



REPORT

Milton Link Natural Environment Report & Environmental Impact Assessment

Submitted to:

Tribal Development Management Services Inc.

Submitted by:

WSP Canada Inc.

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Distribution List

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Executive Summary

WSP Canada Inc. was retained by Tribal Development Management Services Inc. (doing business as “Matthews”) to prepare a Natural Environment Report & Environmental Impact Assessment report for lands located adjacent to the CN Logistics Hub in the Town of Milton. The Proponent, Tribal Development Management Services Inc. (doing business as “Matthews”), is pursuing Official Plan and Zoning By-law Amendments to designate the Subject Lands as Industrial Area to be included within the Sustainable Halton Plan (SHP) Urban Area Boundary. The site will seek entitlements associated with the Employment Zone, with site-specific provisions to support the intended development.

The Subject Lands consist of multiple properties totaling approximately 240 ha and straddles the Sixteen Mile Creek and Bronte Creek subwatersheds. This report supports the Official Plan Amendment and Zoning By-law amendment applications and is intended to serve as a basis for future submissions that will confirm details presented herein, including feature limits, impact assessments and recommendations for mitigation and protection with respect to the Natural Heritage System (NHS). The proposed development consists of 11 industrial buildings over four phases. Analyses presented herein have identified a recommended NHS based on relevant planning documents, municipal, provincial and federal requirements and ecological features and functions provided by NHS features across the Subject Lands. Based on the results of ecological fieldwork conducted by WSP in 2024 and 2025, natural heritage features confirmed to be present across the Subject Lands include tributaries of Sixteen Mile Creek and Indian Creek (within the Bronte Creek subwatershed), Significant Woodland, Significant Wildlife Habitat, wetlands and the *Trafalgar Moraine Earth Science Area of Natural and Scientific Interest*. Some of these areas are regulated by Conservation Halton under [Ontario Regulation 41/24](#).

The recommended NHS identified herein has been incorporated into the Concept Plan prepared by WW+P, dated June 17, 2026 (the “Concept Plan”) and considered in accompanying technical components (e.g., Stormwater Management, water balance, and landscape planting plans). Based on the Concept Plan, the proposal has been evaluated with respect to relevant municipal and provincial planning documents as well as relevant natural heritage legislation. Furthermore, an impact assessment and recommendations for mitigation and protection have been identified. Subject to confirmation through updated submissions, it is expected that the proposed development can proceed while protecting and enhancing the recommended NHS identified herein. Conclusions in the current report with respect to policy compliance, anticipated impacts and recommendations for mitigation and protection will be confirmed / refined through an updated EIA prepared as part of future submissions.

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1 INTRODUCTION

WSP Canada Inc. (WSP), has been retained by Tribal Development Management Services Inc. to prepare a Natural Environment Report & Environmental Impact Assessment (EIA) for several parcels of land situated adjacent to the EA-approved¹ CN Rail Milton Logistics Hub (herein referred to as the “logistics hub”) in Milton, Ontario. The parcels of land that are the subject of this report (herein referred to as the “Subject Lands”) are shown on Figure 1 and encompass a total of approximately 240 ha of land and are generally located south of Britannia Road, east of Tremaine Road, west of Highway 25 and north of No. 2 Side Road, adjacent to the CN Logistics Hub². The intent of this report is to support an Official Plan Amendment (OPA) / Zoning By-law Amendment (ZBA) application to facilitate future industrial development across the Subject Lands.

As such, this report documents existing natural heritage conditions within the Subject Lands based on available background information and results of field surveys completed in 2024 and 2025, recommends a Natural Heritage System (NHS), