests with eggs or young birds), or

the wounding or killing of bird species protected under the Migratory Birds Convention Act, 1994 and/or Regulations under that Act. Many bird species not protected by the MBCA (e.g. raptors) are protected under the FWCA.

2.8 Fish and Wildlife Conservation Act

The *Fish and Wildlife Conservation Act, 1997* (FWCA) regulates hunting, trapping, fishing, and related activities in Ontario in order to address the conservation of fish and wildlife resources in the province, including mammals, birds, reptiles, amphibians and fish. Under the Act, a person that hunts or traps wildlife requires a license administered by the Ministry of Natural Resources and Forestry (MNRF). Deliberate capture of wildlife or fish for the purpose of salvage and relocation is regulated under the FWCA.

3.0 Triggers for EIS

When a development proposal requires a Planning Act application (i.e., Draft Plan submission, or amendments to the Official Plan and/or zoning by-law), the City of London requires an EIS to be completed where development or site alteration is proposed within or adjacent to Natural Heritage System, as set out in Table 13 (Areas Requiring Environmental Study) of the London Plan (2021).

The proponent is planning a residential development at 2648 Woodhull Road in the City of London, Ontario. Natural heritage features were identified by Map 5 of the London Plan within the Subject Lands and Adjacent Lands [Figure 2]. This Environmental Impact Study (EIS) is required based on the following triggers from the City of London Environmental Management Guidelines (2021) and other relevant policies:

- Proposed development within 120 m of Fish Habitat
- Proposed development within 120 m of an Unevaluated Wetland
- Proposed development within 120 m of a Significant Valleyland
- Proposed development within 120 m of an Environmentally Significant Area
- Proposed development within 30 m of a Woodland
- Proposed development within 30 m of Significant Groundwater Recharge Areas and Highly Vulnerable Aquifers

As well, application for a permit under the UTRCA Ontario Regulation 157/06 may require an EIS

- Subject Lands are within the UTRCA's regulation limits

In addition, the *Endangered Species Act* (2007) protects species and habitat not specifically identified on London Plan Maps. To be consistent with the Provincial Policy Statement (Ministry of Municipal Affairs and Housing (MMAH), 2020), the requirements for an additional study can be triggered without any adjacent features identified on the London Plan Maps.

The following section (Section 4.0) reviews the natural heritage setting of the Subject Lands.

4.0 Description of the Natural Environment

The following section reviews the abiotic and biotic features on and within 120 m of the Subject Lands that contribute to the overall natural heritage features and functions of the Subject Lands and Adjacent Lands. This review provides relevant background information for interpreting

environmental features and functions for evaluation in Section 5.0. Areas outside the property limits were studied from the edge of the property or using satellite imagery.

4.1 Physical Setting

4.1.1 Physiography

Bedrock topography mapping indicates the Subject Lands are on the Clayplains underlain by the Caradoc Sand Plains and London Annex (Ontario Geological Survey, 1991; MNDMNR, 2017). Bedrock is not exposed in the area of the Subject Lands.

4.1.2 Soils

Geological mapping of the Subject Lands shows surficial deposits of primarily glaciofluvial outwash deposits containing gravel and sand, which include proglacial river and deltaic deposits (MNDMNR, 2017). Underlying the topsoil is silty sand followed by clayey silt glacial till (EXP, 2021).

4.1.3 Topography

Elevations range from 260.0m near the front of the lot to 255.0m along the crest of the slope in the east. The slope crest generally follows the tree line along the east edge of the table land from about 255m to 239m at the edge of Dingman Creek (EXP, 2021). The top of slope, stable slope allowance, and erosion hazard limits defined by EXP differ from Conservation Authority Limits [Appendix B]. Regulation mapping should be adjusted to demonstrate this difference. The stable top of slope has been carried forward to Figure 6. Surface Water Features

The Subject Lands are located within the Dingman Creek Subwatershed. Based on orthographic interpretation and review of drainage maps (AgMaps, 2016), there is a small watercourse (UT-DC-64) located in the east Subject Lands that flows downstream into Dingman Creek. Bank full width of this side channel of Dingman Creek (UT-DC-64) is approximately 1.7m within the Subject Lands and located below the toe of slope (EXP, 2021). Confirmation of alignment in comparison to UTRCA mapping was not required for this EIS, but general site investigations can confirm no major discrepancies with alignment. The watercourse is assumed to be permanent, contributing to Dingman Creek.

Dingman Creek is located on the Adjacent Lands approximately 8m-15.5m to the east. This reach of Dingman Creek is permanent, warm-water, and supports habitat for Species at Risk (UTRCA, 2017). There are no signs of water seepage along the slope face.

4.1.4 Hydrogeology

The Subject Lands are in the Upper Thames Source Protection Area. According to the Thames-Sydenham Source Protection Plan (TSSPP), the Subject Lands are in a Highly Vulnerable Aquifer (HVA), and the Adjacent Lands contain a Significant Groundwater Recharge Area (SGRA) (TSRSPC, 2015).

4.2 Biological Setting

Life science data was collected on the Subject Lands by MTE Consultants from October 2020 to August 2022. This section summarizes the background review of the Subject Lands, data collection methods, and the results of field investigations.

4.2.1 Records Review

A review of background natural heritage data sources was completed as a part of the EIS to inform study scoping as well as proposed field investigations.

The following documents and databases were reviewed to identify potential or confirmed natural heritage features in the Study Area.

- Ontario's Natural Heritage Information Centre databased for Species at Risk occurrences (NHIC, 2022)
- Lands Information Ontario (LIO; MNRF, 2020)
- London Plan Maps 1 and 5 (2021)
- Satellite imagery (Google Earth Pro 2022)
- Atlas of Breeding Birds of Ontario (OBBA) (Cadman, 2007)
- eBird Canada (eBird, 2022)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020)
- iNaturalist (2022)

4.2.1.1 Designated Natural Heritage Features

The Land Information Ontario (LIO) mapping (MNRF, 2022), Natural Heritage Centre (NHIC) online database (2021), and the London Plan Map 5 (2021) were reviewed for natural heritage features in the Subject Lands and 120m Adjacent Lands.

There are no Areas of Natural and Scientific Interest (ANSI), Provincially Significant Wetlands (PSW) or Unevaluated Wetlands mapped within the Study Area (MNRF, 2021).

4.2.1.2 Species Records

Protected Species are those listed as Endangered or Threatened on the Species at Risk Ontario (SARO) List of the *Endangered Species Act (ESA, 2007)*. Only Protected Species receive protection for individuals or habitat under the *ESA*.

Species of Conservation Concern (SOCC) are those listed as Special Concern on the SARO list and species with a provincial ranking of S1-S3. Provincial status rankings for plants, vegetation communities, and wildlife are based on the number of occurrences in Ontario and have the following meanings:

- S1: critically imperiled; often fewer than 5 occurrences
- S2: imperiled; often fewer than 20 occurrences
- S3: vulnerable; often fewer than 80 occurrences
- S4: apparently secure
- S5: secure
- S?: unranked, or, if following a ranking, ranking uncertain (e.g. S3?)

Provincial status rankings are established by the NHIC and do not provide an indication of regional abundance or rarity (i.e., species uncommon in the province may still be locally abundant in some regions).

A review of Ontario Natural Heritage Information Centre (NHIC), Ontario Breeding Bird Atlas (OBBA), Ontario Reptile and Amphibian Atlas database, and Citizen Science sources (iNaturalist and eBird) identified several Protected Species and SOCC as potentially present in the area of the Subject Lands. Many of these sources display data for a broad area (e.g., by upper-tier municipality, per 10km atlas square) and therefore provide only a general potential for species presence on or near the Subject Lands. It should be noted that OBBA occurrence data are from 2001-2005, and the dates of NHIC records are unknown. The remainder of the records are from within the past 10 years.

A number of relatively widespread species and habitats protected under the *ESA* are under-represented within the NHIC database and Citizen Science records. For this reason, Butternut

[END], Little Brown Myotis [END], Northern Myotis [END], and Tri-Coloured Bat [END], have been added to the background list of potential species.

Table 1, below, presents the Protected Species and SOCC identified during records review. Where dates are known, observations of migrant bird species far outside the breeding period are assumed to be migrants and have been omitted (excluding raptors).

Table 1: Species Occurrence Data Review (Potential Within 10 km of the Subject Lands)

Common Name	Scientific Name	SARO Status/S-rank	Most Recent Known Observation	Source
American Badger	<i>Taxidea taxus</i>	END	-	NHIC, 2021
American Chestnut	<i>Castanea dentata</i>	END	-	NHIC, 2021
Butternut	<i>Juglans cinerea</i>	END	-	Under-represented in records
Eastern Flowering Dogwood	<i>Cornus florida</i>	END	-	NHIC, 2021
Eastern Sand Darter	<i>Ammocrypta pellucida</i>	END	-	NHIC, 2021
Golden Eagle	<i>Aquila chrysaetos</i>	END	December 2021	iNaturalist, 2021
Lake Sturgeon (Great Lakes – Upper St. Lawrence River Population)	<i>Acipenser fulvescens</i>	END	-	NHIC, 2021
Little Brown Myotis	<i>Myotis lucifugus</i>	END	-	Under-represented in records
Northern Myotis	<i>Myotis septentrionalis</i>	END	-	Under-represented in records
Spiny Softshell	<i>Apalone spinifera</i>	END	August 2021; N/A	iNaturalist, 2021; NHIC, 2021
Tri-colored Bat	<i>Perimyotis subflavus</i>	END	-	Under-represented in records
Yellow-breasted chat	<i>Icteria virens</i>	END	-	NHIC, 2021
Bank Swallow	<i>Riparia riparia</i>	THR	2001-2005; June 26, 2019	OBBA, 2005; eBird, 2019
Barn Swallow	<i>Hirundo rustica</i>	THR	2001-2005; July 22, 2022	OBBA, 2005; eBird 2022
Blue Ash	<i>Fraxinus quadrangulata</i>	THR	-	NHIC, 2021
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	2001-2005	OBBA, 2005; NHIC, 2021
Chimney Swift	<i>Chaetura pelagica</i>	THR	2001-2005	OBBA, 2005
Dense Blazing Star	<i>Liatris spicata</i>	THR	October 2019	iNaturalist, 2019
Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	THR	May 2020	Ontario Nature, 2019; iNaturalist, 2020; NHIC, 2021
Eastern Meadowlark	<i>Sturnella magna</i>	THR	2001-2005	OBBA, 2005; NHIC, 2021
Least Bittern	<i>Ixobrychus exilis</i>	THR	August 1, 2018	OBBA, 2005; eBird 2018
Louisiana Waterthrush	<i>Parkesia motacilla</i>	THR	2001-2005	OBBA, 2005

Common Name	Scientific Name	SARO Status/S-rank	Most Recent Known Observation	Source
Mapleleaf Mussel	<i>Quadrula quadrula</i>	THR	-	NHIC, 2021
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	SC	2001-2005	OBBA, 2005
Northern Map Turtle	<i>Graptemys geographica</i>	SC	July 2021	iNaturalist, 2021; Ontario Nature, 2016; NHIC, 2021
Rainbow Mussel	<i>Villosa iris</i>	SC	July 2017	iNaturalist, 2017
Wood Thrush	<i>Hylocichla mustelina</i>	SC	-	NHIC, 2021
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	SC	-	NHIC, 2021

An assessment of habitat for these Protected Species and SOCC, along with targeted surveys where suitable habitat was present, was conducted by MTE on the Subject Lands as part of the current EIS. Survey methods and results are discussed in Sections 4.3 and 4.4. The full habitat assessment is provided in Appendix C.

4.2.2.1 Vegetation Communities

The vegetation communities within the Subject Lands were assessed by MTE Plant and Wildlife Technician Will Huys, certified to conduct ELC (Ecological Land Classification) in Southern Ontario, on October 21st, 2020, using protocols outlined in the Ecological Land Classification System for Southern Ontario (Lee et al., 1998) [Figure 6]. All communities identified are secure in Ontario (NHIC, 2020) [Table 2]. ELC and field sheets are provided in Appendix D.

Table 2: Ecological Land Classifications for the Subject Lands

Polygon	ELC Code	Description	S-rank	Area (ha) In the Subject Lands
3	MAM2	Mineral Meadow Marsh Ecosite	N/A	0.01
1	FOD5-3	Dry-Fresh Sugar Maple-Oak Deciduous Forest Type	S5	0.16
2	FOD7	Fresh-Moist Lowland Deciduous Forest Ecosite	N/A / S5?	0.05

Community 1 is located at the top of the slope on the eastern side of the naturally vegetated portion of the Subject Lands and is classified as a Dry-Fresh Sugar Maple-Oak Deciduous Forest (FOD5-3). This area covers a total of 0.16ha of the Subject Lands and consists primarily of Sugar Maple and Red Oak, followed by Eastern Hop-hornbeam and Shagbark Hickory. Sub-canopy consists of the previous species, as well as White Spruce and American Basswood. Understory contains Sugar Maple saplings and Black Cherry. Community 1 is part of Patch #10003.

Community 2 is located along the slope to the bottomlands on the western side of the Subject Lands and is classified as Fresh-Moist Lowland Deciduous Forest (FOD7). This area covers a total of 0.05ha and consisting of primarily American Basswood, Black Walnut, Blue Beech, with Sugar Maple associates. Community 2 is part of Patch #10003.

Community 3 is located at the toe of the slope close to Dingman Creek and is classified as a Mineral Meadow Marsh (MAM2). This community is very limited within the Subject Lands but extends further to the north. A total of 0.01ha of wetland is within the Subject Lands.

4.2.2 Significant Wildlife Habitat

MNRF Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 7E (January 2015) uses ELC ecosite codes and habitat criteria (e.g., size of ELC polygon, proximity to other natural features) to define candidate SWH. Additional candidate SWH types for the City of London were obtained from the London Plan (Policy 1354, 2021a). An assessment of candidate SWH was completed for the Subject Lands using a combination of desktop analysis and field observations, and is provided in Appendix E.

Candidate Seasonal Concentrations of Animals

Bat Maternity Colonies – FOD5-3, FOD7

Reptile Hibernaculum – FOD7

Candidate Specialized Habitats of Wildlife Considered SWH

Bald Eagle and Osprey, Nesting, Foraging, Perching – FOD5-3, FOD7

Amphibian Breeding Habitat (Woodland) – MAM2

Candidate Habitats for Species of Conservation Concern Considered SWH

Marsh Breeding Bird Habitat – MAM2 (Adjacent)

Special Concern and Rare Wildlife Species (Northern Map Turtle [SC], Rainbow Mussel [SC], Golden-winged Warbler [SC]), Grasshopper Sparrow [SC], Wood Thrush [SC]).

Candidate features were further evaluated using the results of targeted field investigations to determine if SWH was confirmed based on criteria such as species presence, abundance, and diversity. Results of the assessment of significance for SWH are presented in Section 5.0.

4.2.3 Floral Inventory

MTE Plant and Wildlife Technician Will Huys complete a three-season floral inventory from 2020-2022 within the Subject Lands. No Special Concern, provincially rare, or floral species protected under the *ESA* (2007) were identified during field investigations. A full Plant List is provided in Appendix F. The Plant List has combined all communities within the Subject Lands into one list.

Eastern Riverbank Wildrye (*Elymus riparius*) and Barren Strawberry (*Geum fragarioides*) were both observed within the Subject Lands. Both are considered regionally rare species in Middlesex County although populations are secure in Ontario (Oldham, 2017). Eastern Riverbank Wildrye can be found in alluvial soils of woods and thickets along streams. Barren Strawberry can be found as a groundcover in woods, thickets, and clearings. Both rare species were identified at the toe of the slope and are not present near the development limits. Regionally rare species are discussed further in Section 5.1.4.

4.2.2.3 Floristic Quality Analysis

Based on the floral inventories, the vegetation communities in the Subject Lands were assessed using SOFIA (Southern Ontario Floral Inventory Analysis) (Lebedyk, 2018). SOFIA provides several values based on floral inventories to evaluate the value and natural quality of vegetation communities. The Coefficient of Conservatism (CoC) is a value (0 to 10) assigned to each species based on the species' degree of fidelity to certain ecological parameters (Oldham, Bakowsky & Sutherland, 1995). Plants found in a wide range of vegetation communities are assigned low values while those that are found in a narrow range of parameters are assigned high values. For a community, the mean Coefficient of Conservatism (CoC) is calculated

between all species observed, and this provides a measure of floristic quality (Lebedyk, 2018). A community with a Mean CoC that is >3.5 is of sufficient floristic quality to be of remnant natural quality. A Mean CoC >4.5 would indicate a relatively intact natural area with high floristic quality.

Another measure is the Floristic Quality Index (FQI). FQI is intended to indicate the overall vegetative quality of a community and is calculated by multiplying the mean CoC by the square root of the number of species present (Oldham, Bakowsky & Sutherland, 1995). Based on a study of urban woodlands in the Chicago area, a community with a FQI <20 is considered to have minimal significance from a natural quality perspective, and a community with a FQI >35 has sufficient conservatism and richness to be floristically important from a provincial perspective. Floristic quality values are provided in Table 3.

Table 3: Southern Ontario Floral Inventory Analysis (SOFIA) Results

Vegetation Community	Mean CoC	FQI	% Native Species	Comments
Subject Lands (FOD5-3, FOD7, MAM2)	3.39	26.50	77%	<ul style="list-style-type: none"> • Poor floristic quality, no natural quality. • Low significance from a natural quality perspective. • Maintained turf grass makes up almost half of the Subject Lands.

4.2.4 Faunal Site Investigations

A breeding bird survey, bat maternity roost survey, and general habitat investigations were completed within the Subject Lands. Table 4, below, summarises the field investigations completed by MTE staff between 2020 and 2022 in the Subject Lands.

Table 4: MTE Field Investigations within the Subject Lands

Survey Type	Date/Time(s)	MTE Surveyor
Breeding Bird Surveys	June 12, 2022 9:20-10:45 AM June 22, 2022 5:40-6:30 AM	Brandon Holden
Bat Maternity Roost Survey	June 8, 2022 9:30-10:15 AM	Tanya Cooper
General Habitat Investigations	October 21, 2020 1:48-2:30 PM August 2, 2022 2:15-2:45 PM	Will Huys Tanya Cooper

4.2.3.1 Avifauna

MTE conducted breeding bird surveys on June 12 and June 22, 2022, guided by the protocols outlined in the Ontario Breeding Bird Atlas (OBBA) (Cadman et al., 2007). There were no suitable meadow, pasture, or hayfield areas providing habitat for grassland birds within the Subject Lands, therefore a third breeding bird survey was not undertaken. The Subject Lands were surveyed as a whole, with a combination of point counts and area searches used. The complete breeding bird species observations are provided in Appendix G.

No protected avian species were identified within the Subject Lands during the site investigations [Appendix G]. All observed species are considered common and secure in Ontario. One species are considered species of regional concern by Partners in Flight (2022): Rose-breasted Grosbeak. This species was identified by a singing male, and it is possible that the species is using the Subject Lands as breeding lands.

4.2.3.3 Bats

A bat habitat survey was conducted by MTE staff on June 8, 2022, within the boundary of the Subject Lands. The survey was guided by MECP protocols (“Treed Habitats- Maternity Roost Surveys”, 2021) and MNRF survey guidelines (“Survey Protocols for Species at Risk Bats within Treed Habitats”, 2017). No candidate bat maternity roost trees were identified within the Subject Lands, though potential roosting trees were observed in adjacent lands outside the Subject Lands. The field data sheet can be found in Appendix H.

4.2.3.4 Mammal Burrows

NHIC had identified American Badger to be potentially inhabiting areas near the Subject Lands. No mammal burrows were observed within the Subject Lands during site investigations.

4.2.3.7 Aquatic

No aquatic investigations were required for this EIS. A small watercourse was noted at the east boundary of the Subject Lands that appears to connect to Dingman Creek based on mapping. This watercourse may support fish habitat. Dingman Creek is also located east of the Subject Lands and contains fish habitat.

A review of the Fisheries and Oceans Canada (DFO) Species at Risk mapping identified Silver Shiner [THR] critical habitat and potential presence within 1km of the Subject Lands (DFO, 2020). Silver Shiner is known to exist within the Dingman Creek Watershed (UTRCA, 2017).

4.2.3.8 Incidental Observations

During site investigations on June 8, 2022, deer tracks were observed on the Subject Lands. A Baskettail dragonfly was observed on site on June 12, 2022, and one Green Frog was also noted that day in the landscaped pond on the residential property to the north. No other incidental wildlife observations were made.

5.0 Natural Heritage Policy Considerations

Provincial and municipal natural heritage policies provide guidelines that determine appropriate land uses on and adjacent to natural heritage features and functions. This section reviews the provincial, municipal and Conservation Authority regulatory policies which apply to Natural Heritage features and functions of the Subject Lands and larger Study Area.

Policies and regulations that may pertain to the Subject Lands include:

- the 2020 Provincial Policy Statement, Section 2.1, issued under the *Planning Act, 1990*
- these have been reviewed in conjunction with the Natural Heritage Reference Manual (NHRM) (OMNR, 2010),
- the London Plan, Section 6 – Environmental Policies (May 28, 2021),
- the City of London Environmental Management Guidelines (2021),
- the UTRCA Regulations (*Conservation Authorities Act, Section 28 – Ontario Regulation 157/06*).
- the *Endangered Species Act, 2007*
- the *Migratory Birds Convention Act, 1994*

The policies above are applied to natural features and functions identified in Section 4.0 of this EIS in order to determine which components of the natural heritage system will require additional consideration.

5.1 Provincial Policy

The Provincial Policy considerations are based on the Provincial Policy Statement (MMAH, 2020) Section 2.1 and reviewed using the Natural Heritage Reference Manual (Sections 5-11) (OMNR, 2010).

5.1.1 Provincially Significant Wetlands

No Provincially Significant Wetlands are identified within or adjacent to the Subject Lands.

5.1.2 Provincially Significant Woodlands

No Provincially Significant Woodlands are identified within or adjacent to the Subject Lands on Map 5 of the London Plan (2021a). Woodlands present are assessed for Significance in Section 5.2.12.

5.1.3 Provincially Significant Valleylands

A Significant Valleyland is mapped within the Subject Lands and Adjacent Lands, associated with Dingman Creek (London Plan Map 5, 2021). The slope boundary defined by EXP, 2022, differs from official mapped boundaries, and should be adjusted to the refined limits from the EXP study.

5.1.4 Significant Wildlife Habitat

Candidate Significant Wildlife Habitat (SWH) is based on ELC communities that were identified in Section 4.3.1. Confirmed Significant Wildlife Habitat is determined through appropriate field investigations and evaluation of species use in accordance with specific criterion outlined in the Ecoregion Criteria Schedules 7E (MNRF, 2015).

Bat Maternity Colonies

No potential bat maternity roost trees are found within the forested communities of the Subject Lands. Candidate bat maternity roosts are assumed to be present within the adjacent lands. To qualify as SWH, a total of 10 potential roost trees per hectare needs to be present, which is not the case for the Subject Lands, and unconfirmed for the adjacent lands. As a result, the Subject Lands do not support SWH for Bat Maternity Colonies. Bat Maternity Roosts is discussed under ESAct discussion later in the report.

Not SWH – Confirmed (FOD5-3, FOD7)

Candidate SWH – Adjacent Lands Not Confirmed

Reptile Hibernaculum

A concrete chamber is present on the east slope within the Subject Lands [Figure 7]. It is unclear if the chamber provides access beneath the frost line for hibernation. Targeted surveys for snake emergence were not completed, so the hibernaculum SWH cannot be confirmed present or absent.

Candidate SWH – Not Confirmed SWH (FOD7)

Bald Eagle and Osprey, Nesting, Foraging, Perching

To qualify as SWH, active nests are to be present within the Study Area. No active nests were identified during site investigations, and no bird species meeting the SWH criteria were identified during breeding bird surveys or incidental encounters. As a result, this site is not considered SWH for Bald Eagle and Osprey.

Not SWH – Confirmed (FOD5-3, FOD7)

Amphibian Breeding Habitat (Woodland)

Amphibian breeding habitat may be present in the MAM2 wetland within and adjacent to the Subject Lands, however targeted amphibian surveys were not completed.

Candidate SWH – Not Confirmed (MAM2)

Marsh Breeding Bird Habitat

Breeding bird surveys were completed in 2022 and confirmed that the defining criteria for significance were not met in the MAM2 community based on observations within the Subject Lands. However, the adjacent MAM2 community was not investigated.

Candidate SWH – Not Confirmed SWH (MAM2)

Special Concern and Rare Wildlife Species (Northern Map Turtle [SC]), Rainbow Mussel [SC], Golden-winged Warbler [SC], Grasshopper Sparrow [SC], Wood Thrush [SC].

Based on species records, five SOCC were determined to be potentially present within the area of the Subject Lands. As outlined in Appendix C, these species are likely to be associated with Dingman Creek and are not found within the Subject Lands but may be present within the Adjacent Lands. No SOCC or provincially rare species were observed during field investigations.

Not SWH – Confirmed (Subject Lands)

Candidate SWH – Not Confirmed (Adjacent Lands)

Terrestrial Crayfish

No chimneys or individuals were identified in the wetland within the Subject Lands (MAM2). There is potential for SWH in the portion of wetland (MAM2) within the Adjacent Lands, but no targeted surveys were completed within the Adjacent Lands.

Not SWH – Confirmed (MAM2)

Candidate SWH – Not Confirmed (Adjacent Lands (MAM2))

5.1.5 Areas of Natural and Scientific Interest

There are no Areas of Natural and Scientific Interest (ANSI) on or within 120m of the Subject Lands.

5.1.6 Fish Habitat

Broad scale fish habitat, for the purpose of this review, considers downstream fisheries. Based on orthographic imagery interpretation, review of drainage maps (OMAFRA, 2020), and field investigations, there is a minor flowpath within the Subject Lands. This watercourse contributes flow as a side channel to Dingman Creek in the Adjacent Lands. It is possible that this provides indirect fish habitat to the downstream reaches of Dingman Creek. Dingman Creek is located 5m-15.5m east of the Subject Lands and is known to provide fish habitat (UTRCA, 2017).

Detailed fish scale habitat, for the purposes of this review, considers fisheries habitat within the Adjacent Lands. The small watercourse in the east Subject Lands may provide fish habitat, although this was not investigated in detail. Both broad scale and detailed fish scale habitat will need to be considered further in the EIS.

5.1.7 Habitat of Endangered or Threatened Species

No floral or faunal species protected under the *ESAct (2007)* were identified within the Subject Lands during MTE field investigations. Candidate bat maternity roost are present in the adjacent

lands of the Subject Lands, where no development or tree removal is proposed; therefore no direct impacts are anticipated for endangered bat species.

A detailed assessment of potential habitat for Endangered and Threatened species based on a background review is provided in Appendix C.

5.2 Municipal Policy

The municipal Natural Heritage policy considerations are based on the London Plan, May 28, 2021, Chapter 6 – Environmental Policies. Many natural heritage policies in the London Plan protect features from the PPS (MMAH, 2021) are discussed in Section 5.1., however the assessment of significance for these features will be repeated here for clarity. The relevant policy sections are included in brackets.

5.2.1 Provincially Significant Wetlands, Wetlands, and Unevaluated Wetlands (1330-1336)

As discussed in Section 5.1.1, there are no Provincially Significant Wetlands identified on Map 5 of the London Plan within or adjacent to the Subject Lands.

There is one unevaluated wetland located partially within the Subject Lands, and mostly within the Adjacent Lands. Community 3 is a Mineral Meadow Marsh (MAM2) located at the toe of slope based on field investigations. Due to limited access to the unevaluated wetland on Adjacent Lands, this feature was not assessed for significance and will be carried forward as an unevaluated wetland.

5.2.2 Significant Woodlands and Woodlands (1337-1343)

As discussed in Section 5.1.2, no Significant Woodlands were identified within the Subject Lands in the London Plan (2021). The features are discussed further as part of the review of the ESA and Potential ESA boundaries.

5.2.3 Significant Valleylands and Valleylands (1344-1351)

As per Section 5.1.3, there is a mapped Significant Valleyland associate with Dingman Creek within the Subject Lands and Adjacent Lands.

5.2.4 Significant Wildlife Habitat (1352-1355)

As discussed in Section 5.1.4, there is no confirmed Significant Wildlife Habitat within the Subject Lands. Candidate Reptile Hibernacula, Amphibian Breeding Habitat (Woodland), and Marsh Breeding Bird SWH is present within the Subject Lands. Candidate SWH is assumed present in the Adjacent Lands.

5.2.5 Areas of Natural and Scientific Interest (1356-1360)

As per Section 5.1.5, there are no Areas of Natural and Scientific Interest (ANSI) within the Subject Lands or Adjacent Lands.

5.2.6 Fish Habitat (1323-1324)

As per Section 5.1.6, broad scale and detailed scale fish habitat will need to be considered for the small watercourse within the Subject Lands and the adjacent Dingman Creek.

5.2.7 Habitat of Endangered Species and Threatened Species (1325-1329)

As mentioned in Section 5.1.7, no floral or faunal species protected under the *ESAct* (2007) were identified within the Subject Lands during MTE field surveys. Endangered bat species

possibly roosting in the adjacent lands are not anticipated to experience impacts from the proposed development.

5.2.8 Water Resource Systems (1361-1366)

The Subject Lands are in the Upper Thames Source Protection Area. According to the Thames-Sydenham Source Protection Plan (TSSPP), the Subject Lands are in a Highly Vulnerable Aquifer (HVA), and the Adjacent Lands contain a Significant Groundwater Recharge Area (SGRA) (TSRSPC, 2015). No streams or other waterbodies are present within the Subject Lands.

5.2.9 Environmentally Significant Areas (1367-1371)

Environmentally Significant Area, Lower Dingman ESA, is delineated on Map 5 of the London Plan (2021), within the Subject Lands and Adjacent Lands, associated with the Dingman Creek. Potential Environmentally Significant Area is also shown on Map 5, within the Subject Lands and Adjacent Lands and surrounding areas, as well as to the west of Woodhull Road.

The boundary of the ESA is delineated by the dripline of the existing woodland vegetation to include all natural features, in accordance with the City of London Guideline Documents for Environmentally Significant Areas Identification, Evaluation and Boundary Delineation (1997). This proposed boundary will be carried forward through this EIS, referenced as the Significant Woodland/New ESA Boundary.

5.2.10 Upland Corridors (1372-1377)

There are no upland corridors identified on Map 5 of the London Plan (2021) within or adjacent to the Subject Lands.

5.2.11 Potential Naturalization Areas (1378-1381)

There are no Potential Naturalization Areas identified on Map 5 of the London Plan (2021) within 120m of the Subject Lands.

5.2.12 Unevaluated Vegetation Patches (1383-1384) and Vegetation Patches Larger Than 0.5 Hectares (1385-1386)

There are no Unevaluated Vegetation Patches identified within 120m of the Subject Lands on Map 5 of the London Plan (2021).

5.2.13 Other Drainage Features (1387)

Based on orthographic imagery interpretation, review of drainage maps (OMAFRA, 2020), and field investigations, there is a flow path that flows through the Subject Lands into Dingman Creek. No other drainage features are present.

5.3 Conservation Authority Regulations

The Upper Thames River Conservation Authority (UTRCA) regulations cover most of the Subject Lands [Figure 5]. The regulated area is associated with the flooding hazard and erosion hazard associated with the Dingman Creek valleyland. The Project will require a Section 28 Permit Application from the UTRCA.

5.4 Summary of Identified Features and Functions

Table 5 presents a summary of features and functions of the Subject Lands and Adjacent Lands that have been identified through the policy review, above, as requiring further consideration in the EIS. Features considered under the PPS are not re-stated under the London Plan.

Table 5: Environmental Considerations for the Study Area

Policy Category	Environmental Consideration	Natural Heritage Feature
Provincial Policy Statement	Significant Wildlife Habitat	<ul style="list-style-type: none"> • Candidate Reptile Hibernaculum (FOD7) • Candidate Amphibian Breeding Habitat (MAM2) • Candidate Marsh Breeding Bird Habitat (MAM2) • Candidate SWH within the Adjacent Lands (Terrestrial Crayfish, Bat Maternity, Special Concern and Rare Wildlife Species)
	Habitat for Endangered and Threatened Species	<ul style="list-style-type: none"> • Potential bat maternity roost habitat within the east adjacent wooded communities
	Fish Habitat	<ul style="list-style-type: none"> • Potential fish habitat in the watercourse in the east Subject Lands (UT-DC-64) • Fish habitat within Dingman Creek (Adjacent Lands)
The London Plan (2021)	Unevaluated Wetland	<ul style="list-style-type: none"> • Community 3 (MAM2)
	Water Resource Systems	<ul style="list-style-type: none"> • Subject Lands are within an HVA, and Adjacent Lands contain an SGRA
	Significant Valleylands	<ul style="list-style-type: none"> • Significant Valleyland associated with Dingman Creek within the Study Area.
	Environmentally Significant Areas	<ul style="list-style-type: none"> • Lower Dingman ESA boundary is within Subject Lands and Adjacent Lands as refined by this study. •
UTRCA Regulations	Regulated Area	<ul style="list-style-type: none"> • UTRCA regulates the majority of the Subject Lands - associated with the flooding and erosion hazards of the Dingman Creek Valleyland

6.0 Description of the Development

The Proponent has proposed the Severance Application for 2598 Woodhull, to consolidate and form one Lot at 2624 Woodhull Road (Subject Lands). The proposed plan includes the development of one single family residential unit (370 m²) on the area of maintained lawn, with access via a driveway connected to Woodhull Road. A septic bed is also proposed in front of the house [Figure 8].

6.1 Ecological Buffers and Pre-Development Considerations

Based on the above review, there are several components of the natural heritage system within the Study Area that will need to be considered in this EIS.

6.1.1 Public Ownership/Acquisition

In policy section 1404-1407 of the London Plan (2021), the City recognized not all natural heritage areas will be brought into public ownership or shall be open and accessible for public use. The Open Space corridor on the eastern side of the Subject Lands will remain under the Proponents ownership.

6.1.2 Ecological Buffers

The London Plan (2021) policies 1412-1416 state that ecological buffers are meant to protect natural heritage features and areas, and their ecological functions and processes, to maintain the ecological integrity of the Natural Heritage System. Buffer recommendations are determined as part of an EIS and guided by the City of London *Environmental Management Guidelines* (2021).

A Significant Woodland, Significant Valleyland, Wetland, Environmentally Significant Area (ESA), and Warm-water Fish Habitat (UTRCA, 2017) are present within or adjacent to the Subject Lands. The EMGs (2021) suggest a minimum buffer width of:

- 30m for Wetlands, Significant Woodlands, Significant Valleyland, and ESA
- 15m for Warm-water Fish Habitat

The EMGs recommended a 30m buffer from a Significant Woodland, however the width of the buffer from the Significant Woodland will be guided by the sensitivity and quality of the natural heritage feature, as well as the context of the Subject Lands (e.g., zoning, surrounding land use, and existing conditions). Enhancement of the buffer to maximize effectiveness will also be considered. Buffers will be further discussed in Section 7.0 in the context of impact avoidance and mitigation.

6.1.3 Stewardship

Under the stewardship policies 1408-1411 of the London Plan, protection is encouraged for natural heritage systems that remain in private lands. These protection efforts can include stewardship agreements, Conservation easements, education, land trusts, tax incentives, signage and other suitable techniques. Such efforts will be discussed in conjunction with the post development setting in context of mitigation measures and their contribution to the refinement of setbacks and buffers.

7.0 Impacts and Mitigation

This section reviews the development proposal [Figure 9] and identifies potential direct and indirect impacts to the significant natural heritage features within and adjacent to the development footprint. Appropriate avoidance, protection and mitigation measures for the impacts are also presented [Figure 10]. At the conclusion of the section, a net effects table is provided for the proposed development application summarizing potential impacts as well as proposed mitigation, compensation or enhancement measures [Table 6].

An Environmental Management Plan (EMP) has been prepared using these recommendations and is provided in Appendix H.

Based on the analysis in Section 5.0, the significant features identified are summarized in Table 6. Significant natural heritage features identified on or adjacent to the Subject Lands are:

- ESA Edge Boundary (Community 1 – FOD5-3, Community 2 – FOD7)
- Unevaluated Wetland (Community 3 – MAM2)
- Significant Valleyland
- Candidate Significant Wildlife Habitat (SWH) within the Subject Lands: Candidate Reptile Hibernacula, Candidate Amphibian Breeding Habitat, Candidate Marsh Breeding Bird Habitat within the Subject Lands; Candidate Bat Maternity Roost, Candidate Terrestrial Crayfish, Candidate Special Concern and Rare Wildlife Species within the Adjacent Lands

- Candidate SWH within the Adjacent Lands: Bat Maternity Roost, Amphibian Breeding Habitat
- Fish Habitat
- Habitat of Endangered and Threatened Species
- Water Resources Systems
- Environmentally Significant Areas

The potential direct impacts of the proposed development on these natural heritage features will be discussed in the following Section 7.1. The potential for indirect impacts is discussed in Section 7.2.

7.1 Direct Impacts and Mitigation

7.1.1 Vegetation Removal

Based on the development plan presented in Figure 9, the proposed development should not require the removal of any trees within the Subject Lands, aside from one dead Ash on the northwest portion of the Subject Lands, within the maintained lawn area. On the southwest, there is a confider hedgerow that is located along the proposed housing limits. Maintained grass and any other ground level vegetation within the development limits will also be removed.

Recommendation 1: The limits of clearing should be surveyed, staked, and fences in the field to allow for the protection of off-site natural areas and vegetation.

Recommendation 2: If these hedgerow trees are required to be removed or maintained at any point during the development process, any action should be completed by a certified arborist.

7.1.2 Provincially Significant Wetlands and Wetlands

One Unevaluated Wetland (Community 3 - MAM2) was identified within the Subject Lands and Adjacent Lands. London Plan Policy states that development and site alteration shall not be permitted within and/or adjacent to an unevaluated wetland identified on Map 5. City council is responsible for determining if an unevaluated wetland be evaluated by a qualified persons in accordance with the *Ontario Wetlands Evaluation System*. Evaluation of the unevaluated wetland within the Subject Lands was not deemed as required as majority of the wetland is located outside the Subject Lands, and development is not proposed within the proximity of the wetland. Although this wetland was not evaluated, it may contain SWH for Marsh Breeding Birds or Amphibian Breeding Habitat (Woodland), or non-significant amphibian breeding habitat. Regardless of the significance of the wetland, the recommended minimum buffer from the EMG's is 30 metres. The proposed development is located over 50m outside the limits of the wetland and therefore no direct impacts to the wetland's features and functions are expected. Indirect impacts to the wetland will be discussed in Section 7.2.

7.1.3 Significant Woodlands/Woodlands

A minimum 30m buffer is recommended in the EMGs as a starting point for ESAs and Significant Woodlands. A reduced buffer is appropriate here as the ESA Woodland is currently co-existing with adjacent residential properties, that have smaller buffers and mowed lawn up to the base of the woodland trees. A buffer of 30m would not allow a single residential development within the legal parcel.

The proposed buffer follows the stable top of slope line and areas within will be naturalized with native species and rezoned as Open Space (OS5).

This buffer provides an increase buffer area to the woodland in comparison to the surrounding residential properties, as well as providing net benefit through buffer naturalization. The

Naturalization Area under the dripline of the trees is defined by the stable slope setback [Figure 10]. The majority of this area is currently mowed maintained lawn. The Naturalization Area is recommended to be seeded with native herbaceous seed mix and supplemented with native shrub species that provide flowers and berries for wildlife. The Naturalization Area will act as a natural woodland edge that provides less harsh edge habitat for wildlife and increase the spread of native plant cover. In addition to enhancing the woodland edge, the Naturalization Area will also help stabilize the slope for long-term erosion protection.

The 6 m Erosion access allowance of rear yard will be re-zoned as OS 4 to allow for a lawn without structures. This access allowance will remain a mowed and maintained area providing the residents a backyard, as well as an additional vegetated setback to the development limits. This allowance area is not considered part of the naturalization area.

Recommendation 3: The City of London will re-zone the proposed ecological buffer as Open space to reflect the limit of the development.

Recommendation 4: The buffer should be restored and naturalized using plant species native to Ecoregion (7E) and preferably include species from the UTRCA recommended plant lists (UTRCA, 2021a).

Recommendation 5: Woody plant selection should consider how the species are adapted to site conditions including soil type, moisture, slope, and sun exposure, as well as additional wildlife benefits (e.g. berry production). Dominant tree species in the adjacent Woodland should be considered for plantings, such as Sugar Maple, Red Oak, and Black Cherry. Naturalization with a variety of vegetation will improve ecological function of the area and to provide a natural buffer to the Significant Woodland.

Recommendation 6: Understory and ground layer plant species should be incorporated into the restoration and naturalization plan through seeding. Seed mixes will consist of species all native to the Ecoregion (7E), adapted to site conditions, and approved by the City of London.

Recommendation 7: Invasive and non-native (including horticultural species) identified within the proposed buffer should be removed using Best Management Practices (City of London, 2017) for limited spread of invasive plant species. For information on invasive, non-native plant species in the Upper Thames watershed, refer to *Invasive Non-Native Plants in the Upper Thames River Watershed* (UTRCA, 2017).

Recommendation 8: Installation of permanent boundary markers (e.g. posts, bollards) is recommended for the Significant Woodland Boundary markers can mark the edge of the natural features to prevent landscaping encroachment (ex: mowing), discourage entry by the public in combination with education materials, and, unlike a chain link fence, allow unhindered passage of wildlife species.

7.1.4 Significant Valleylands

A Significant Valleyland is located within the Subject Lands and the 120m Study Area, associated with the floodplain of the Dingman Creek. The proposed home will be setback from the Valleyland and an erosion hazard limit will be respected.

The Significant Valleyland boundary bisects the Subject Lands on an angle, with an approximate setback of 23m at its closest to the development limits, and 50m at its furthest. The average setback is approximately 36.8m. The recommended buffer by The City of London EMGs is 30m. Within the southern portion of the Subject Lands, where the existing buffer is less than 30m, the buffer for the Significant Valleyland will be included with the buffer recommended

for the Significant Woodland. The existing and proposed vegetation within the buffered area will further stabilize the slope.

No direct impacts to the Significant Valleyland are anticipated with the currently proposed development limits and natural heritage feature buffer. Indirect impacts (i.e. erosion and sedimentation during construction) to the Significant Valleyland will be addressed in Section 7.2.

7.1.5 Significant Wildlife Habitat

Candidate Reptile Hibernaculum is present within the Subject Lands. There are no anticipated direct impacts to SWH as the hibernaculum feature will remain intact throughout development, and is setback 47.6m from development limits.

Candidate Significant Wildlife Habitat is present within the Adjacent Lands. Candidate Significant Wildlife Habitat within the Adjacent Lands will be protected and preserved by setbacks from the Significant Woodland (13.9m), Significant Valleyland (37m), and distance from the Wetland (57m) and Dingman Creek (90m). There are no anticipated direct impacts to SWH.

7.1.6 Fish Habitat

Contributing fish habitat may be present within the Subject Lands from a downstream flow path of Dingman Creek. Warmwater fish habitat is recommended to have a 15m buffer from development. This watercourse is located more than 30m from the development limits, outside the recommended range and no direct impacts are anticipated to fish habitat.

7.1.7 Habitat of Endangered and Threatened Species

No habitat for Endangered or Threatened Species was identified on the Subject Lands, therefore there will be no direct impacts to habitat of Endangered or Threatened species.

Recommendation 9: Although Bank Swallow [THR] was not identified within the Subject Lands, the creation of suitable habitat (e.g., stockpiles) during construction should be avoided. Best Management Practices for deterring nesting during construction activities should be implemented (OMNR, 2017). These measures should include stockpile slope management (i.e. grading stockpiles, eliminating vertical extraction faces, reducing slopes to 70 degrees or less) until at least July 15.

Recommendation 10: Any observation of a Protected Species should be reported to MECP. Protected Species should not be handled, harassed, or moved unless they are in immediate danger.

7.1.8 Water Resource Systems and Drainage Features

The Subject Lands are within an HVA (TSRSPC, 2015). Land use changes are proposed, but there are no anticipated groundwater impacts provided an approved septic system design is submitted as part of the building permit.

Recommendation 11: A Best Management Practice (BMP) and spill contingency plan (including a spill action response plan) should be in place for fuel handling, storage and onsite equipment maintenance activities to minimize the risk of contaminant releases as a result of the proposed construction activities. Contractors working at the site should ensure that construction equipment is in good working order. Equipment operators should have spill-prevention kits, where appropriate.

7.1.9 Environmentally Significant Areas

The outer limits of the Lower Dingman Environmentally Significant Area are located within the Subject Lands. Potential Environmentally Significant Areas are also mapped within the Subject Lands. A proposed new boundary for the ESA includes all natural features within the Subject Lands, and is delineated by the woodland boundary of Community 1. Buffers to the ESA Woodland were previously discussed under Section 7.1.3. The limits of the proposed development are located outside the ESA boundary, and no direct impacts are anticipated.

7.1.10 Migratory Birds and Wildlife

Nesting migratory birds are protected under the *Migratory Birds Convention Act (MBCA, 1994)*. No work is permitted to proceed that would result in the destruction of active nests (nests with eggs or young), or the wounding or killing of birds, or species protected under the *MBCA, 1994* and/or Regulations under this Act. Some MBCA-protected species, such as Killdeer, may make use of un-maintained areas as they frequently make nests on the ground in construction sites and other disturbed areas.

Recommendation 12: Avoid vegetation clearing (if required), and site disturbance during the migratory bird breeding season (April 1-August 31) to ensure that no active nests will be removed or disturbed, in accordance with the *Migratory Birds Convention Act* and/or Regulations under this Act. If works are proposed within the breeding season, prior to any vegetation removal or ground disturbances, the area should be thoroughly checked for nesting birds by a qualified professional. If there are any nesting birds, works within the nesting area should not proceed until after August 31, or the nest is confirmed inactive.

Recommendation 13: Make workers aware of potential encounters with wildlife and the necessary protection. If an animal enters the work site, work at that location will stop and the animal should be permitted to leave without being harassed. If there are repeat observations of wildlife in the work area, barrier fencing may be used to direct wildlife away from active construction toward natural areas.

Recommendation 14: Noise disturbance during construction should be limited to allowable hours per City of London By-law. Where possible, construction noise from heavy machinery should be avoided during the migratory bird breeding period, defined as April 9 to August 16 in nesting zone C2 (ECCC, 2018) to avoid disturbance of birds nesting within Lower Dingman ESA.

7.2 Indirect Impacts and Mitigation

Natural heritage features may also experience indirect effects during construction, including sedimentation and erosion, or post-construction, such as inadvertent encroachment. Indirect impacts on natural features will be mitigated through the implementation of standard environmental protection measures, discussed below.

7.2.1 Sediment and Erosion Control Measures

A critical time for the protection of natural heritage features is during the construction phase. For all works and especially those within 30 m of adjacent natural heritage features, substantial sediment and erosion control measures will be required to ensure that indirect impacts to the adjacent Valleyland and its associated natural heritage features are avoided or mitigated.

Recommendation 15: Sediment and erosion control fencing should be installed according to the City of London Design Specifications and Requirements Manual specifications (2019b) and The Erosion and Sediment Control Guide for Urban Construction (TRCA, 2019).

Recommendation 16: Soil stockpiles should be established in locations where natural drainage is away from the adjacent Significant Woodland and Significant Valleyland. If this is not possible and there is a possibility of any stockpile slumping and moving toward the edge of the Significant Woodland and Significant Valleyland, the stockpiles should be protected with robust sediment and erosion control. Access to the stockpile should be confined to the up-gradient side.

Recommendation 17: A multi-barrier approach for sediment and erosion control will be used for this development. Prior to works on site, robust sediment and erosion control fencing should be installed around the property limits. The fence will act as a barrier to keep construction equipment and spoil away from the vegetation to remain, and prevent erosion and sedimentation of the adjacent natural heritage features.

Recommendation 18: Sediment and erosion control fencing should be inspected prior to construction to ensure it was installed correctly and during construction prior to rain events to ensure that the fencing is being maintained and functioning properly. Any issues that are identified are resolved as quickly as possible, ideally the same day.

Recommendation 19:

Sediment and erosion control fencing should be inspected regularly during construction to ensure that the fencing is being maintained and functioning properly. Any issues that are identified should be resolved as quickly as possible, ideally the same day

Recommendation 20:

All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature.

Recommendation 21: Sediment and erosion control fencing should not be removed until adequate re-vegetation and site stabilization has occurred. All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature. Additional re-vegetation plantings and/or more time for vegetation to establish may be required; however, two growing seasons are typically sufficient to stabilize most sites.

7.2.2 Construction Site Management

Recommendation 22: Regular cleanup of the Subject Lands must be completed during construction and post-construction to ensure the adjacent natural heritage features are not degraded.

Recommendation 23: Equipment should be cleaned prior to arrival on site including tires, undercarriage, and any part of the equipment that may transport invasive seeds to the site. Clean equipment protocols are provided by London's Invasive Plant Management Strategy (2017) and should be followed where appropriate.

Recommendation 24:

Dust abatement measures (e.g. watering) are recommended if the site grading will occur during extended dry weather periods.

7.2.3 Landowner(s) Education

Recommendation 25: Provide the homeowner with the "Living with Natural Areas" brochure published by UTRCA in 2005 [Appendix J]. This will help educate the future residents on appropriate ways to interact with natural areas and discourage damaging encroachment

activities such as dumping landscape waste, using chemicals on lawns, mowing past residential boundaries, and creating trails.

7.3 Monitoring Plan

Mitigation and compensation measures recommended in this EIS aim to minimize and compensate for the direct and indirect impacts to the significant natural heritage features and functions. The monitoring plan is recommended to document the implementation of the mitigation and compensation measures during construction and post-construction.

The monitoring plan will be two-phase and will consist of a construction monitoring plan and long-term post-construction plan. The construction monitoring plan will monitor construction-related impacts, document successes or deficiencies of the implemented mitigation measures, and provide guidance on remedial actions for circumstances when mitigation is not successful [e.g. Erosion and Sedimentation Control (ESC) Measures]. This plan should continue from clearing and grubbing through to residential building construction until grounds adjacent to natural features are vegetated and stabilized. The plan will be developed during the detailed design stage. Reports should be made available to the UTRCA and City design services staff.

Long-term post-construction monitoring shall evaluate the success of the proposed active naturalization efforts, as well as areas of invasive species management. This plan should include remedial actions that are triggered if the effects exceed pre-determined thresholds (e.g., supplemental plantings if survival rates are low). Monitoring requirements should be determined at the detailed design state in consultation with agency staff. Recommendations for monitoring include, but are not limited to:

- Encroachment activities and correction – once the development is 80% build-out, annual reporting to the City of London should be completed for two years.
- Encroachment into the Adjacent ESA/Significant Woodland/Significant Valleyland should be monitored for two years post-construction (e.g., litter present in natural features, informal trail creation, horticultural species present) and additional strategies should be implemented if required.
- Vegetation monitoring in the naturalized buffer should be completed for two years after planting to document compliance with the plans (e.g, the correct species and quantities were planted), and the establishment of planted material. Implemented adaptive management to correct deficiencies.
- Implement adaptive management strategies such as supplemental plantings, and/or control of non-native invasive species. Adaptive management may be triggered by poor survival of planted material, insufficient vegetation cover, or the presence of non-native and invasive species.

7.4 UTRCA Regulation

UTRCA regulates the majority of the Subject Lands under Ontario Regulation 157/96 as shown on UTRCA regulation mapping [Figure 5]. This regulated area is associated with the hazard limits of Dingman Creek. Development proposed within the regulated areas may require a Section 28 Permit Application from the UTRCA.

7.5 Net Effects

Table 6, below, summarized potential impacts to natural heritage features and function as well as proposed mitigation, compensation or enhancement measures.

Table 6: Net Effects

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Artificial Lighting	Significant Woodland, Valleyland, Lower Dingman ESA	Low impacts expected - residential lights	Residential lighting is unlikely to significantly impact wildlife species. Similar lighting from adjacent residences.	No net effect	N/A
Litter and Garbage	Significant Woodland, Valleyland, Lower Dingman ESA, MAM2	Low impacts expected - garbage/litter from residential area - removal of existing garbage from the drain and woodlands	Garbage bins along sidewalks; public education (Living with Natural Areas brochure, signage) to educate about the importance of the adjacent natural features.	No net effect	Garbage bins should be readily available and emptied regularly. On-going education.
Introduced invasive plants	Significant Woodland, Valleyland, MAM2, Lower Dingman ESA	Low impacts expected -horticultural plants can be invasive to natural areas nearby -inappropriate disposal of lawn/gardening waste	Removal of invasive or horticultural plants within the buffered area to be naturalized; native species planted in the Naturalization Area; homeowner education about disposing of lawn/garden waste (“Living With Natural Areas” brochure)	Possible positive net effect	Monitor the success of invasive species management and establishment of native species.
Increased access to sensitive area	Significant Woodland, Valleyland, MAM2, Lower Dingman ESA	Medium impacts expected - vegetation could get trampled	Educational materials to discourage off-path wandering; monuments marking the naturalization area boundary	No net effect	Monitoring and ongoing education.
Creation of new trails	Significant Woodland, Valleyland, MAM2, Lower Dingman ESA	Medium impacts expected - ad-hoc trails may trample ground cover, transport invasive species	Educational materials (“Living With Natural Areas” brochure) to discourage wandering; monuments along the naturalization area boundary.	No net effect	Monitoring and ongoing education.

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Tree damage	Significant Woodland, Valleyland	No impacts expected -no trees proposed for removal within NHS	Area between Significant Woodland/Valleyland to be naturalized.	No net effect	Monitor for tree damage post-construction.
Vegetation Removal	Significant Woodland, Valleyland	No impacts expected -Mostly horticultural or invasive species to be removed. -No removal within the Significant Woodland/Valleyland	No trees or plants are proposed for removal within the Significant Woodland/Valleyland. The natural buffer increases net area of native vegetation.	Net Positive	Monitoring of the naturalization/planting success in the buffer.
Increased noise	Lower Dingman ESA, Significant Woodland/Valleyland, MAM2	Low impacts expected - only common species present	Low level noise from adjacent apartment will not impact common species; the surrounding area is already partially residential; noise disturbance during construction should be limited to allowable hours per City of London By-law; noise from heavy machinery should be avoided where possible during the migratory bird breeding period (April 9-August 16 in nesting zone C2) to avoid disturbance of birds nesting.	No net effect	Residential by-laws restrict excessive noise.
Disturbance to wildlife during construction	Significant Woodland/Valleyland, MAM2	Low impacts expected - disruption to activities of nearby wildlife will be temporary -limited wildlife on Subject Lands	Restrict timing of vegetation removal within the Subject Lands to outside breeding periods for ground-nesting birds; make workers aware of potential incidental encounters and necessary protections; if an animal enters the work site, work at that location will stop and the animal should be permitted to leave unharassed; if there are repeat observations of wildlife in the work area, barrier fencing may be used to direct wildlife away from active construction and toward natural areas.	No net effect	Disturbance is temporary and minimal for species within the surrounding lands. Monitoring and reporting protocols for incidental wildlife encounters should be followed.
Decreased infiltration and increased run-off	Significant Woodland/Valleyland, MAM2, Dingman Creek, Lower	Low to medium impacts expected - impervious surfaces decrease infiltration	Development is >30m from the wetland; naturalized buffer; sediment and erosion control fencing at edge of development should remain until the area is serviced by storm sewers and disturbed areas are seeded; all issues with sediment and erosion control measures should be resolved the same day.	No net effect	Monitor sediment and erosion control fencing.

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
	Dingman ESA				
Increased erosion	Significant Woodland/Valleyland, Lower Dingman ESA	Low impacts expected -development is >30m away.	Naturalized buffer; development limit is >30 m minimum from the wetland, sediment and erosion control fencing installed at development limit; fencing should remain until the area is serviced by storm sewers and disturbed areas are seeded; all issues with sediment and erosion control measures should be resolved the same day. Development set back from top of stable slope.	No net effect	Monitor sediment and erosion control fencing.
Increased nutrient, pesticide, chemicals, and sediment	Significant Woodland/Valleyland, Dingman Creek, MAM2	Low impacts expected - May be seasonal nutrient and sediment loads	Naturalized buffer; >30 m buffer from wetland; stormwater management system; sediment and erosion control plan during construction; ban on cosmetic pesticides; limit the use of commercial fertilizers and other chemical applications; consider the use of grass varieties which are heartier and require less extensive watering or fertilizers; limit the use of salts or other additives for ice and snow control.	No net effect	
Domestic animals	Lower Dingman ESA	Medium impacts expected - off-leash dogs can trample plants	Naturalized buffer; public education (Living with Natural Areas brochures, signage) to educate about the importance about the adjacent natural features; boundary markers.	No net effect	Ongoing education.
Air pollution	Significant Woodland/Valleyland	No impacts expected	The development will not generate substantial air pollution	No net effect	
Fire Hazards	Significant Woodland/Valleyland, Lower Dingman ESA	Low impacts expected - potential for recreational gatherings	Educational materials and signage to discourage off-path wandering.	No net effect	Ongoing education.
Use of heavy machinery – tree damage	Significant Woodland/Valleyland	Low impacted expected -low amounts of damageable vegetation within the area of machinery use	Naturalized buffer to protect encroachment to Significant Woodland/Valleyland.	No net effect	Post-construction monitoring to ensure no tree damage.

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Use of heavy machinery – soil compaction	Significant Woodland/Valleyland	Low impacts expected - machinery too close to retained trees can compact soils over vital tree roots	Naturalized buffer; setback from root zones.	No net effect	Post-construction monitoring to ensure no adjacent vegetation damage.
Use of heavy machinery – oil, gasoline, grease spill	MAM2, Dingman Creek	Medium impacts expected - machinery can leak or refueling can generate spills	Establish storage/refueling area away from wetland; BMPs and a spill contingency plan (including a spill action response plan) should be in place for fuel handling, storage and onsite equipment maintenance activities to minimize the risk of contaminant releases as a result of the proposed construction activities; contractors working at the site should ensure that construction equipment is in good working order; equipment operators should have spill-prevention kits, where appropriate	No net effect	Containment of spills should be included in plan.
Changes in soil grade	Significant Woodland/Valleyland	Low impacts expected - raising the grades may result in root suffocation - lowering grade may result in removal of tree roots	Naturalized buffer. Setback from Significant Woodland/Valleyland.	No net effect	Post-construction monitoring to ensure no adjacent tree damage.

8.0 Summary and Conclusions

Brock Developments Inc. (the 'Proponent') is proposing the development of a single-family residential dwelling on 2648 Woodull Road, in London Ontario.

The proposed development includes the severance of 2589 Woodull Road, and consolidation with 2648 Woodhull Road to make up the Subject Lands. The proposed development avoids direct impacts to features and functions of adjacent natural heritage features, as well as species and habitat associated with these features. This is accomplished through setbacks and providing additional compensation through the naturalization and management of the buffers. The naturalized buffered area will be landscaped with native species to restore the Significant Woodland dripline and enhance slope stability and will be re-zoned as Open Space (OS5).

This EIS has also set out recommendations to protect the adjacent significant natural heritage features from indirect impacts, such as erosion and sediment control measures.

Provided the recommendations in this EIS are followed; it is our opinion that the proposed development can proceed.

MTE seeks comments from the City of London and the UTRCA with respect to the contents of the EIS. Formal comments can be submitted in writing to MTE of behalf of the client. Should you wish to clarify any questions or require additional information as part of the review of this EIS, do not hesitate to contact us.

All of which is respectfully submitted,

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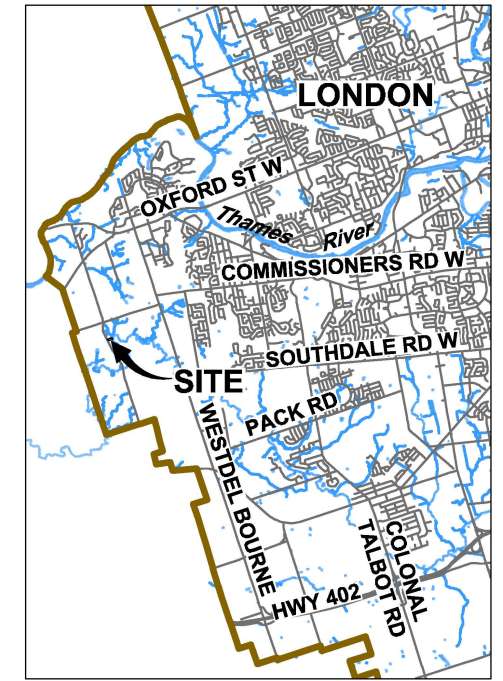
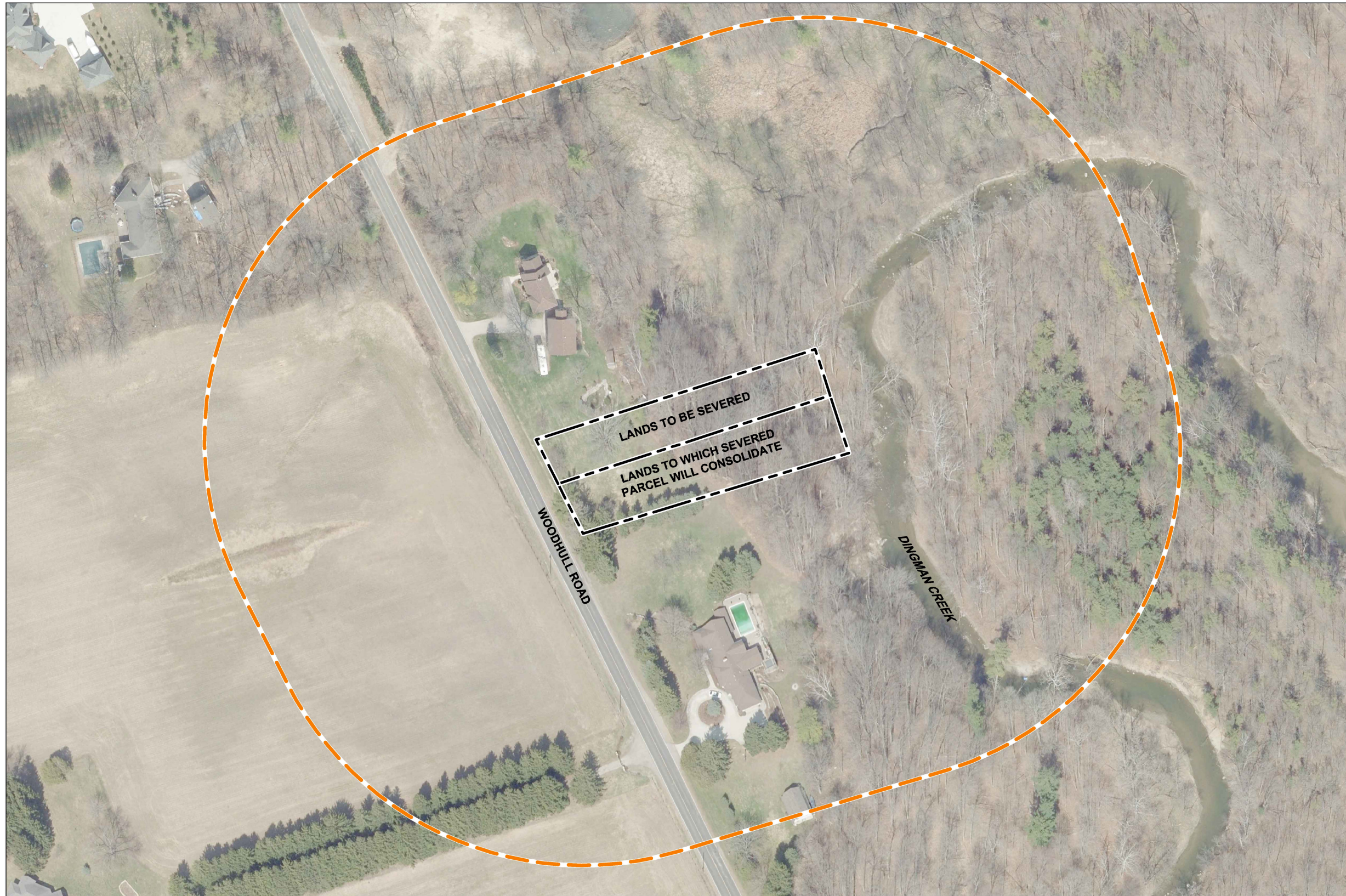
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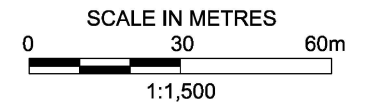
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Figures



KEY PLAN



LEGEND

- SUBJECT LANDS
- STUDY AREA (120m BUFFER FROM SUBJECT LANDS)

REFERENCES

CITY OF 2021 LONDON PARCEL, ROAD AND WATER NETWORK, AND AERIAL IMAGERY, OPEN DATA SET; AND PLAN PROVIDED BY BROCK DEVELOPMENT GROUP INC.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.
 ALL LOCATIONS ARE APPROXIMATE.

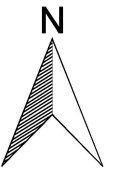
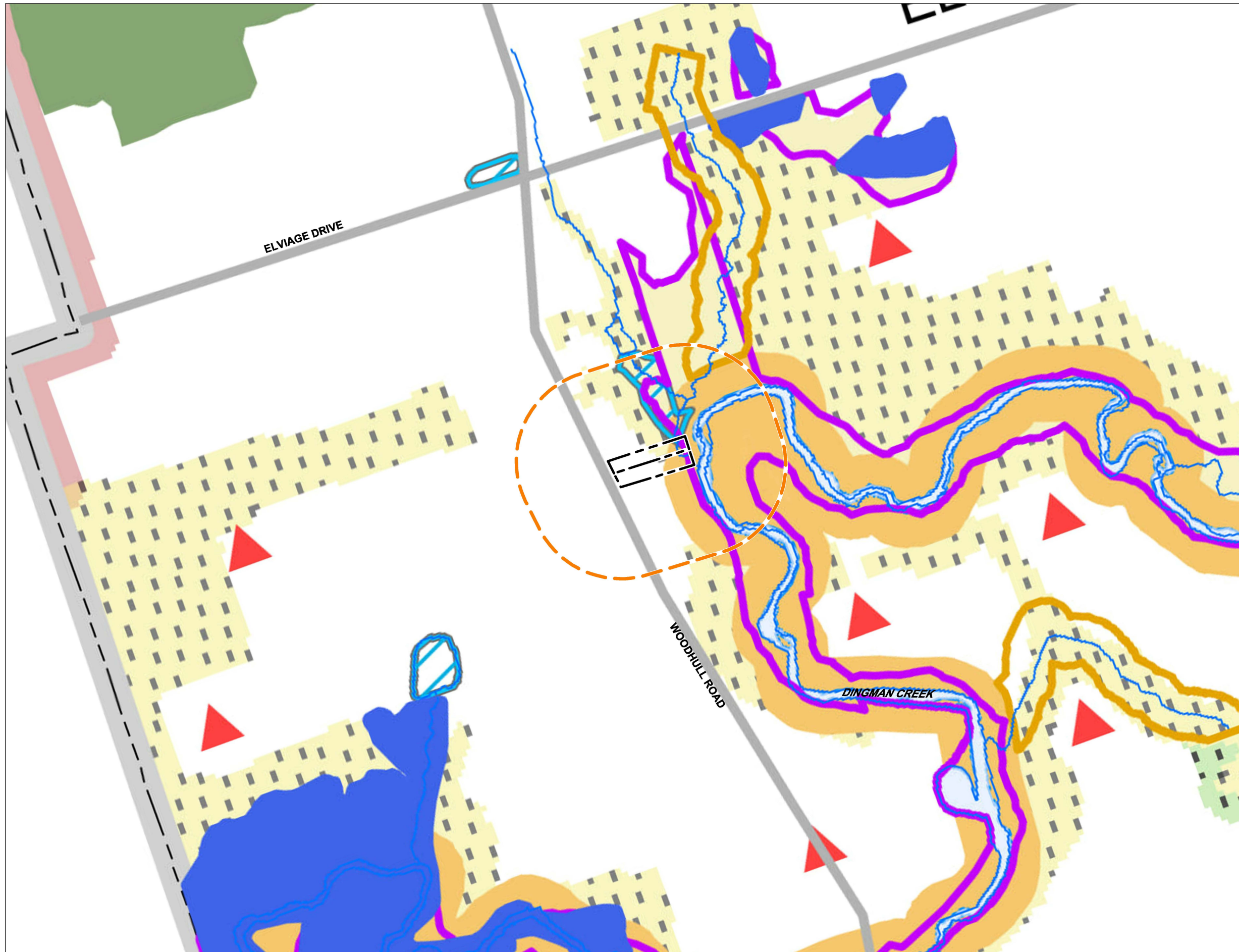


PROJECT
ENVIRONMENTAL IMPACT STUDY
 2648 WOODHULL ROAD SEVERANCE
 LONDON, ONTARIO

TITLE
PROJECT LOCATION

Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	48282-100
Date	June 21/22	Rev No.	0

FIGURE 1



LEGEND

- SITE BOUNDARY
- - - STUDY AREA (120m Buffer from Subject Site)
- ENVIRONMENTALLY SIGNIFICANT AREA (ESA)
- ... POTENTIAL ESAs
- ▲ POTENTIAL NATURALIZATION AREA
- PROVINCIALY SIGNIFICANT WETLAND
- /// UNEVALUATED WETLAND
- SIGNIFICANT VALLEYLAND
- SIGNIFICANT WOODLAND
- STREET
- UPLAND CORRIDOR
- WATER BODY
- WATERCOURSE/POND

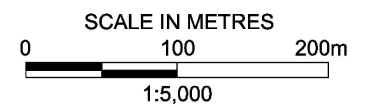
REFERENCES

CITY OF LONDON OPEN DATA SET, 2021; AND CITY OF LONDON, MAP 5 - NATURAL HERITAGE, MAY 28 - 2021.

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ALL LOCATIONS ARE APPROXIMATE.



PROJECT
ENVIRONMENTAL IMPACT STUDY
 2648 WOODHULL ROAD SEVERANCE
 LONOND, ONTARIO

TITLE
NATURAL HERITAGE

Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	48282-100
Date	June 21/22	Rev No.	0

FIGURE 2



LEGEND

- SITE BOUNDARY
- STUDY AREA
(120m Buffer from Subject Site)
- ENVIRONMENTAL REVIEW
- FARMLAND
- GREEN SPACE
- WATERCOURSE/POND

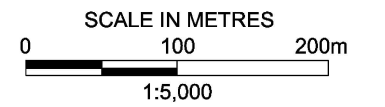
REFERENCES

CITY OF LONDON OPEN DATA SET, 2021; AND
 CITY OF LONDON, MAP 5 - NATURAL
 HERITAGE, MAY 28 - 2021.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO
 BE READ IN CONJUNCTION WITH
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ALL LOCATIONS ARE APPROXIMATE.

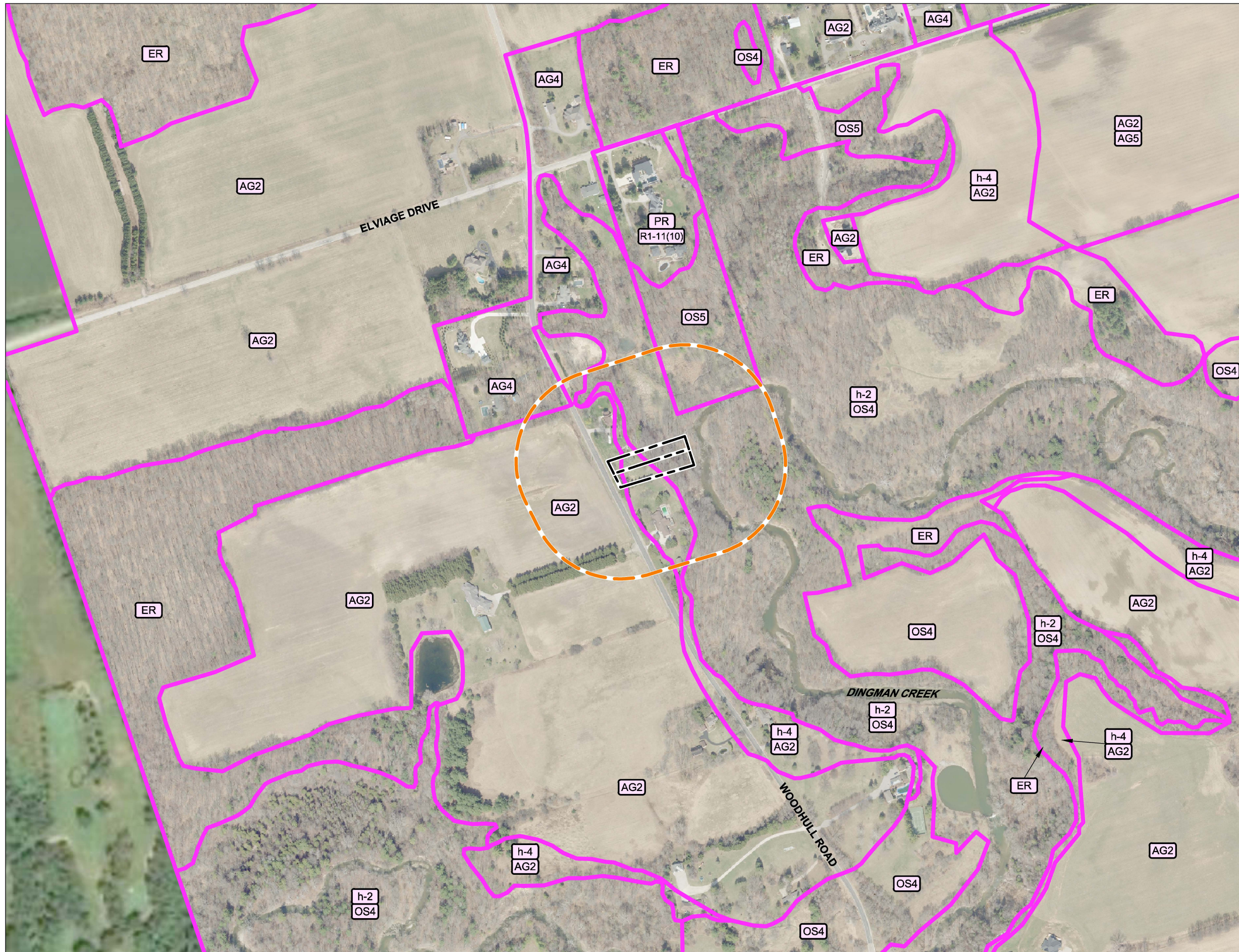


PROJECT
ENVIRONMENTAL IMPACT STUDY
 2648 WOODHULL ROAD SEVERANCE
 LONOND, ONTARIO

TITLE
PLACE TYPES

Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	48282-100
Date	June 21/22	Rev No.	0

FIGURE 3



LEGEND

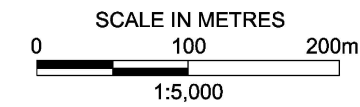
- SITE BOUNDARY
- STUDY AREA (120m Buffer from Subject Site)
- AG AGRICULTURAL ZONE
- ER ENVIRONMENTAL REVIEW ZONE
- h HOLDING ZONE PROVISION
- OS OPEN SPACE ZONE
- R RESIDENTIAL ZONE
- PR PRIVATE ROAD


REFERENCES

CITY OF LONDON OPEN DATA SET, 2021;
 CITY OF LONDON, CITY OF LONDON ZONING INTERACTIVE MAP; AND
 BING IMAGERY AS OF JUNE 21 - 2021.

NOTES

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 ALL LOCATIONS ARE APPROXIMATE.





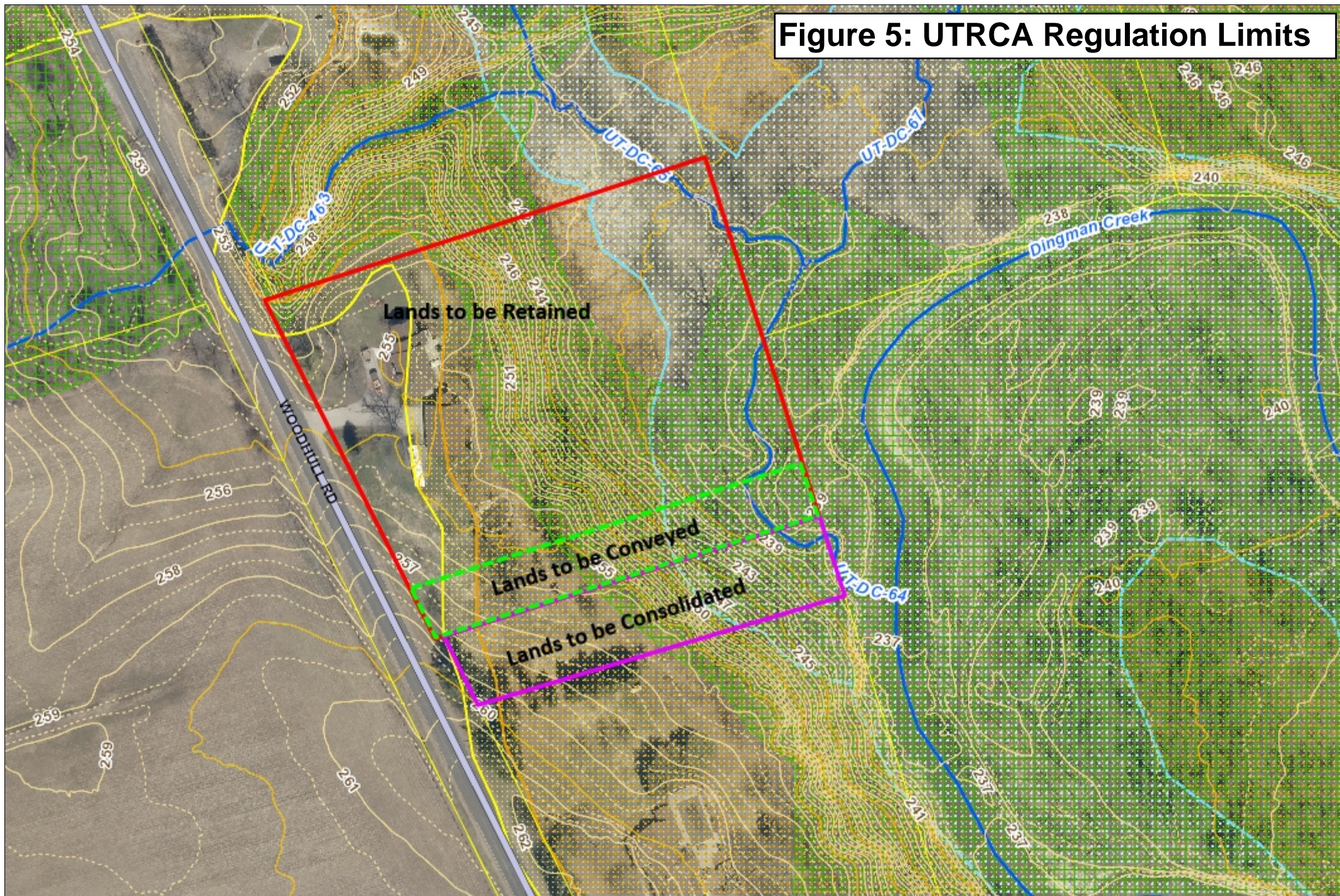
PROJECT
ENVIRONMENTAL IMPACT STUDY
 2648 WOODHULL ROAD SEVERANCE
 LONOND, ONTARIO

TITLE
ZONING

Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	48282-100
Date	June 21/22	Rev No.	0

FIGURE 4

Figure 5: UTRCA Regulation Limits



Regulation Limit

Regulation under s.28 of the Conservation Authorities Act
 Development, interference with wetlands, and alterations to shorelines and watercourses. O.Reg 157/06, 97/04.

Legend

- Assessment Parcel (MPAC)
- 0.5 m Contour (UTRCA, 2017)
 - 0.5 m
 - 1 m
 - 5 m
- Watercourse (UTRCA)
 - Open
 - Tiled
- Middlesex NHSS Woodland (2014)
 - Candidate for Ecologically Important
 - Ecologically Important
 - Significant Ecologically Important
- Wetlands (MNRF)
 - Evaluated-Provincial
 - Evaluated-Other
 - Not Evaluated
- Wetland Hazard
- Flooding Hazard
- Erosion Hazard
- Regulation Limit 2018

The Regulation Limit depicted on this map schedule is a representation of O.Reg 157/06 under O.Reg 97/04.

The Regulation Limit is a conservative estimation of the hazard lands within the UTRCA watershed. In the case of discrepancies between the mapping and the actual features on a property, the text of Ontario Regulation 157/06 prevails and the jurisdiction of the UTRCA may extend beyond areas shown on the maps.

The UTRCA disclaims explicitly any warranty, representation or guarantee as to the content, sequence, accuracy, timeliness, fitness for a particular purpose, merchantability or completeness of any of the data depicted and provided herein.

The UTRCA assumes no liability for any errors, omissions or inaccuracies in the information provided herein and further assumes no liability for any decisions made or actions taken or not taken by any person in reliance upon the information and data furnished hereunder.

This map is not a substitute for professional advice. Please contact UTRCA staff for any changes, updates and amendments to the information provided.

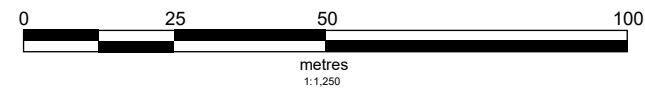
This document is not a Plan of Survey.

Sources: Base data, 2015 Aerial Photography used under licence with the Ontario Ministry of Natural Resources Copyright © Queen's Printer for Ontario; City of London.

Notes:
2598 Woodhill Road, London

Created By: SP May 1, 2021

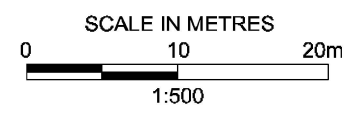
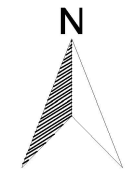
* Please note: Any reference to scale on this map is only appropriate when it is printed landscape on legal-sized (8.5" x 14") paper.





ELC NUMBER	ELC CODE	Description
1	FOD5-3	Dry-Fresh Sugar Maple-Oak Deciduous Forest (0.16ha)
2	FOD7	Fresh-Moist Lowland Deciduous Forest Ecosite (0.05ha)
3	MAM2	Mineral Meadow Marsh Ecosite (0.01ha)
R1		Undeveloped Residential Maintained Lawn

Note: Area (ha) totals are within the Subject Lands only



LEGEND

- SUBJECT LANDS
- ① VEGETATION COMMUNITY
- TOE OF SLOPE
- TOP OF SLOPE

REFERENCES

CITY OF 2021 LONDON PARCEL, ROAD AND WATER NETWORK, AND AERIAL IMAGERY, OPEN DATA SET;
 PLAN PROVIDED BY BROCK DEVELOPMENT GROUP INC. AND EXP SERVICES INC., PROJECT No. LON-21002656A0, ESTIMATED SLOPE SETBACKS, DWG No. 1, APRIL 2021.

NOTES

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PROJECT
ENVIRONMENTAL IMPACT STUDY
 2648 WOODHULL ROAD SEVERANCE
 LONDON, ONTARIO

TITLE
VEGETATION COMMUNITIES

Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	48282-100
Date	Dec 15/22	Rev No.	0

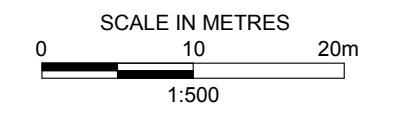
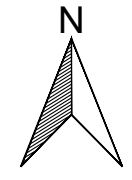
FIGURE 6

Client: Brock Development Group, Inc.
 Plot Date: 22 December 2021 10:42:24
 CAD: P:\48282\100\2_PROD\48282-100-R03 ENVIRONMENTAL IMPACT STUDY\48282-100-R030007.DWG
 Original Format in Tabloid (279mm x 432mm; 11" x 17")
 25mm
 0



ELC NUMBER	ELC CODE	Description
1	FOD5-3	Dry-Fresh Sugar Maple-Oak Deciduous Forest (0.16ha)
2	FOD7	Fresh-Moist Lowland Deciduous Forest Ecosite (0.05ha)
3	MAM2	Mineral Meadow Marsh Ecosite (0.01ha)
R1		Undeveloped Residential Maintained Lawn

Note: Area (ha) totals are within the Subject Lands only



LEGEND


- SUBJECT LANDS
- ① VEGETATION COMMUNITY
- TOE OF SLOPE
- TOP OF SLOPE
- CANDIDATE SNAKE HIBERNACULUM
- ESA BOUNDARY (London Plan Map 5)
- SIGNIFICANT VALLEYLAND (London Plan Map 5)
- SIGNIFICANT WOODLAND / NEW ESA BOUNDARY

REFERENCES

CITY OF 2021 LONDON PARCEL, ROAD AND WATER NETWORK, AND AERIAL IMAGERY, OPEN DATA SET;
 PLAN PROVIDED BY BROCK DEVELOPMENT GROUP INC.;
 EXP SERVICES INC., PROJECT No. LON-21002656A0, ESTIMATED SLOPE SETBACKS, DWG No. 1, APRIL 2021; AND
 CITY OF LONDON, MAP 5 - NATURAL HERITAGE, MAY 28 - 2021.

NOTES

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MTE
Engineers, Scientists, Surveyors

PROJECT
ENVIRONMENTAL IMPACT STUDY
 2648 WOODHULL ROAD SEVERANCE
 LONOND, ONTARIO

TITLE
SIGNIFICANT NATURAL HERITAGE FEATURES AND KEY FINDINGS

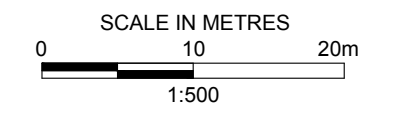
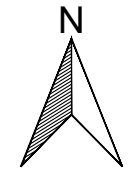
Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	48282-100
Date	Dec 22/22	Rev No.	0

FIGURE 7



ELC NUMBER	ELC CODE	Description
1	FOD5-3	Dry-Fresh Sugar Maple-Oak Deciduous Forest (0.16ha)
2	FOD7	Fresh-Moist Lowland Deciduous Forest Ecosite (0.05ha)
3	MAM2	Mineral Meadow Marsh Ecosite (0.01ha)
R1		Undeveloped Residential Maintained Lawn

Note: Area (ha) totals are within the Subject Lands only



LEGEND

- SUBJECT LANDS
- VEGETATION COMMUNITY
- TOE OF SLOPE
- TOP OF SLOPE
- EROSION HAZARD LIMIT
- CANDIDATE SNAKE HIBERNACULUM
- ESA BOUNDARY (London Plan Map 5)
- SIGNIFICANT VALLEYLAND (London Plan Map 5)
- SIGNIFICANT WOODLAND / NEW ESA BOUNDARY

REFERENCES

CITY OF 2021 LONDON PARCEL, ROAD AND WATER NETWORK, AND AERIAL IMAGERY, OPEN DATA SET;
 PLAN PROVIDED BY BROCK DEVELOPMENT GROUP INC., AUTOCAD FILE "Consent Sketch - w Footprint_Updated.dwg", PROVIDED NOVEMBER 4 - 2022;
 EXP SERVICES INC., PROJECT No. LON-21002656A0, ESTIMATED SLOPE SETBACKS, DWG No. 1, APRIL 2021; AND
 CITY OF LONDON, MAP 5 - NATURAL HERITAGE, MAY 28 - 2021.

NOTES

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PROJECT
ENVIRONMENTAL IMPACT STUDY
 2648 WOODHULL ROAD SEVERANCE
 LONOND, ONTARIO

TITLE
DEVELOPMENT OVERLAY

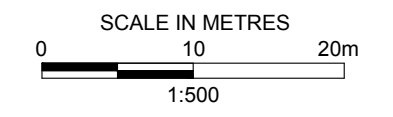
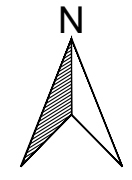
Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	48282-100
Date	Dec 22/22	Rev No.	0

FIGURE 9



ELC NUMBER	ELC CODE	Description
1	FOD5-3	Dry-Fresh Sugar Maple-Oak Deciduous Forest (0.16ha)
2	FOD7	Fresh-Moist Lowland Deciduous Forest Ecosite (0.05ha)
3	MAM2	Mineral Meadow Marsh Ecosite (0.01ha)
R1		Undeveloped Residential Maintained Lawn

Note: Area (ha) totals are within the Subject Lands only



LEGEND


- SUBJECT LANDS
- ① VEGETATION COMMUNITY
- TOE OF SLOPE
- TOP OF SLOPE
- EROSION HAZARD LIMIT
- S CANDIDATE SNAKE HIBERNACULUM
- ESA BOUNDARY (London Plan Map 5)
- SIGNIFICANT VALLEYLAND (London Plan Map 5)
- SIGNIFICANT WOODLAND / NEW ESA BOUNDARY
- NATURALIZATION AREA (0.01ha)

REFERENCES

CITY OF 2021 LONDON PARCEL, ROAD AND WATER NETWORK, AND AERIAL IMAGERY, OPEN DATA SET; PLAN PROVIDED BY BROCK DEVELOPMENT GROUP INC., AUTOCAD FILE "Consent Sketch - w Footprint_Updated.dwg", PROVIDED NOVEMBER 4 - 2022; EXP SERVICES INC., PROJECT No. LON-21002656A0, ESTIMATED SLOPE SETBACKS, DWG No. 1, APRIL 2021; AND CITY OF LONDON, MAP 5 - NATURAL HERITAGE, MAY 28 - 2021.

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PROJECT
ENVIRONMENTAL IMPACT STUDY
 2648 WOODHULL ROAD SEVERANCE
 LONOND, ONTARIO

TITLE
MITIGATION MEASURES

Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	48282-100
Date	Dec 22/22	Rev No.	0

FIGURE 10

Appendix A

Record of Pre-Application Consultation and Approved Scoping Checklist



RECORD OF PRE-APPLICATION CONSULTATION

The following form is to be completed and signed off at/following the Pre-application Consultation Meeting (PACM).

Date: May 31, 2022

TO: Michelle Doornbosch

FROM: Esha Biddanda Pavan

RE: 2624 and 2598 Woodhull Road

ATTENDEES: Esha Biddanda Pavan, Planner I – Planning Implementation, Planning and Development, City of London
Michelle Doornbosch, Partner – Brock Development Group Inc.

PLANNING APPLICATION TEAM: Esha Biddanda-Pavan (ebiddanda-pavan@london.ca); Yuri Langlois, Urban Designer (ylanglois@london.ca); Paul Di Losa, Senior Technologist (pdilosa@london.ca); Michael Pease, Manager, Site Plans (mpease@london.ca); Laura Dent, Heritage Planner (ldent@london.ca); Lisa McNiven, Landscape Architect (lmcniven@london.ca); Craig Smith, Senior Planner (crsmith@london.ca); Shane Butnari, Ecologist (sbutnari@london.ca);

City staff reviewed your Proposal Summary submitted May 10, 2022, at an Internal Review Meeting on May 26, 2022. The following form summarizes a preliminary list of issues to be considered during the processing of your application. We have also identified the initial material submissions (Studies, Reports, Background, or Information) that must be submitted along with the completed application form, required fees and this Record of Pre-Application Consultation Form before your application will be accepted as complete for opening and processing.

Proposed Development

- London Plan Place Type: Farmland and Greenspace Place Types
- Current Zone: Agricultural (AG2); Holding Provision Agricultural (h-4 AG2); Holding Provision Open Space (h-2 OS4)
- Proposal: Zoning By-law Amendment to sever a portion of 2598 Woodhull Road and consolidate it with 2624 Woodhull Road to create a larger parcel; Add 'single detached dwelling' to the list of permitted uses on the property.

Major Issues Identified

- The Farmland Place Type contemplates a broad range of agricultural uses and agriculture-related uses.
- Residential uses on existing lots of record that do not meet the minimum 40ha parcel size and are under separate ownership from abutting parcels may be permitted, subject to a zoning by-law amendment.
- Although the creation of new non-farm residential lots outside of the Urban Growth Boundary is prohibited, adjustments to lot boundaries may be permitted provided that:
 - the conveyance does not lead to the creation of an undersized or irregularly shaped lots,
 - the lands being conveyed will be registered in the same name and title as the lands to which they are being added.

- Within the AG2 zone, permitted uses include a range of agricultural and agriculture-related uses.
- The OS4 zone is applied to lands that have physical or environmental constraints to development. The zone variation limits development to low impact recreational facilities that do not include structures or buildings.
- The holding provisions are to assess the impacts of any proposed developments and identify measures to avoid slope instability hazards and prevent negative impacts on the natural heritage features. Permitted interim uses include existing uses on site.
- MDS Calculations: Any proposed planning and development application within a Rural Neighbourhoods Place Type shall meet the required Minimum Distance Separation (MDS I) policies. Applications that would result in a development that imposes operating constraints on a livestock facility will be refused.
- #10 MDS Implementation Guideline: An MDS I setback is required for all proposed amendments to rezone or redesignate land to permit development in prime agricultural areas and rural lands presently zoned or designated for agricultural use.

Site Plan

- Site Plan Application not required for dwellings outside of the Urban Growth Boundary.

Urban Design

- Provide a full set of dimensioned elevations for all sides of the proposed building with materials and colors labelled. Further urban design comments may follow upon receipt of the elevations.

Heritage

- Major issues identified
Archaeological potential at 2598 and 2624 Woodhull Road is identified on the City's Archaeological Mapping.
- Archaeological Assessment Stage 1-2– severed portion of 2598 Woodhull Road and full 2624 Woodhull Road
 - The following should be submitted for review by City heritage planning staff:
 - both a hard copy and digital format of archaeological reports
 - Ministry of Heritage, Sport, Tourism, and Culture Industries compliance letter

If an archaeological assessment has already been completed and received a compliance letter from the Ministry, the compliance letter along with the assessment report may be submitted for review to ensure they meet municipal requirements.

Landscape Architecture

- The City's Consolidated Tree Protection By-law requires that a permit be obtained in order to injure or destroy trees in a "Tree Protection Area," or "Distinctive trees" [50cm+dbh]. "Injure" includes harming, damaging or impairing the roots within the "Critical Root Zone," root excavation. The "Critical Root Zone" is the area of land within a radius of 10 cm from the trunk of a tree for every 1 cm of trunk diameter.

- Therefore, no tree removals shall take place on the subject property prior to Site Plan Approval. This includes the eastern portion of the site that lies in a Tree Protection Area [TPA], Tree Protection By-law - C.P.-1515-228
<https://www.london.ca/city-hall/by-laws/Documents/TreeProtect.pdf>.
- The applicant will need to provide to the city a survey and inventory trees growing along the south property line and in the Woodhull Road allowance that illustrates their calculated critical root zones. This is required to:
 - establish the ownership of trees growing along property lines including the identification of boundary trees that are protected by the province's Forestry Act 1998, c. 18, Sched. I, s. 21. It is the responsibility of the developer to adhere to the Forestry Act legislation and to resolve any tree ownership issues or disputes.
 - Identify critical root zones of boundary trees and those up to 3m outside of property lines, refer to table below. This information is used to determine setbacks required to minimally impact boundary and offsite trees. Critical Root Zone" means the area of land within a radius of ten (10) cm from the trunk of a tree for every one (1) cm of trunk diameter
 - Identify City Owned trees and shrubs that require consent to injure or remove. To request the removal of a city tree or to request consent to damage the root system of a City tree, contact Forestry Dispatcher at trees@london.ca. No person shall cause the injury or destruction of a city owned tree growing in a road boulevard unless a permit has been issued by Forestry Operations in compliance with the City of London Boulevard Tree Protection By-law - CP-22
<https://london.ca/by-laws/boulevard-tree-protection-law-cp-22>.

Ecology

- Major issues identified
 - Natural Heritage Features on, or adjacent to the site have been identified on Map 5 of the London Plan or based on current aerial photo interpretation, including, but not limited to, Environmentally Significant Area, Potential Environmentally Significant Area, Significant Valleyland, Unevaluated Wetlands, Fish Habitat, and Vegetation Patch Greater Than 0.5 Ha.
 - The site falls within the Upper Thames Conservation Authority Regulation Limit and is subject to the *Conservation Authorities Act*. The proponent is encouraged to reach out to UTRCA to determine if permits are required.
 - Minimum buffers (likely 30m) to the adjacent natural heritage features will be difficult to accommodate with the proposed development.
- Subject Land Status Report / Environmental Impact Study – entire property
 - The proponent shall retain a consultant ecologist to carry out an assessment on the entire property at 2624 and 2598 Woodull Road, and the natural features on adjacent properties to the extent possible. The proponent shall follow through on recommendations to mitigate adverse impacts to any significant environmental features and functions that are found.
 - The SLSR/EIS must be completed in accordance with provincial guidelines and standards, including the Provincial Policy Statement, Natural Heritage Reference Manual, the London Plan and the Environmental Management Guidelines (2021).

Notes

- A scoping meeting shall be held between the proponent and a City Ecologist to review and confirm the study scope. A site visit may be requested in support of application review.

- The proponent and/or their consultant is required to complete the Environmental Impact Study Issues Scoping Checklist as a draft for submission to the City in advance of the scoping meeting. Once all comments regarding the draft Checklist have been received and finalized the City of London will send written approval (e-mail or letter).
- No disturbance arising from demolition, construction, or any other activity shall take place on the property prior to Development Services receiving and approving the EIS to ensure that all technical requirements have been satisfied.
- It is an offence under Section 10(1) of the *Endangered Species Act* to damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario list as an Endangered or Threatened species.
- An Environmental Management Plan should be developed prior to issuance of contract drawings where the mitigation measures are tailored to site
- The Clean Equipment Protocol for Industry, a Spill Response Plan, an Invasive Species Management Plan and a Species at Risk and Wildlife Handling Protocol should be included as part of the Environmental Management Plan.
- The adjacent lands may not be used as construction staging areas throughout the duration of the project.
- Avoid tree removal within the active bat roosting period (April 30 – September 1) to reduce potential interactions with Endangered bat species, to avoid contravention of the *Endangered Species Act*.
- Avoid vegetation removal within the active breeding bird period (April 1 – August 30) to avoid disturbing nesting birds and contravening the *Migratory Bird Convention Act*

Parks

- Parkland dedication is required in the form of cash in lieu, pursuant to By-law CP-9 and will be finalized at the time of the Consent application.

Engineering

Wastewater:

- There is no sanitary sewer available, and the lands are outside of the UGB.

Water:

- There is no municipal water for the subject sites.

Stormwater:

Specific comment for this site:

- The site is within the Area of UTRCA and therefore the applicant is to engage as early as possible with UTRCA to confirm any requirements/approvals for this site.
- There is no municipal storm sewer or outlet available for this site and therefore the consultant is required to provide a SWM functional report indicating how the site is proposed to be serviced as part of the re-zoning application (e.g. on-site controls, LID, etc.).
- As per the Drainage By-Law, section 5.2, where no storm sewer is accessible the applicant shall provide a dry well or storm water retention system which is certified by a Professional Engineer to the satisfaction of the City Engineer.
- The owner is required to provide a lot grading plan for stormwater flows and major overland flows on site and ensure that stormwater flows are self-

contained on site, up to the 100 year event and safely conveys up to the 250 year storm event, all to be designed by a Professional Engineer for review.

- Additional SWM related comments will be provided upon future review of this site.

General comments for sites within Dingman Creek Subwatershed:

- The subject lands are located in the Dingman Subwatershed. The Owner shall provide a Storm/Drainage Servicing Report demonstrating compliance with the SWM criteria and environmental targets identified in the Dingman Subwatershed Study that may include but not be limited to, runoff volume control, quantity/quality control (80% TSS), erosion, stream morphology, etc.
- The Owner agrees to promote the implementation of SWM Best Management Practices (BMP's) within the plan, including Low Impact Development (LID) where possible, to the satisfaction of the City Engineer.
- The owner is required to provide a lot grading plan for stormwater flows and major overland flows on site and ensure that stormwater flows are self-contained on site, up to the 100 year event and safely conveys up to the 250 year storm event, all to be designed by a Professional Engineer for review.
- The Owner shall allow for conveyance of overland flows from external drainage areas that naturally drain by topography through the subject lands.
- Stormwater run-off from the subject lands shall not cause any adverse effects to adjacent or downstream lands.
- An erosion/sediment control plan that will identify all erosion and sediment control measures for the subject site shall be prepared to the specification and satisfaction of the City Engineer and shall be in accordance with City of London and MECP (formerly MOECC) standards and requirements. This plan is to include measures to be used during all phases of construction. These measures shall be identified in the Storm/Drainage Servicing Report.

Transportation:

- Right-of-way dedication of 18.0 m from the centre line be required along Woodhull Rd.
- Detailed comments regarding access design and location will be made through the Consent application process.

Studies, Reports, Background, or Information to be completed and submitted with the application form

- Zoning By-law Amendment Application and Fee
- Planning Justification Report
- Proposed Severance Sketch
- Survey and Inventory of Trees
- Archaeological Assessment Stage 1-2
- Geotechnical Assessment
- MDS I Calculations
- Zoning Review Data Sheet (attached for completion by applicant)
- Images for on-site signs
- Electronic copies of all supporting background information (USB)
- All background reports and drawings are required to meet the Accessibility for Ontarians with Disabilities Web Content Accessibility Guidelines (AODA WCAG 2.0 AA) regulations. See application form for more detail.

PRE-APPLICATION CONSULTATION HAS OCCURRED

PLANNER: _____

PROPONENT: _____

DATE: 31 May 2022

Disclaimer

The pre-application consultation process is intended to identify issues early in the process and to identify the reports, studies and information required to be submitted as part of a complete application. A complete application enables Council to make informed decisions within a reasonable period of time and ensures that the public and other stakeholders have access to the relevant information early in the process. While every effort has been made to identify information needs at this stage, additional issues and/or information needs may be identified through the application review process and may be requested at that time. Should a formal submission of an application not materialize within 9 months, a subsequent Pre-Application Consultation Meeting (PACM) will be required.

Council adopted *The London Plan*, the City's new Official Plan for the City, on June 23, 2016. It is not yet in force and effect, but should it come into force and effect before you submit your complete application, City staff may identify additional complete application requirements at the time of application submission in order to comply with *The London Plan* policies.

DRAFT

ZONING DATA SHEET – ZONING BY-LAW AMENDMENT

To be completed by Applicant as part of Complete Application

File No.

Description of Land		
Municipal street address:		
Legal Description:		
Street Frontage / Street Flankage (name):		
Existing Zone(s) in Z.-1 Zoning By-law:		Proposed Zone(s) in Zoning By-law:
BY-LAW RESTRICTIONS	REQUIRED (PROPOSED ZONE)	AS SHOWN ON PLAN
(a) Use		
(b) Lot Area (m ²) Min		
(c) Lot Frontage (m) Min		
(d) Front Yard Depth (m) Main Building/Garage (m) Min		
(e) Rear Yard Depth (m) Min		
(f) Interior Yard Depth (m) Min		
(g) Interior Yard Depth (m) Min		
(h) Exterior Yard Depth (m) Min		
(i) Lot Coverage (%) Max		
(j) Landscaped Open Space (% Min)		
(k) Height (m) Max		
(l) Off-street Parking Min (rate/number)		
(m) Bicycle Parking Min (rate/number)		
(n) Parking Area Coverage (%) Max		
(o) Parking Set Back Min		
(p) Gross Floor Area (m ²) Max		
(q) Gross Floor Area For Specific Uses (m ²) Max		
(r) Yard Encroachments (if applicable)		
(s) Density Max (rate/number) (see Section 3.4 1) for mixed-use)		
(t) Special Provisions		
(u) Other By-law Regulations		
COMMENTS		
<p>NOTE:</p> <ul style="list-style-type: none"> • Please be sure to carefully review and include data / details related to: <ul style="list-style-type: none"> - General Provisions (Section 4) of the Zoning By-law - Zones and Zone Symbols (Section 3) of the Zoning By-law - Regulations Section and Table for Proposed Zone - Zoning By-law Definitions • The Applicant is responsible for submitting complete & accurate information on the Zoning Data Sheet and associated plans. • Failure to provide complete & accurate information on the Zoning Data Sheet and associated plans will result in processing delays and may require the submission of a revised Zoning By-law amendment application. 		

Environmental Study Scoping Checklist

Application/Project Name: (48282-100) Woodhull Road Severance
Proponent: Brock Development Group Inc. Date: July 6, 2022
Proposed Project Works: Sever 2598 Woodhull Rd, consolidate w 2624, build 1 home
Study Type: EIS
Lead Consultant: MTE Consultants
Key Contact: Allie Leadbetter
Subconsultants:

Technical Review Team:

<input checked="" type="checkbox"/> Ecologist Planner: Shane Butnari Michelle Doornbosch	<input type="checkbox"/> Province – Species at Risk: _____
<input checked="" type="checkbox"/> Planner for the File: _____	<input type="checkbox"/> Province - Other: _____
<input checked="" type="checkbox"/> Conservation Authority: UTRCA	Contact: Stefanie Pratt
<input checked="" type="checkbox"/> EEPAC: Review by Sandy Levin	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Project Manager, Environmental Assessment: _____	
<input type="checkbox"/> First Nation(s): _____	

Subject Lands and Study Area:

Location/Address and Size (ha) of Subject Lands:
2598 and 2624 Woodhull Road, London, ON - Approximately 0.4 ha

Study Area Size (approximate ha): 8.3 ha Map (attached): _____

Position of Site in Subwatershed: Dingman Creek Subwatershed

Tributary Fact Sheet: _____

Is the proposed location within the vicinity of the Thames River (<120 m)? Yes No

If Yes, initiate engagement with local First Nation communities. Consultation activity to be provided at Application Review stage.

Policy:

- Study must demonstrate how it conforms to the Provincial Policy Statement
- Study must demonstrate how it conforms to *The London Plan*

Map 1 Place Types:

- Green Space
- Environmental Review

Other Place Types: Farmland

Map 4 Active Mobility Network:

Pathway placement and future trail accesses shall be considered as part of this study.

Map 5 Natural Heritage System:

(Subject Lands and Study Area delineated on current aerial photographs)

- | | |
|--|---|
| <input type="checkbox"/> Provincially Significant Wetland | Name: _____ |
| <input type="checkbox"/> Wetlands | <input checked="" type="checkbox"/> Unevaluated Wetlands* |
| <input type="checkbox"/> Area of Natural & Scientific Interest | Name: _____ |
| <input checked="" type="checkbox"/> Environmentally Significant Area | Name: <u>Delaware East Woodland ESA</u> |
| <input checked="" type="checkbox"/> Potential ESAs | <input type="checkbox"/> Upland Corridors |
| <input type="checkbox"/> Significant Woodlands | <input type="checkbox"/> Woodlands |
| <input checked="" type="checkbox"/> Significant Valleylands | <input type="checkbox"/> Valleylands |
| <input type="checkbox"/> Unevaluated Vegetation Patches | <input type="checkbox"/> Potential Naturalization Areas |

Patch No. 10003

** ELC (air photo interpretation and / or previous studies) may identify potential wetlands or other potential features not captured on Map 5.*

Map 6 Hazards and Natural Resources:

Maximum Hazard Line Conservation Authority Regulation Limit (and text based regulatory limit) – Project falls under *Conservation Authority Act* Section 28

Required Field Investigations:

Aquatic:

- Aquatic Habitat Assessment: _____
- Fish Community (Collection): _____
- Spawning Surveys: _____
- Benthic Invertebrate Survey: _____
- Mussels: _____
- Other: _____

Wetlands:

- Wetland Delineation: Delineate if present.
- Wetland Evaluation (OWES): _____
- Other: _____

Terrestrial (Wetland, Upland and Lowland):

- Vegetation Communities (ELC): (Lee et al., 1998) - Oct. 2020
- Botanical Inventories Winter Spring Summer Fall
- Breeding Bird Surveys (type & frequency): 2 visits (Cadman et al., 2007)
- Raptor Surveys: _____ Shoreline Birds: _____
- Crepuscular Surveys: _____ Grassland Surveys: _____
- Amphibian Surveys (type & frequency): _____
- Reptile Surveys:
 - Turtle (type & frequency): _____
 - Snake (type & frequency): Incidental
 - Other (type & frequency): _____
- Bat Habitat, Cavity & Acoustic Surveys: General habitat survey
- Mammal Surveys: Incidental
 - Winter Wildlife Surveys: _____
- Butterflies (Lepidoptera): _____
- Dragonflies / Damselflies (Odonata): _____
- Species at Risk Specific Surveys: _____
- Species of Conservation Concern Surveys: _____
- Significant Wildlife Habitat Surveys: Included in general habitat assessment
- Other field investigations: _____

June 11, 2022

Supporting Concurrent Studies/Investigations:

- Hydrogeological/Groundwater: _____
- Surface Water/Hydrology: _____
- Water Balance: _____
- Fluvial Geomorphological: _____
- Geotechnical: Slope Stability and Geotechnical Assessment (EXP, 2021)
- Tree Inventory: To be completed.
- Other: _____

Evaluation of Significance:

Federal:

- Fish Habitat Other Federal: _____
- Species at Risk (SARA)

Provincial:

- Provincially Significant Wetlands
- Significant Woodlands
- Significant Valleylands
- Significant Wildlife Habitat Ecoregion 7E
- Areas of Natural & Scientific Interest
- Fish Habitat
- Water Resource Systems Dingman Creek (Adjacent Lands), SGRA/HVA
- Species at Risk (ESA): _____

Municipal/London:

- Environmentally Significant Areas (ESAs), Potential ESAs
- Significant Woodlands, Woodlands Evaluate if not assumed
- Significant Valleylands, Valleylands Associated with Dingman Creek
- Wetlands, Unevaluated Wetlands NE Unevaluated Wetland
- Significant Wildlife Habitat
- Unevaluated Vegetation Patches
- Other Vegetation Patches >0.5 ha
- Potential Naturalization Area
- Other: _____

Impact Assessment:

- Impact Assessment Required
- Net Effects Table Required

Environmental Management Recommendations:

- Environmental Management Plan: Can be included in the EIS if clear section
- Specifications & Conditions of Approval: _____
- Other: _____

Environmental Monitoring:

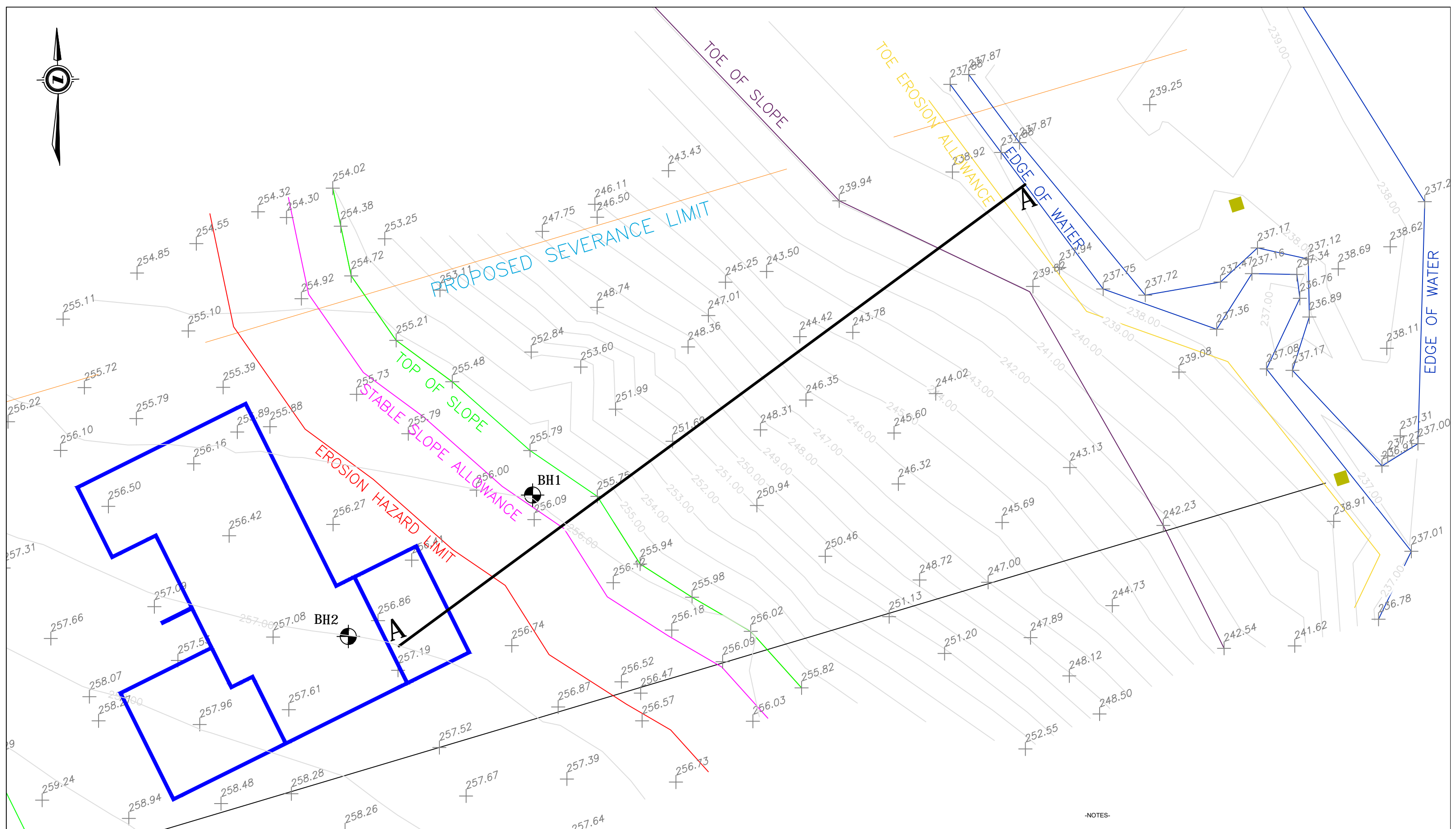
- Baseline Monitoring: _____
- Construction Monitoring: _____
- Post-Construction Monitoring: _____

Additional Requirements and Notes:

- Features and habitat on adjacent lands will be viewed from the subject property only.
- The EIS must be completed in accordance with provincial guidelines and standards, including the Provincial Policy Statement, Natural Heritage Reference Manual, the London Plan and the Environmental Management Guidelines (2021)
- The Clean Equipment Protocol for Industry, a Spill Response Plan, an Invasive Species Management Plan and a Species at Risk and Wildlife Handling Protocol should be included as part of the Environmental Management Plan
- City's main concern is the buffer requirements as recommended in the EMG and determined through the EIS process
- Meeting minimum recommended EIS buffers for the woodland (EMGs, 2021) is unlikely to be viable due to the small size of the property. Reduced buffers and/or alternate compensation will need to be discussed and supported in the EIS.
- Natural heritage buffers are requested by the City to be rezoned OS5
- Monuments are requested by the City to act as a physical marker at the edge of the OS5 line

Appendix B

Geotechnical Study and Slope Stability Figure



-NOTES-

1. The boundaries and soil types have been established only at test locations. Between test locations they are assumed and may be subject to considerable error. 2. Soil samples were retained in storage for 3 months and then destroyed unless client advises that an extended time period is required. 3. Test results should not be estimated from the information provided at the test locations. 4. The site should be read in conjunction with EXP Geotechnical Report LON-21002656-AO. 5. The geotechnical engineering provided by Coburn-Dietrich Inc.	CLIENT Brock Development Group Inc.	
	PROJECT 2624 Woodhull Road, LONDON, ON	
	TITLE ESTIM - TED SLOPE SETB-CK5	
	PREPARED BY EXP Services Inc. 15701 Robin's Hill Road, London, Ontario N5V 0-5	
	DATE April 2021	
SCALE 1:250	PROJECT NO. LON-21002656-0	DWG NO. 1

LEGEND

- BH1 Approximate Borehole Location
- Top of Slope
- Toe of Slope
- Approximate Stable Slope Allowance, 2.0H:1V
- Approximate Erosion Hazard Limit
- TOE EROSION ALLOWANCE

Appendix C

SAR and SOCC Habitat Screening

Threatened or Endangered Species

Common Name	Scientific Name	SARO	Source	Habitat Requirements ² and Range	Potential for SAR and SAR Habitat on Subject Lands	Rationale
Plants						
American Chestnut	<i>Castanea dentata</i>	END	NHIC	Typically, habitat is upland deciduous forests on moist to well drained, sandy acidic soils. Occasionally occurs on heavy soils. Range: Restricted primarily to southwestern Ontario between Lakes Erie and Huron. (7E)	No.	American Chestnut was not identified during three-season floral inventory. site investigations.
Blue Ash	<i>Fraxinus quadrangulata</i>	THR	NHIC	Found on rich floodplains and river valleys, shallow soils on alvar and limestone on the Lake Erie Islands, and stabilized beaches at Point Pelee. Range: Restricted distribution in the Carolinian forests of southwestern Ontario. (7E(1,2))	No.	Blue Ash was not identified during three-season floral inventory.
Butternut	<i>Juglans cinerea</i>	END	Under-represented.	Usually found alone or in small groups in deciduous forests with moist, well-drained soils. Often occurs along streams. Butternut require sunny conditions and therefore are often found in canopy openings or near forest edges.	No.	Butternut was not identified during three-season floral inventory.
Dense Blazing Star	<i>Liatris spicata</i>	THR	iNaturalist, 2019	Grows in moist prairies, grassland savannahs, wet areas between sand dunes, and abandoned fields. Historical habitat is open tallgrass prairies. Can grow in a range of moisture regimes from dry to very moist. Range: Restricted to southwestern Ontario; 90% of native plants are found at Walpole Island First Nation (WIFN). Ten other extant populations exist, the largest being in Windsor.	No.	Dense Blazing Star was not identified during three-season floral inventory.
Eastern Flowering Dogwood	<i>Cornus florida</i>	END	NHIC	Understory tree or on edges of mid-age to mature deciduous or mixed forests, floodplains, slopes, bluffs, ravines, and sometimes along roadsides or fencerows. Often found clustered in the drier areas of its habitat. Range: Only found in the Carolinian Zone of southern Ontario – specifically in Oakville,	No.	Eastern Flowering Dogwood was not identified during three-season floral inventory.

Common Name	Scientific Name	SARO	Source	Habitat Requirements ² and Range	Potential for SAR and SAR Habitat on Subject Lands	Rationale
				along the Niagara Escarpment through Halton to Hamilton, Niagara Region, and plentiful in Norfolk County.		
Birds						
Bank Swallow	<i>Riparia riparia</i>	THR	OBBA, 2005; eBird, 2019;	Nest in natural and artificial settings where there are vertical faces in silt and sand deposits. Many found along rivers and lakes, but also in active sand and gravel pits. Range: Found across southern Ontario, sparse in northern Ontario. Largest populations found along Lake Erie and Lake Ontario shorelines, and along the Saugeen River.	No.	No steep vertical slopes with exposed silt or sand. Not identified during breeding bird surveys.
Barn Swallow	<i>Hirundo rustica</i>	THR	OBBA, 2005; eBird 2022	Barn Swallows are typically found nesting in close association with human rural settlements, such as in old sheds, barns, and under bridges or culverts. This species forages for aerial insects in open habitats including grassy fields, pastures, agricultural fields and farms, lake and river shorelines, wetlands, and clearings. Range: Throughout southern Ontario and as far north as Hudson Bay.	No.	No old barns, sheds, bridges, or culverts present. Species or nests not identified during breeding bird surveys.
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	OBBA, 2005; NHIC	Found in large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields, marshes. Grasslands size requirements have been reported to range from 5 ha to 50 ha depending on the study (MNR, n.d.). Range: Widely distributed throughout most of the province south of the boreal forest. May be found in the north where suitable habitat exists.	No.	No expansive grasslands present in the Subject Lands. Not identified during breeding bird surveys.

Common Name	Scientific Name	SARO	Source	Habitat Requirements ² and Range	Potential for SAR and SAR Habitat on Subject Lands	Rationale
Chimney Swift	<i>Chaetura pelagica</i>	THR	OBBA, 2005	Found in urban and rural areas near buildings. Nest and roosts in hollow trees, crevices of rock cliffs, and unlined chimneys. Suitable sites are reused annually. Range: Estimated 7500 breeding individuals in Ontario; most widely distributed in the Carolinian south and southwest. (2W, 3E, 3W,3S,4E,4W,4S,5E,5S,6E,7E).	No.	No suitable nesting habitat on the Subject Lands. Not identified during breeding bird surveys.
Eastern Meadowlark	<i>Sturnella magna</i>	THR	OBBA, 2005; NHIC	Breeds mostly in moderately tall grasslands (native prairies and savannahs), also pastures, hayfields, herbaceous fencerows, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Eastern Meadowlarks may not be strongly area-sensitive (McCracken et al. 2013), however large tracts of grasslands (5 ha or greater) are preferred over smaller fragments (Herkert 1991, Vickery et al. 1994). Range: Primarily found south of the Canadian Shield, but also inhabits Lake Nipissing, Timiskaming, and Lake of Woods areas. (3E, 4E, 5E, 5S, 6E, 7E).	No.	No tall grasslands present on the Subject Lands. Not identified during breeding bird surveys.
Golden Eagle	<i>Aquila chrysaetos</i>	END	iNaturalist, 2021	Found in wild, arid plateaus, deeply cut by streams and canyons, or sparsely treed slopes and rock cages. Hunts near open areas like bogs or tundra. Range: Can be encountered anywhere during migration, but frequently seen migrating west along Lake Ontario and Erie in November. Breeding eagles presently known only from Hudson Bay Lowland. Estimated 10-20 pairs in the province.	Low.	Potential stopover during migration on slope on Adjacent Lands. No suitable breeding habitat. Not identified during breeding bird surveys.
Least Bittern	<i>Ixobrychus exilis</i>	THR	OBBA, 2005	Found in deep marshes, swamps, bogs; marshy borders of lakes, ponds, streams, ditches; dense emergent vegetation of	No.	No dense emergent vegetated wetlands present on Subject

Common Name	Scientific Name	SARO	Source	Habitat Requirements ² and Range	Potential for SAR and SAR Habitat on Subject Lands	Rationale
				cattails, bulrush, and sedges. Nests in primarily in cattails, 10m from open water. Range: Majority of the 1500 Canadian pairs found south of the Canadian Shield in central, eastern, and southern Ontario. (4E, 5E, 5S, 6E, 7E).		Lands. Not identified during breeding bird surveys.
Louisiana Waterthrush	<i>Parkesia motacilla</i>	THR	OBBA, 2005	Found in steep, forested ravines with fast-flowing streams. Prefers running water, especially clear, coldwater streams. Less frequently found in heavily wooded, deciduous swamps with large pools of open water. Nests on ground. Range: Breeds only in southern Ontario, along Niagara Escarpment, woodlands along Lake Erie, and other scattered locations. (5E(11), 6E(1,2,5,6,9,10,22), 7E).	No.	Steep forested ravine present, but suitable habitat mostly present in Adjacent Lands. Not identified during breeding bird surveys.
Yellow-breasted chat	<i>Icteria virens</i>	END	NHIC, 2022	Lives in thickets and scrub, especially areas where clearings have become overgrown. Nests above ground in bush, vine, etc. Range: Southwestern Ontario populations concentrated in Point Pelee and Pelee Island in Lake Erie. (6E(1,5,9,10,15), 7E)	No.	No overgrown clearings found within the Subject Lands. Species not identified during breeding bird surveys.
Fish						
Eastern Sand Darter	<i>Ammocrypta pellucida</i>	END	NHIC, 2022	Prefers shallow habitats in lakes, streams, and rivers with clean, sandy bottoms.	No.	Found in the nearby Thames River. No suitable habitat within the Subject Lands.
Lake Sturgeon (Great Lakes – Upper St. Lawrence River Population)	<i>Acipenser fulvescens</i>	END	NHIC, 2022	The distribution of this species spans four freshwater biogeographic zones and six terrestrial ecozones. Lake Sturgeon live almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel. Spawning habitat is fast-moving water found at base of falls, rapids, or dams with gravel and boulders at bottom. The range of this population includes the Great	No.	Watercourse on Subject Lands cannot support Lake Sturgeon habitat.

Common Name	Scientific Name	SARO	Source	Habitat Requirements ² and Range	Potential for SAR and SAR Habitat on Subject Lands	Rationale
				Lakes basin and their connecting waterways.		
Molluscs						
Mapleleaf Mussel	<i>Quadrula quadrula</i>	THR	NHIC	Found in medium to large rivers with packed sand, gravel, or clay and mud bottoms, and slow to moderate currents. Range: Several large rivers that drain into Lake St. Clair and Lake Erie; Sydenham, Ausable, Grand, Thames and Welland Rivers. (In Canada, the fish host of the Mapleleaf is the Channel catfish. Presence of the fish host is one of the key features determining whether the body of water can support a healthy mussel population)	No.	Watercourse through the Subject Lands does not support habitat requirements for Mapleleaf Mussel.
Reptiles						
Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	THR	ORAA, 2019; iNaturalist, 2020	Prefer habitats with sandy, well-drained soil and open vegetative cover such as woods, brushland, fields, forests, edges, and disturbed sites; often near water. Range: Found in the Carolinian Region and the Great Lakes-St. Lawrence Region. (4E, 5E(3,4,5,7,8), 6E(2,5,6,7,9), 7E).	Low.	Potential hibernacula present within the Subject Lands. The Subject Lands include frequently mowed lawn that does not provide sandy soils or other suitable habitat.
Spiny Softshell	<i>Apalone spinifera</i>	END	iNaturalist, 2021; NHIC	Highly aquatic, rarely traveling far from water. Primarily in rivers and lakes but also creeks, ditches, and ponds near rivers. Require open sand or gravel nesting areas, shallow muddy or sandy areas to bury in, deep pools for hibernation, areas for basking, and food availability. Range: Lake St. Clair, Lake Erie, western Lake Ontario watersheds. Majority in the Thames and Sydenham rivers and two sites in Lake Erie. (5E(12), 6E(15), 7E).	Medium.	Habitat present in Dingman Creek, which the watercourse on the Subject Lands is connected.
Mammals						

Common Name	Scientific Name	SARO	Source	Habitat Requirements ² and Range	Potential for SAR and SAR Habitat on Subject Lands	Rationale
American Badger	<i>Taxidea taxus</i>	END	NHIC	Variety of habitats including tall grass prairies, sand barrens, open grassland, and farmland. Range: Southwestern Ontario, close to Lake Erie in the Norfolk and Middlesex area. Northwestern population in Thunder Bay and Rainy River Districts. (7E(2,5)).	Low.	No suitable habitat observed within the Subject Lands. No burrows indicative of American Badger found on the Subject Lands.
Little Brown Myotis	<i>Myotis lucifugus</i>	END	Under-represented.	Little Brown Myotis roosts in caves, quarries, tunnels, hollow trees, or buildings. Little Brown Myotis typically prefer buildings or building-associated features for maternity roosting rather than natural features (Gerson, 1984; Humphrey & Fotherby, 2019). This species hibernates in humid caves and forages in wetlands and forest edges.	Low.	Potential roosting trees were not identified within the Subject Lands and assumed present within the Adjacent Lands. Potential for foraging over the Subject Lands.
Northern Myotis	<i>Myotis septentrionalis</i>	END	Under-represented.	Roosts in houses, manmade structures, but prefers hollow trees or under loose bark. Hunts in forests. Found throughout forested areas of southern Ontario.	Low.	Potential roosting trees were not identified within the Subject Lands and assumed present within the Adjacent Lands. Potential for foraging over the Subject Lands.
Tri-coloured Bat	<i>Perimyotis subflavus</i>	END	Under-represented.	Roosts in older forests and occasionally barns/structures. Hibernates in damp, draft-free caves. Hunt over water and along streams in a forest.	Low.	Potential roosting trees were not identified within the Subject Lands and assumed present within the Adjacent Lands. Potential for foraging over the Subject Lands.

SOCC Species

Common Name	Scientific Name	Source ¹	Habitat Requirements ²	Potential for SCS and SCS Habitat	Rationale
Birds					
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	OBBA, 2005	Prefers to nest in areas with young shrubs surrounded by mature forests. Range: Breed in central-eastern Ontario as far south as Lake Ontario and St. Lawrence River. Have been found as south as Long Point.	No.	No areas of young shrubs in proximity to mature forest within the Subject Lands. Not identified during breeding bird surveys.
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	NHIC, 2021	Lives in open grasslands with well-drained sandy soil. Nests in hayfields and pastures, preferring areas with sparse vegetation.	No.	No open grasslands present on the Subject Lands. Not identified during breeding bird surveys.
Wood Thrush	<i>Hylocichla mustelina</i>	NHIC, 2021	Lives in mature deciduous and mixed forests, seeking moist stands with well-developed undergrowth. Prefer large forests, but will use smaller.	No.	No mixed, mature forests within the Subject Lands. Not identified during breeding bird surveys.
Molluscs					
Rainbow Mussel	<i>Villosa iris</i>	iNaturalist, 2017	Found in small to medium rivers with sand, rocky, or gravel bottoms and a moderate to strong current. Found in or near riffles along the edges of vegetation (<1m deep). Range: Ausable, Bayfield, Detroit, Grand, Moira, Niagara, Salmon, Saugeen, Sydenham, Thames, and Trent Rivers, and Lake St. Clair. (The Rainbow mussel uses a variety of fish hosts in Ontario, including Striped shiner, Smallmouth bass, Largemouth bass, Green sunfish, Greenside darter, Rainbow darter, and Yellow perch.)	Medium.	This species is found within the Dingman Creek (Adjacent Lands) but unconfirmed if found within the watercourse contributing to the creek which runs through the Subject Lands.
Reptiles					
Northern Map Turtle	<i>Graptemys geographica</i>	iNaturalist, 2021; ORAA, 2016; NHIC	Lives in rivers and lakeshores. Basks on emergent rocks and fallen trees, and hibernates in deeps, slow-moving sections of the river. Range: Great Lakes region and west. Primarily on shores of Georgian Bay, Lake St. Clair, Lake Erie, and Lake Ontario. Rivers include the Thames, Grand, and Ottawa.	No.	Watercourse on Subject Lands does not provide suitable habitat requirements for Northern Map Turtle.

²Ministry of the Environment, Conservation and Parks. (2018, July 12). *Species at risk in Ontario*. Government of Ontario. Retrieved from [Species at risk in Ontario | ontario.ca](#).

Ministry of Mines, Ministry of Northern Development, and Ministry of Natural Resources and Forestry. (Updated: 2020, August 20). *Appendix G: Wildlife habitat matrices and habitat descriptions for rare vascular plants*. Government of Ontario. Retrieved from [1 Significant wildlife habitat technical guide: Appendix G: Wildlife habitat matrices and habitat descriptions for rare vascular plants | Ontario.ca](#)

Environment and Climate Change Canada. (Updated: 2021, February 2). *Species at risk public registry*. Government of Canada. Retrieved from [Species at risk public registry - Canada.ca](#)

Ministry of Natural Resources (MNR). n.d. General Habitat Description for the Bobolink (*Dolichonyx oryzivorus*). Retrieved from https://files.ontario.ca/environment-and-energy/species-at-risk/mnr_sar_ghd_bblnk_en.pdf

Gerson, H. 1984. Habitat Management Guidelines for Bats of Ontario. Ontario Ministry of Natural Resources. 42 pp.

Humphrey, C. and Fotherby, H. 2019. Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Ontario. Ontario Recovery Strategy Series. Prepared by the Ministry of the Environment, Conservation and Parks, Peterborough, Ontario. vii + 35 pp. + Appendix. Adoption of the Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*), and the Tricolored Bat (*Perimyotis subflavus*) in Canada (Environment and Climate Change Canada 2018).

Appendix D

Ecological Land Classification



GENERAL SITE INFORMATION FIELD SHEET

Project: 48282-100 2598 Woodhull Rd.
 Date: Oct. 21, 2020 Project Manager: _____
 Collector(s): WJH Visit #: 1
 Time started: 13:48 Time finished: 14:30 Combined collectors' hours: 0.75
 NHIC List MNR EO's none not provided to collector

WEATHER CONDITIONS					WIND SCALE			
Temp:	Wind:	3	Cloud Cover (%)	Precipitation	0	Calm		
140	Direction:	SE	100	Today: light Yesterday: no	1	Smoke Drifts		
DATA FOCUS					2	Wind Felt on Face		
<input type="checkbox"/>	Birds 1_2_Mig_	<input checked="" type="checkbox"/>	ELC's	<input type="checkbox"/>	3	Leaves in constant motion		
<input type="checkbox"/>	Mammals	<input checked="" type="checkbox"/>	Floral V__S__A__	<input type="checkbox"/>	4	Wind raises dust and paper		
<input type="checkbox"/>	Amphibians 1_2_3_	<input type="checkbox"/>	Wetland	<input type="checkbox"/>	5	Small trees sway		
<input type="checkbox"/>	Reptiles	<input type="checkbox"/>	Butternut (BHA)	<input type="checkbox"/>	6	Large branches sway		
<input type="checkbox"/>	Invertebrates	<input type="checkbox"/>	other SAR	<input type="checkbox"/>	7	Lots of resistance when walking into		
					8	Limbs breaking off trees		
FEATURES (with GPS co-ordinates where applicable)					Mapped	Follow-up Req'd		
Man-made Structures: <input type="checkbox"/> None observed					UTM	Yes	No	Who
Yes No								
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Barns/Footings/Wells/other(list)	at toe of slope. See photos					
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Rock Piles						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Garbage						
Natural Vegetation: <input type="checkbox"/> None observed								
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fallen Logs outside woods (#s)						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Brush Piles						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Snags (raptor perch)						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Tree Cavities (nesting)						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sentinel Trees						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Butternut Identified						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Mast Trees (6E)	<input type="checkbox"/>	Berry Shrubs (6E)				
Wildlife Features: <input type="checkbox"/> None observed								
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Waterfowl nesting (large #s, # of species)						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exposed Banks (nesting swallows)						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Stick Nests						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Animal Burrows (>10cm)						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Heronry						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Crayfish mounds						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sand/gravel on site						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Marsh/open country/shrub						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Winter Deer yards						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Corridor from pond to woods (amphibian movement)	= anthra pond on pes lands					
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Bat corridor (shorelines, escarpments)						
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Bat hibernacula (caves, mines, crevices, etc.)						
Aquatic Features:								
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Perm. pond in woodland	<input type="checkbox"/>	emergents/submergents/logs	<input type="checkbox"/>	temp.		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Perm. pond in open	<input type="checkbox"/>	emergents/submergents/logs	<input type="checkbox"/>	temp.	BUILT LANDSCAPE	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Water in woodland	<input type="checkbox"/>	pools	<input type="checkbox"/>	flowing	<input type="checkbox"/>	dry
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Waterways	flowing	dry	pools			
	<input checked="" type="checkbox"/>	natural stream	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	swale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None observed	
	<input type="checkbox"/>	open drain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	Seeps/Springs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Incidental Observations/Notes:								
- Mature FOREST SLOPE.								
- MAINTAINED GRASS ON TABLELAND.								
- existing Residential NORTH AND SOUTH.								
- NO SAR.								



GENERAL SITE INFORMATION FIELD SHEET

Project: 48282-100 woodhull Rd
Date: June 8/22
Project Manager:
Collector(s): FE
Visit #:
Time started: 9:56 Time finished: 10:15 Combined collectors' hours:
NHIC List MNR EO's none not provided to collector

1.25 hrs

WEATHER CONDITIONS: Temp 16, Wind SW, Cloud Cover 0, Precipitation Today: none, Yesterday: heavy rain. WIND SCALE: 0-8. DATA FOCUS: Birds, Mammals, Amphibians, Reptiles, Invertebrates, ELC's, Floral V, S, A, Wetland, Butternut (BHA), other SAR, Dripline/Tree Survey, Aquatic - Physical, Aquatic - Biological, Faunal Habitat, Other - see notes. FEATURES (with GPS co-ordinates where applicable): Man-made Structures, Natural Vegetation, Wildlife Features, Aquatic Features, Incidental Observations/Notes: -deer tracks seen



MTE NATURAL ENVIRONMENT FIELD SHEET

Project #: 48282-100 Description: WOODHULL RD.
 Date: 2-Aug-22 Staff: WH,TC
 Start Time: 14:15 End Time: 14:45 Total Time: 1.0HR
 Temp: 23 Cloud %: 50 Precipitation: 0
 Wind: 3 Direction: S Yesterday: RAIN

BEAUFORT WIND SCALE:

0 Calm, 1 Smoke Drifts, 2 Wind Felt on Face, 3 Leaves in Constant Motion,
 4 Wind Raises Paper, 5 Small Trees Sway, 6 Large Limbs Sway

DATA FOCUS

Amphibians:	1	2	3	Aqua Hab.:		Dripline:		Invertebrates:		Wetland:	
Birds:	M	1	2	Bats:		ELC's:		Reptiles:		Other:	
Floral:	v	s	X	a	BHA:	Habitat:		SAR Target:			

NATURAL FEATURES

YES NO		Mapped (see GPS)	Follow-up Req'd		
			Yes	No	Who
Man-made Structures: None observed <input type="checkbox"/>					
<input type="checkbox"/>	Barns/Footings/Wells/other(list)				
<input type="checkbox"/>	Rock Piles				
<input type="checkbox"/>	Garbage				

Natural Vegetation: None observed <input type="checkbox"/>					
<input type="checkbox"/>	Fallen Logs outside woods (#'s)				
<input type="checkbox"/>	Brush Piles				
<input type="checkbox"/>	Snags (raptor perch)				
<input type="checkbox"/>	Tree Cavities (nesting)				
<input type="checkbox"/>	Sentinel Trees				
<input type="checkbox"/>	Butternut Identified				

Wildlife Features: None observed <input type="checkbox"/>					
<input type="checkbox"/>	Waterfowl nesting (large #'s, # of species)				
<input type="checkbox"/>	Exposed Banks (nesting swallows)				
<input type="checkbox"/>	Stick Nests				
<input type="checkbox"/>	Animal Burrows (>10cm)				
<input type="checkbox"/>	Heronry				
<input type="checkbox"/>	Crayfish mounds				
<input type="checkbox"/>	Sand/gravel on site				
<input type="checkbox"/>	Marsh/open country/shrub				
<input type="checkbox"/>	Winter Deer yards				
<input type="checkbox"/>	Corridor from pond to woods (ampibian movement)				
<input type="checkbox"/>	Bat corridor (shorelines, escarpments)				
<input type="checkbox"/>	Bat hibernacula (caves, mines, crevices, etc.)				

Aquatic Features: None observed <input type="checkbox"/>					
<input type="checkbox"/>	Pond (woods)	emergents	submergents	logs	temp. <input type="checkbox"/>
<input type="checkbox"/>	Pond (open)	emergents	submergents	logs	temp. <input type="checkbox"/>
<input type="checkbox"/>	Water in woodland	flowing	dry	pools	
<input type="checkbox"/>	Nat. Stream	flowing	dry	pools	
<input type="checkbox"/>	Swale	flowing	dry	pools	
<input type="checkbox"/>	Open Drain	flowing	dry	pools	
<input type="checkbox"/>	Seeps	flowing	dry	pools	
<input type="checkbox"/>	River				

Incidental Observations/Notes:

ELC	SITE: 48282-100		POLYGON: 1
	SURVEYORS: WH		
	DATES: 10/21/2020		
	UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

SYSTEM		SUBSTRATE		TOPOGRAPHIC FEATURES		HISTORY		PLANT FORM		COMMUNITY	
<input checked="" type="checkbox"/>	TERRESTRIAL		ORGANIC		LACUSTRINE	<input checked="" type="checkbox"/>	NATURAL		PLANKTON		LAKE
	WETLAND	<input checked="" type="checkbox"/>	MINERAL		RIVERINE		CULTURAL		SUBMERGED		POND
	AQUATIC		PARENT MIN.		BOTTOMLAND				FLOATING LVD.		RIVER
			ACIDIC BEDROCK		TERRACE				GRAMINOID		STREAM
			BASIC BEDROCK	<input checked="" type="checkbox"/>	VALLEY SLOPE				FORB		MARSH
			CARB. BEDROCK		TABLELAND				LICHEN		SWAMP
					ROLL. UPLAND				BRYOPHYTE		FEN
					CLIFF			<input checked="" type="checkbox"/>	DECIDUOUS		BOG
					TALUS				CONIFEROUS		BARREN
					CREVICE/CAVE				MIXED		MEADOW
SITE					ALVAR						PRAIRIE
	OPEN WATER				ROCKLAND						THICKET
	SHALLOW WATER				BEACH/BAR						SAVANNAH
<input checked="" type="checkbox"/>	SURFICIAL DEP.				SAND DUNE						WOODLAND
	BEDROCK				BLUFF			<input checked="" type="checkbox"/>			FOREST
											PLANTATION

STAND DESCRIPTION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>>MUCH GREATER THAN; >GREATER THAN; =ABOUT EQUAL TO)
1 CANOPY	1	4	QUERRUB=ACERSAH>OSTRVIR=CARYOVA
2 SUB-CANOPY	2	3	OSTRYVIR>ACERSAH>PICEPUN=TILIAME
3 UNDERSTORY			ACERSAH>>PRUNVIR
4 GRD. LAYER			

HT CODES: 1=>25m 2=10<HT 25m 3=2<HT 10m 4=1<HT 2m 5=0.5<HT 1m 6=0.2<HT 0.5m 7=HT<0.2m

CVR CODES: 0= NONE 1=0%<CVR 10% 2=10<CVR 25% 3=25<CVR 60% 4=CVR>60%

STAND COMPOSITION:	BA:	0
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SIZE CLASS ANALYSIS:	<10	10-24	25-50	>50
STANDING SNAGS:	<10	10-24	25-50	>50
DEADFALL/LOGS:	<10	10-24	25-50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
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SOIL ANALYSIS:

TEXTURE:		DEPTH TO MOTTLES/GLEY	g=		G=	
MOISTURE:		DEPTH OF ORGANICS:				
HOMOGENOUS	VARIABLE	DEPTH TO BEDROCK:				

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	ELC CODE
Forest	FO
Deciduous	FOD
Dry-fresh Sugar Maple	FOD5
Dry-fresh Sugar Maple Oak Deciduous Forest	FOD5-3
INCLUSION:	
COMPLEX:	

NOTES:

ELC	SITE: 48282-100		POLYGON: 1	
	SURVEYORS: WH			
	DATES: 10/21/2020			
	UTMZ:	UTME:	UTMN:	
MANAGEMENT / DISTURBANCE	SITE: 48282-100		POLYGON: 1	
	SURVEYORS:			
	DATES:			

DISTURBANCE EXTENT	0	1	2	3	SCORE
TIMES SINCE LOGGING	>30 YRS	15-30 YRS	5-15 YRS	0-5 YRS	1
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	0
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
GAPS IN FOREST CANOPY	NONE	SMALL	INTERMEDIATE	LARGE	0
EXTENT OF GAPS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
ALIEN SPECIES	NONE	OCCASIONAL	ABUNDANT	DOMINANT	0
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	DOMINANT	0
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	0
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
DUMPING (RUBBISH)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DUMPING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF RECR.USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
NOISE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF NOISE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	2
EXTENT OF DISEASE/DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
FIRE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0
OTHER	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	0

INTENSITY X EXTENT = SCORE

ELC	SITE: 48282-100		POLYGON: 2
	SURVEYORS: WH		
	DATES: 8/2/2022		
	UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

SYSTEM		SUBSTRATE		TOPOGRAPHIC FEATURES		HISTORY		PLANT FORM		COMMUNITY	
x	TERRESTRIAL		ORGANIC		LACUSTRINE	x	NATURAL		PLANKTON		LAKE
	WETLAND	x	MINERAL		RIVERINE		CULTURAL		SUBMERGED		POND
	AQUATIC		PARENT MIN.	x	BOTTOMLAND				FLOATING LVD.		RIVER
			ACIDIC BEDROCK		TERRACE				GRAMINOID		STREAM
			BASIC BEDROCK		VALLEY SLOPE				FORB		MARSH
			CARB. BEDROCK		TABLELAND				LICHEN		SWAMP
					ROLL. UPLAND				BRYOPHYTE		FEN
					CLIFF			x	DECIDUOUS		BOG
					TALUS				CONIFEROUS		BARREN
					CREVICE/CAVE				MIXED		MEADOW
SITE					ALVAR						PRAIRIE
	OPEN WATER				ROCKLAND	COVER					THICKET
	SHALLOW WATER				BEACH/BAR		OPEN				SAVANNAH
x	SURFICIAL DEP.				SAND DUNE		SHRUB				WOODLAND
	BEDROCK				BLUFF	x	TREED				FOREST
											PLANTATION

STAND DESCRIPTION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>>MUCH GREATER THAN; >GREATER THAN; =ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTORY			
4 GRD. LAYER			

HT CODES: 1=>25m 2=10<HT 25m 3=2<HT 10m 4=1<HT 2m 5=0.5<HT 1m 6=0.2<HT 0.5m 7=HT<0.2m
 CVR CODES: 0= NONE 1=0%<CVR 10% 2=10<CVR 25% 3=25<CVR 60% 4=CVR>60%

STAND COMPOSITION:	BA:	0
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SIZE CLASS ANALYSIS:	<10	10-24	25-50	>50
STANDING SNAGS:	<10	10-24	25-50	>50
DEADFALL/LOGS:	<10	10-24	25-50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
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SOIL ANALYSIS:

TEXTURE:		DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:		DEPTH OF ORGANICS:		
HOMOGENOUS	VARIABLE	DEPTH TO BEDROCK:		

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	ELC CODE
Forest	FO
Deciduous	FOD
Fresh-Moist Deciduous Forest Ecosite	FOD7
VEGETATION TYPE:	
INCLUSION:	
COMPLEX:	

NOTES:

ELC	SITE: 48282-100		POLYGON: 3
	SURVEYORS:	WH,TC	
	DATES: 8/2/2022		
	UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

SYSTEM		SUBSTRATE		TOPOGRAPHIC FEATURES		HISTORY		PLANT FORM		COMMUNITY	
<input type="checkbox"/>	TERRESTRIAL	<input type="checkbox"/>	ORGANIC	<input type="checkbox"/>	LACUSTRINE	<input checked="" type="checkbox"/>	NATURAL	<input type="checkbox"/>	PLANKTON	<input type="checkbox"/>	LAKE
<input checked="" type="checkbox"/>	WETLAND	<input checked="" type="checkbox"/>	MINERAL	<input type="checkbox"/>	RIVERINE	<input type="checkbox"/>	CULTURAL	<input type="checkbox"/>	SUBMERGED	<input type="checkbox"/>	POND
<input type="checkbox"/>	AQUATIC	<input type="checkbox"/>	PARENT MIN.	<input checked="" type="checkbox"/>	BOTTOMLAND	<input type="checkbox"/>		<input type="checkbox"/>	FLOATING LVD.	<input type="checkbox"/>	RIVER
			ACIDIC BEDROCK		TERRACE				GRAMINOID		STREAM
			BASIC BEDROCK		VALLEY SLOPE				FORB		MARSH
			CARB. BEDROCK		TABLELAND				LICHEN		SWAMP
					ROLL. UPLAND				BRYOPHYTE		FEN
					CLIFF				DECIDUOUS		BOG
					TALUS				CONIFEROUS		BARREN
					CREVICE/CAVE				MIXED		MEADOW
					ALVAR						PRAIRIE
					ROCKLAND						THICKET
					BEACH/BAR						SAVANNAH
					SAND DUNE						WOODLAND
					BLUFF						FOREST
											PLANTATION
SITE						COVER					
<input type="checkbox"/>	OPEN WATER					<input type="checkbox"/>	OPEN				
<input type="checkbox"/>	SHALLOW WATER					<input type="checkbox"/>	SHRUB				
<input checked="" type="checkbox"/>	SURFICIAL DEP.					<input type="checkbox"/>	TREED				
<input type="checkbox"/>	BEDROCK										

STAND DESCRIPTION

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp)	(>>MUCH GREATER THAN; >GREATER THAN; =ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTORY			
4	GRD. LAYER	5	4	CARESPP=SYMPFOE=BOEHCYL

HT CODES: 1=>25m 2=10<HT 25m 3=2<HT 10m 4=1<HT 2m 5=0.5<HT 1m 6=0.2<HT 0.5m 7=HT<0.2m

CVR CODES: 0= NONE 1=0%<CVR 10% 2=10<CVR 25% 3=25<CVR 60% 4=CVR>60%

STAND COMPOSITION:	0	BA:	0
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SIZE CLASS ANALYSIS:		<10	10-24	25-50	>50
STANDING SNAGS:		<10	10-24	25-50	>50
DEADFALL/LOGS:		<10	10-24	25-50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:		PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
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SOIL ANALYSIS:

TEXTURE:		DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:		DEPTH OF ORGANICS:		
HOMOGENOUS		DEPTH TO BEDROCK:		

COMMUNITY CLASSIFICATION:

ELC CODE

COMMUNITY CLASS:	MARSH	MA
COMMUNITY SERIES:	MEADOW	MAM
ECOSITE:	MINERAL	MAM2
VEGETATION TYPE:		
INCLUSION:		
COMPLEX:		

NOTES:

Appendix E

Significant Wildlife Habitat

ELCs: FOD5-3, FOD7, MAM2

Seasonal Concentration of Animals

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Waterfowl Stopover and Staging Areas (Terrestrial)	-	- Large fields with abundant sheet water in spring not available.	No	<p>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".</p> <ul style="list-style-type: none"> • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100-300m radius, dependent 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). 	No
Waterfowl Stopover and Staging Areas (Aquatic)	-	- No suitable watercourses or wetlands present within or adjacent to the Subject Lands.	No	<p>Studies carried out and verified presence of:</p> <ul style="list-style-type: none"> • 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 SWH • Wetland area and shorelines associated with sites identified within the SWHTG are significant wildlife habitat. • 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). 	No
Shorebird Migratory Stopover Area	MAM2	- No beach areas, bars, seasonally flooded, muddy and un-vegetated shoreline habitat available within the Subject Lands.	No	<p>Studies confirming:</p> <ul style="list-style-type: none"> • 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". 	No

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Raptor Wintering Area	FOD7, FOD5-3	- No upland field ELC present so no combination of forest and fields >20 ha present.	No	<p>Studies confirm the use of these habitats by:</p> <ul style="list-style-type: none"> • One or more Short-eared Owls or; One of 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”. 	No
Bat Hibernacula	-	- No suitable features present.	No	<ul style="list-style-type: none"> • All sites with confirmed hibernating bats are SWH. • The area includes 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” 	No
Bat Maternity Colonies	FOD5-3, FOD7	- Candidate maternity trees found within the adjacent forested ecosites.	Yes	<p>Maternity Colonies with confirmed use by;</p> <ul style="list-style-type: none"> • >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” 	Unconfirmed FOD7 in Adjacent Lands.
Turtle Wintering Areas	Dingman Creek (Adjacent), MAM2	<p>- No suitable over-wintering sites (permanent water bodies, large wetlands, bogs, fens, etc.) within the Subject Lands.</p> <p>-Dingman Creek too shallow to support overwintering.</p>	No	<p>Presence of 5 over-wintering Midland Painted Turtles is significant.</p> <ul style="list-style-type: none"> • 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 deepwater 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. 	No

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Reptile Hibernaculum	All other than really wet	- Potential hibernaculum within forested area (FOD7) in a concrete 'chamber' remnant	Yes	<p>Studies confirming:</p> <ul style="list-style-type: none"> • 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. • The feature in which the hibernacula is located plus a 30 m radius area is SWH. 	Unconfirmed – targeted surveys not conducted.
Colonially-Nesting Bird Breeding Habitat (Bank/Cliff)	-	- No exposed soil banks, cliff faces, sandy hills, borrow pits, steep slopes, or other suitable habitat present.	No	<p>Studies confirming:</p> <ul style="list-style-type: none"> • Presence of 1 or more nesting sites with 8cxlix or 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". 	No
Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs)	-	- No suitable wetland habitat is present. - No heron nesting sites/colonies present based on LIO mapping (wildlife values area map).	No	<p>Studies confirming:</p> <ul style="list-style-type: none"> • Presence of 2 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-August) or by evidence such as the presence of fresh guano, dead young and/or eggshells. 	No

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Colonially-Nesting Bird Breeding Habitat (Ground)	MAM2	<ul style="list-style-type: none"> - No islands, peninsulas, or low bushes close to streams/ditches are present. - No nesting sites for Ring-billed Gull or Herring Gull identified in the area by LIO wildlife values area mapping. 	No	<p>Studies confirming:</p> <ul style="list-style-type: none"> • 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". 	No
Migratory Butterfly Stopover Areas	FOD5-3, FOD7	<ul style="list-style-type: none"> - A butterfly stopover area will be >10 ha in size with a combination of forest (FOD) and field (CUM/CUT) and be located within 5 km of Lake Erie or Lake Ontario. - Criteria not met due to distance from Lakes. 	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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. 	No
Land Bird Migratory Stopover Areas	FOD5-3, FOD7	<ul style="list-style-type: none"> - No woodlots >5 ha in size that are within 5 km of Lake Ontario and Lake Erie. Criteria not met. 	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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 (Mar to May) and fall (Aug-Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 	No

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Deer Winter Congregation Areas	-	- No woodlots >100 ha in size. - No White-tailed Deer wintering areas identified in the area by LIO wildlife values area mapping.	No	Studies confirm: <ul style="list-style-type: none"> • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by whitetailed 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. 	No

Rare Vegetation Communities

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Cliffs and Talus Slopes	-	Not present.	No	<ul style="list-style-type: none"> • Confirm any ELC Vegetation Type for Cliffs or Talus Slopes. 	No
Sand Barren	-	Not present.	No	<ul style="list-style-type: none"> • Confirm any ELC Vegetation Type for Sand Barrens. • Site must not be dominated by exotic/introduced species (<50% vegetative cover exotic sp.). 	No
Alvar	-	Not present.	No	<ul style="list-style-type: none"> • Field studies that identify 4 of the 5 Alvar Indicator Species at a Candidate Alvar site is significant. • Site must not be dominated by exotic/introduced species (<50% vegetative cover exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. 	No
Old Growth Forest	-	Not present.	No	<p>Field Studies will determine:</p> <ul style="list-style-type: none"> • If dominant trees species are >140 years old, then the area containing these trees is SWH. • 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 contain the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics. 	No

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Savannah	-	Not present.	No	<ul style="list-style-type: none"> 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 7E should be used. Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic/introduced species (<50% vegetative cover exotic sp.). 	No
Tallgrass Prairie	-	Not present.	No	<ul style="list-style-type: none"> 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 7E should be used. Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic/introduced species (<50% vegetative cover exotic sp.). 	No
Other Rare Vegetation	-	Not present.	No	<ul style="list-style-type: none"> 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. 	No

Specialized Habitats of Wildlife considered SWH

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Waterfowl Nesting Area	MAM2	- Wetland habitat size criteria are not met based on London Plan mapping.	No	<p>Studies confirmed:</p> <ul style="list-style-type: none"> 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. 	No
Bald Eagle and Osprey Nesting, Foraging,	FOD7, FOD5-3	<ul style="list-style-type: none"> Bald Eagle was not identified by NHIC in the atlas square that includes the Subject Lands. Bald Eagle and Osprey were 	Yes	<p>Studies confirm the use of these nests by:</p> <ul style="list-style-type: none"> One or more active Osprey or Bald Eagle nests in an area. Some species have more than one nest in a given area and 	No – Breeding Bird surveys did not

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Perching		not observed in the 2001-2005 OBBA records in the general area of the Subject Lands. - No Osprey feeding or resting areas identified in the Study Area on LIO wildlife values mapping.		<p>priority is given to the primary nest with alternate nests included within the area of the SWH.</p> <ul style="list-style-type: none"> • 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 early March to mid-August. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. 	identify individuals or nests within woodlands (FOD5-3, FOD7)
Woodland Raptor Nesting Habitat	FOD7, FOD5-3	- No natural or conifer plantation woodlands/forest stands >30ha with >4ha of interior habitat. Criteria not met.	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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 SWH. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from early 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. 	No
Turtle Nesting Areas	-	- No areas with exposed mineral soils were observed adjacent to the wetland.	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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 dependent on slope, riparian vegetation and adjacent land use is the SWH. 	No

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
				<ul style="list-style-type: none"> • 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. 	
Springs and Seeps	-	- No seeps or springs observed within the Subject Lands.	No	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> • 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 of the habitat. 	No
Amphibian Breeding Habitat (Woodland)	MAM3	-Breeding pools (marsh) available within or adjacent to the woodland.	Yes	<p>Studies confirm;</p> <ul style="list-style-type: none"> • 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 Code 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 	Unconfirmed – Targeted studies not conducted.
Amphibian Breeding Habitat (Wetlands)	MAM2	- No wetlands located >120m from woodland ecosites are present within or directly adjacent to the Subject Lands.	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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. 	No
Woodland Area-Sensitive Bird Breeding	FOD7, FOD5-3	- No large mature (>60yrs old) forest stands or woodlots >30 ha are present within or adjacent to the Subject Lands.	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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. 	No

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Habitat				<ul style="list-style-type: none"> • 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”. 	

Habitats of Species of Conservation Concern considered SWH

Wildlife Habitat	ELC Codes Triggers	Candidate Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Marsh Breeding Bird Habitat	MAM2	- Wetland communities present to support marsh breeding birds. No evidence of breeding within the Subject Lands during 2022 breeding bird surveys.	Yes (Adjacent)	<p>Studies confirm:</p> <ul style="list-style-type: none"> • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 4 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”. 	Unconfirmed – potential within Adjacent Lands.
Open Country Bird Breeding Habitat	-	- Natural and cultural fields >30 ha are not present.	No	<p>Field studies confirm:</p> <ul style="list-style-type: none"> • 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”. 	No
Shrub/Early Successional Bird Breeding Habitat	-	- No large fields succeeding to shrub and thicket habitats >10 ha in size are present.	No	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> • 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- 	No

Wildlife Habitat	ELC Codes Triggers	Candidate Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
				<p>winged Warbler is to be considered SWH.</p> <ul style="list-style-type: none"> 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". 	
Terrestrial Crayfish	MAM2	- A meadow marsh is present partially within the Subject Lands.	Yes (MAM2)	<p>Studies Confirm:</p> <ul style="list-style-type: none"> 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 eco-element 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. 	<p>No (MAM2 within the Subject Lands) - No chimneys or individuals observed within the Subject Lands.</p> <p>Unconfirmed (MAM2 in adjacent lands) – No targeted surveys completed in the adjacent lands</p>
Special Concern and Rare Wildlife Species (NHIC and MNRF pre-consultation)	-	- NHIC identified several Special Concern or rare species as potentially present within the area of the Subject Lands; Northern Map Turtle [SC], Rainbow Mussel [SC], Golden-winged Warbler [SC], Wood Thrush [SC], and Grasshopper Sparrow [SC].	Yes	<p>Studies Confirm:</p> <ul style="list-style-type: none"> 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. 	No, targeted field studies did not identify any Special Concern or Rare species within the Subject Lands.

Animal Movement Corridors

Wildlife Habitat	ELC Codes Triggers*	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Amphibian Movement Corridors	-	- Movement corridors are determined when there is confirmed amphibian breeding habitat in wetlands. No confirmed amphibian breeding habitat as SWH.	No	<ul style="list-style-type: none"> • 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. 	No

SWH exceptions

Wildlife Habitat	Ecosites	Habitat Criteria and Information	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Bat Migratory Stopover Area	No triggers	- The site is not near Long Point.	No	• The confirmation criteria and habitat areas for this SWH are still being determined.	No

Appendix F

Botanical Inventory

Floral Inventory					
	Scientific Name	Common Name	CW	SRank	MD
X	<i>Acer negundo</i>	Manitoba Maple	0.0	S5	C
X	<i>Acer rubrum</i>	Red Maple	0.0	S5	C
X	<i>Acer saccharum</i>	Sugar Maple	3.0	S5	C
X	<i>Alliaria petiolata</i>	Garlic Mustard	0.0	SE5	IC
X	<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	-3.0	S5	C
X	<i>Berberis vulgaris</i>	European Barberry	3.0	SE5	IX
X	<i>Bidens frondosa</i>	Devil's Beggarticks	-3.0	S5	X
X	<i>Boehmeria cylindrica</i>	False Nettle	-5.0	S5	X
X	<i>Carex blanda</i>	Woodland Sedge	0.0	S5	C
X	<i>Carpinus caroliniana</i>	Blue-beech	0.0	S5	C
X	<i>Carya cordiformis</i>	Bitternut Hickory	0.0	S5	X
X	<i>Carya ovata</i>	Shagbark Hickory	3.0	S5	X
X	<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	3.0	S5	X
X	<i>Cirsium arvense</i>	Canada Thistle	3.0	SE5	IC
X	<i>Crataegus chrysoarpa</i>	Fireberry Hawthorn	5.0	S5	
X	<i>Crataegus punctata</i>	Dotted Hawthorn	5.0	S5	C
X	<i>Elymus riparius</i>	Eastern Riverbank Wildrye	-3.0	S4	R
X	<i>Epipactis helleborine</i>	Eastern Helleborine	3.0	SE5	IX
X	<i>Equisetum arvense</i>	Field Horsetail	0.0	S5	C
X	<i>Euonymus obovatus</i>	Running Strawberry Bush	3.0	S4	C
X	<i>Fragaria virginiana</i>	Wild Strawberry	3.0	S5	
X	<i>Fraxinus americana</i>	White Ash	3.0	S4	C
X	<i>Fraxinus pennsylvanica</i>	Green Ash	-3.0	S4	C
X	<i>Geranium maculatum</i>	Spotted Geranium	3.0	S5	X
X	<i>Geranium robertianum</i>	Herb-Robert	3.0	S5	C
X	<i>Geum canadense</i>	White Avens	0.0	S5	X
X	<i>Geum fragarioides</i>	Barren Strawberry	5.0	S5	R
X	<i>Hackelia virginiana</i>	Virginia Stickseed	3.0	S5	U
X	<i>Hesperis matronalis</i>	Dame's Rocket	3.0	SE5	IX
X	<i>Impatiens capensis</i>	Spotted Jewelweed	-3.0	S5	C
X	<i>Juglans nigra</i>	Black Walnut	3.0	S4?	X
X	<i>Leersia virginica</i>	Virginia Cutgrass	-3.0	S4	X
X	<i>Lysimachia nummularia</i>	Creeping Jennie	-3.0	SE5	IX
X	<i>Medicago lupulina</i>	Black Medic	3.0	SE5	IC
X	<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	3.0	S5	C
X	<i>Oxalis montana</i>	Common Wood-sorrel	3.0	S5	
X	<i>Persicaria virginiana</i>	Virginia Smartweed	0.0	S4	X
X	<i>Phalaris arundinacea</i>	Reed Canary Grass	-3.0	S5	X
X	<i>Picea glauca</i>	White Spruce	3.0	S5	IR
X	<i>Pinus strobus</i>	Eastern White Pine	3.0	S5	X
X	<i>Podophyllum peltatum</i>	May-apple	3.0	S5	X
X	<i>Polystichum acrostichoides</i>	Christmas Fern	3.0	S5	X
X	<i>Prunus virginiana</i>	Choke Cherry	3.0	S5	C
X	<i>Quercus rubra</i>	Northern Red Oak	3.0	S5	C

Appendix G

Avifauna



AVIFAUNAL SURVEY INFORMATION SUMMARY SHEET

Project Name: Woodland Road

MTE File No.: 48282-100

Collector(s): BH

	Date	Start	Finish	Weather
Visit 1	12-Jun-22	9:20	10:45	18C, Wind 1-2, Wind direction SE, CC 100%, No rain
Visit 2		5:40	6:30	20C, Wind 2, CC 0%, No rain

Species Abbr.	Species Name	Comm. 1				Comm. 2				S Rank	ESA Status	PIF Status	Notes
		Visit 1		Visit 2		Visit 1		Visit 2					
		Code	No.	Code	No.	Code	No.	Code	No.				
MODO	Mourning Dove			SM						S5			
GCFL	Great Crested Flycatcher	SM		SM						S4	-		
REVI	Red-eyed Vireo	SM		SM						S5			
BLJA	Blue Jay	H		H						S5			
TRES	Tree Swallow	P		P						S4			
BCCH	Black-capped Chickadee	H		FY						S5	-		
HOWR	House Wren			S						S5			
AMRO	American Robin	SM		SM						S5			
CEDW	Cedar Waxwing			H						S5			
COYE	Common Yellowthroat	SM		SM						S5	-		
CHSP	Chipping Sparrow	SM								S5			
NOCA	Northern Cardinal	SM		SM						S5			
RBGR	Rose-breasted Grosbeak	SM		SM						S4		RS	
RWBL	Red-winged Blackbird	P		SM						S4			
BHCO	Brown-headed Cowbird	H								S4			
BAOR	Baltimore Oriole	H		SM						S4		RC,RS	
AMGO	American Goldfinch			H						S5			
HOSP	House Sparrow			H						SNA			

Evidence Codes:

Breeding Bird - Possible

SH=Suitable Habitat SM=Singing Male

Breeding Bird - Probable

T=Territory A=Anxiety Behaviour D=Display N=Nest Building P=Pair V=Visiting Nest

Breeding Bird - Confirmed

DD=Distraction NE=Eggs AE=Nest Entry NU=Nest Used NY=Nest Young FY=Fledged Young FS=Food/Faecal Sack

Other Wildlife Evidence

OB=Observed DP=Distinctive Parts TK=Tracks VO=Vocalization HO=House/Den FE=Feeding Evidence CA=Carcass

Appendix H

Bat Habitat Assessment

Appendix B – Suitable Maternity Roost Trees for Little Brown Myotis/Northern Myotis

Include all live and dead standing trees $\geq 10\text{cm}$ dbh with loose or naturally exfoliating bark, cavities, hollows or cracks.

Project Name: *48282-100*

Survey Date(s): *June 8/22*

Site Name: *woodhull Rd*

Observers(s): *TC*

ELC Ecosite:

Snag Density (snags/ha):

Tree #	Tree Species ID	dbh (cm)	Height Class ²	Snag attributes (check all that apply)	Easting	Northing	Notes
				<input type="checkbox"/> cavity ³ <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? ⁴			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3?			

no suitable nesting sites

² **Height Class:** 1 = Dominant (above canopy); 2 = Co-dominant (canopy height); 3 = Intermediate (just below canopy); 4 = suppressed (well below canopy)

³ The approx. height of the cavity should be noted. Note that cavities with an entrance near the ground may also be used by bats if they are "chimney-like".

Decay Class: 1 = Healthy, live tree; 2 = Declining live tree, part of canopy lost; 3 = Very recently dead, bark intact, branches intact

Appendix I

Environmental Management Plan





MTE Consultants

123 St. George St., London, Ontario N6A 3A1

December 20, 2022
MTE File No.: 48282-100

Brock Developments Group Inc.
1070 Riverside Drive
London, ON N6H 0L4
michelle@brockdg.com

Dear Michelle Doornbosch,

RE: Environmental Management Plan (EMP) for 2624 Woodhull Road Severance

Brock Developments Group Inc. (the 'Proponent') has initiated the Severance Application for 2589 Woodhull Road, and the Consolidation and Draft Plan Amendment with 2624 Woodhull Road (the 'Project') in the City of London. MTE Consultants has been retained to prepare and Environmental Impact Study (EIS) and Environmental Management Plan (EMP) for the proposed development. The EIS provides recommendations for avoidance and mitigation measures to protect adjacent significant natural heritage features. This EMP has been prepared to complement the EIS and provide mitigation and monitoring recommendations in the order to be completed.

Based on the analysis of the Subject Lands in the EIS Addendum (MTE, 2022), the significant features identified on or adjacent to the Subject Lands are:

- ESA Edge Boundary (Community 1 – FOD5-3, Community 2 – FOD7)
- Unevaluated Wetland (Community 3 – MAM2)
- Significant Valleyland
- Candidate Significant Wildlife Habitat (SWH) (Subject Lands and Adjacent Lands)
- Fish Habitat
- Habitat of Endangered and Threatened Species
- Water Resources Systems
- Environmentally Significant Areas/Potential Environmental Significant Areas

1.0 Pre-Construction

Pre-construction planning includes defining the project, identifying potential risks, and mitigating risks before development begins. The recommendations are to be completed prior to the initiation of construction activities.

Recommendation 1.1: The limits of clearing should be surveyed, staked, and fences in the field to allow for the protection of off-site natural areas and vegetation.

Recommendation 1.2: Soil stockpiles should be established in locations where natural drainage is away from the adjacent Significant Woodland and Significant Valleyland. If this is not possible and there is a possibility of any stockpile slumping and moving toward the edge of the Significant Woodland and Significant Valleyland, the stockpiles should be protected with robust sediment and erosion control. Access to the stockpile should be confined to the up-gradient side.

Recommendation 1.3: A multi-barrier approach for sediment and erosion control will be used for this development. Prior to works on site, robust sediment and erosion control fencing should be installed around the property limits. The fence will act as a barrier to keep construction

equipment and spoil away from the vegetation to remain, and prevent erosion and sedimentation of the adjacent natural heritage features.

Recommendation 1.4: Sediment and erosion control fencing should be installed according to the City of London Design Specifications and Requirements Manual specifications (2019b) and The Erosion and Sediment Control Guide for Urban Construction (TRCA, 2019).

Recommendation 1.5: Sediment and erosion control fencing should be inspected prior to construction to ensure it was installed correctly and during construction prior to rain events to ensure that the fencing is being maintained and functioning properly. Any issues that are identified are resolved as quickly as possible, ideally the same day.

Recommendation 1.6:

A Best Management Practice (BMP) and spill contingency plan (including a spill action response plan) should be in place for fuel handling, storage and onsite equipment maintenance activities to minimize the risk of contaminant releases as a result of the proposed construction activities. Contractors working at the site should ensure that construction equipment is in good working order. Equipment operators should have spill-prevention kits, where appropriate.

Recommendation 1.7:

Make workers aware of potential incidental encounters with wildlife and the necessary protections. If an animal enters the work site, work at that location will stop and the animal should be permitted to leave without being harassed. If there are repeat observations of wildlife in the work area, barrier fencing may be used to direct wildlife away from active construction and toward natural areas.

Recommendation 1.8: Any observation of a Protected Species should be reported to MECP. Protected Species should not be handled, harassed, or moved unless they are in immediate danger.

2.0 During Construction

These recommendations are to be conducted from initiation of construction activities until a specified build-out stage as determined in consultation with the City of London.

Recommendation 2.1: Avoid vegetation clearing (if required), and site disturbance during the migratory bird breeding season (April 1-August 31) to ensure that no active nests will be removed or disturbed, in accordance with the *Migratory Birds Convention Act* and/or Regulations under this Act. If works are proposed within the breeding season, prior to any vegetation removal or ground disturbances, the area should be thoroughly checked for nesting birds by a qualified professional. If there are any nesting birds, works within the nesting area should not proceed until after August 31, or the nest is confirmed inactive.

Recommendation 2.2: Dust abatement measures (e.g. watering) are recommended if the site grading will occur during extended dry weather periods.

Recommendation 2.3:

Equipment should be cleaned whenever arriving on site including tires, undercarriage, and any part of the equipment that may transport invasive seeds to the site. Clean equipment protocols are provided by London's Invasive Plant Management Strategy (2017) and should be followed where appropriate.

Recommendation 2.4: Although Bank Swallow [THR] was not identified within the Subject Lands, the creation of suitable habitat (e.g., stockpiles) during construction should be avoided. Best Management Practices for deterring nesting during construction activities should be implemented (OMNR, 2017). These measures should include stockpile slope management (i.e. grading stockpiles, eliminating vertical extraction faces, reducing slopes to 70 degrees or less) until at least July 15.

Recommendation 2.5: Regular cleanup of the Subject Lands must be completed during construction and post-construction to ensure the adjacent natural heritage features are not degraded.

Recommendation 2.6: Noise disturbance during construction should be limited to allowable hours per City of London By-law. Where possible, construction noise from heavy machinery should be avoided during the migratory bird breeding period, defined as April 9 to August 16 in nesting zone C2 (ECCC, 2018) to avoid disturbance of birds nesting within Lower Dingman ESA.

Recommendation 2.7: If these hedgerow trees are required to be removed or maintained at any point during the development process, any action should be completed by a certified arborist.

Monitoring Phase 1 - During Construction

The construction monitoring plan will monitor for construction-related impacts, document successes or deficiencies of the implemented mitigation measures and provide guidance on remedial actions for circumstances when mitigation is not successful [e.g. Erosion and Sedimentation Control (ESC) measures]. This plan should continue from clearing and grubbing through to apartment building construction until grounds adjacent to natural features are vegetated and stabilized. This plan will be developed during the detailed design stage. Reports should be made available to the UTRCA and City design services staff.

Recommendation 2.8:

Sediment and erosion control fencing should be inspected regularly during construction to ensure that the fencing is being maintained and functioning properly. Any issues that are identified should be resolved as quickly as possible, ideally the same day.

3.0 Post-Construction

These recommendations are to be carried out following construction until the end of the Assumption of Development Stage.

Recommendation 3.1: Sediment and erosion control fencing should not be removed until adequate re-vegetation and site stabilization has occurred. All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature. Additional re-vegetation plantings and/or more time for vegetation to establish may be required; however, two growing seasons are typically sufficient to stabilize most sites.

Recommendation 3.2:

All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature.

Recommendation 3.3:

Installation of permanent boundary markers (e.g. posts, bollards) is recommended for the Significant Woodland Boundary markers can mark the edge of the natural features to prevent landscaping encroachment (ex: mowing), discourage entry by the public in combination with education materials, and, unlike a chain link fence, allow unhindered passage of wildlife species.

Recommendation 3.4: Provide homeowners with the “Living with Natural Areas” brochure published by UTRCA in 2005 [Appendix H]. This will help educate the future residents on appropriate ways to interact with natural areas and discourage damaging encroachment activities such as dumping landscape waste, using chemicals on lawns, mowing past residential boundaries, and creating trails.

Naturalization and Restoration

This section provides recommendations for the proposed 10 m naturalized ESA buffer to the west of the development. A detailed restoration plan will be provided at detailed design.

Recommendation 3.5: The buffer should be restored and naturalized using plant species native to Ecoregion (7E) and preferably include species from the UTRCA recommended plant lists (UTRCA, 2021a).

Recommendation 3.6:

Woody plant selection should consider how the species are adapted to the site conditions, including soil type, moisture, slope and sun exposure, as well as additional wildlife benefits (e.g. berry production). Dominant tree species in the adjacent Woodland should be considered for plantings, such as Sugar Maple, Red Oak, and Black Cherry. Naturalization with a variety of vegetation will improve ecological function of the area and to provide a natural buffer to the Significant Woodland. with a variety of vegetation will improve the ecological function of the area and to provide a natural buffer for the Significant Woodland.

Recommendation 3.7:

Understory and ground layer plant species should be incorporated into the restoration and naturalization plan through seeding. Seed mixes will consist of species all native to the Ecoregion (7E), adaptive to the site conditions, and approved by the City of London.

Recommendation 3.8: Invasive and non-native (including horticultural species) identified within the proposed buffer should be removed using Best Management Practices (City of London, 2017) for limited spread of invasive plant species. For information on invasive, non-native plant species in the Upper Thames watershed, refer to *Invasive Non-Native Plants in the Upper Thames River Watershed* (UTRCA, 2017).

Recommendation 3.9: The City of London will re-zone the proposed ecological buffer as Open space to reflect the limit of the development.

Monitoring Phase 2 – Post-Construction

Long-term post-construction monitoring shall evaluate the success of the proposed active naturalization efforts, as well as areas of invasive species management. This plan should include remedial actions that are triggered if effects exceed pre-determined thresholds (e.g. supplemental plantings if survival rates are low). Monitoring requirements should be determined

at the detailed design stage in consultation with agency staff. Recommendations for monitoring include, but are not limited to:

- Encroachment activities and correction – once the development is at 80% build-out, annual reporting to the City of London should be completed for two years
- Encroachment into the adjacent ESA/Significant Woodland should be monitored for two years post-construction (e.g., litter present in natural features, informal trail creation) and additional strategies should be implemented if required.
- Vegetation monitoring in the west naturalized buffer should be completed for two years after planting to document compliance with the plans (e.g., the correct species and quantities were planted), and establishment of planted material. A minimum survivorship threshold of 70% success is recommended. Implement adaptive management to correct deficiencies.
- Implement adaptive management strategies such as supplemental plantings, and/or control of non-native invasive species. Adaptive management may be triggered by poor survival of planted material, insufficient vegetation cover, or the presence of unacceptable non-native and invasive species.

This Environmental Management Plan has provided recommendations to protect the adjacent significant natural heritage features from both direct and indirect impacts, through avoidance, mitigation, management, and monitoring. Timelines (pre-, during, and post-construction) have been outlined. Provided these recommendations are followed, it is our opinion that the proposed development will have no significant impacts on the adjacent natural heritage features.

Yours Truly,

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Appendix J

Living With Natural Areas

Stepping out in ESAs

Since you live adjacent to an ESA you probably visit it often. The very features that make our ESAs precious are also those that could be easily damaged. By following the guidelines below, you can enjoy these natural areas without harming them, and leave them in a healthy state for all to benefit from.

Use only the official access points and trails. When people and dogs leave the marked trails, wildlife and plants are trampled and disturbed. Most ESAs are mapped, have signed entrances to a marked trail system, and trails marked with yellow blazes.

No Bikes except on the asphalt or crushed gravel paths in Kilally Meadows and Medway Valley.
Carry in/Carry out your trash. Do not leave anything in an ESA. Help out by picking up any litter that you find, and dispose of it properly.

Leashes Please! Natural areas are not dog parks. All pets must be on leash (maximum 2 meters/ 6 feet). Remember to stoop and scoop!

Do not disturb wildlife or plants. It is illegal. Respect all plants and wildlife. Leave natural areas as you found them and do not feed the deer.

What can I take from an ESA?

Nothing! Bring a camera and take photographs.



Leave all wildlife, plants, seeds, flowers, soil, substrate, and deadfall in place. Every part of the ecosystem has an important and vital role to play in keeping ESAs healthy.

What is an invasive alien species?

Alien alert! Invasive alien species are non-native species – plants, animals, fungi, etc. – that evolved in another part of the world (e.g., Europe or Asia) and were transported to Ontario by humans. Invasive alien species can easily outcompete native species and lead to a decline in native biodiversity and reduced ecosystem functionality wherever they occur. Globally and locally, invasive alien species are one of the primary causes of habitat degradation and biodiversity loss today.



More Information

Ontario Invasive Plant Council
http://www.ontarioinvasiveplants.ca/index.php/other_sites

Plant Selection for Environmentally Significant Areas
www.reforestlondon.ca/resources-healthy-city

City of London Information:
Environmental and Parks Planning (519) 661-4980
Environmentally Significant Areas
Yard Waste Collection Information
www.london.ca

Reforest London
www.reforestlondon.ca

Upper Thames River Conservation Authority
www.thamesriver.on.ca
519-451-2800



Brochure prepared and revised by EEPAC. (2014)

A Guide for Living Next to Environmentally Significant Areas

What is an ESA?

An **Environmentally Significant Area (ESA)** is a natural area that receives the highest level of protection within the City of London. ESAs contain rare and endangered species, unique landforms, and habitats that are prized for their quality and high biodiversity. ESAs contain wetlands, freshwater ponds and streams, meadows, forests, valley lands, and other relatively undisturbed wildlife habitat.

Why are ESAs important?

ESAs are essential to the health and well-being of all Londoners because they provide ecosystem services, the most important being habitat for our native biodiversity. Our native biodiversity – indigenous plants, animals, fungi, and other organisms – enables our ecosystem to function properly. A fully functional ecosystem filters our freshwater, provides oxygen for us to breathe, cleans our air, provides decomposition for fertile soil, and provides a beautiful, natural environment in which to de-stress from our busy lives.

Is there a problem?

Yes! Even though our ESAs are protected from development, they are suffering from invasive alien species (see inset), encroachment, and misuse by the demands of our ever-growing human population.

Is there a solution?

Yes! It is the responsibility of each and every Londoner to help keep our ESAs healthy and in a natural state.



Alien Tree Species Example

Norway Maple
(*Acer platanoides*)

Why this information is important to you!

You are one of the very fortunate members of the community who lives adjacent to an ESA; you have a special role to play. You are aware of the high value of your property, a way to keep that value is to minimize your impact on the ESA. You can help to maintain our ESAs in a healthy, natural condition that preserves the spectacular view from your home, and sustains the value of your home.

What you do around your home - impacts the environment.

Some of your actions may have a greater negative impact on the ESA. As such, it is important how you treat your yard and the area next to it.

Does it matter what I grow on my property?

Be careful when growing plants that are not native to Ontario (see INSET). Animals, wind, and water transport seeds, the mobile stage of a plant, from one place to another. Nature doesn't recognize property boundaries, and seeds can spread from gardens into ESAs.

Alien plants degrade natural habitats by reducing plant biodiversity, which in turn reduces animal biodiversity.



Native Planting brochures
www.reforestlondon.ca

Can I dump my yard waste or pond waste in the ESA?

No! *Do not dump any yard or pond waste into the ESA – it is illegal.* And, you may be inadvertently transporting alien plants or animals into the ESA. Seeds and other plant parts in your waste can germinate or regenerate once inside the ESA. Pond waste may contain alien animals (e.g. goldfish or exotic snails) or plants that can wreak havoc on our native ecosystem. **Compost your waste on your property, or take advantage of the city's regular, curb side pickup of yard waste materials.**

Encroachment

Your lot ends at the property line. **Any activity extending onto public land is illegal.** Examples of encroachment include mowing, gardening, or installing structures such as sheds or fences in an ESA. Rear fences should not have a gate. Enter the ESA at designated access points, and use the official trails – don't make new ones. The cumulative impact of homeowners encroaching into the edges of ESAs effectively reduces their size, and threatens their integrity and value.

Your pets, did you know?

Cats and dogs can greatly disturb the wildlife and natural habitats so keep them from running loose in ESAs. Dogs and cats can hunt down and kill a variety of small animals, and cats kill thousands of birds each year. Our furry pets also disperse seeds of invasive alien plants. Seeds are transported in their fur, and in mud collected on their feet.

Don't release Aquarium stock or other household pets into ESAs. Aquarium plants and animals that you buy at pet stores are alien species in Ontario. Goldfish in particular have already been illegally released into our ESAs and are causing widespread damage. *It is illegal to release any live plants or animals into an ESA.*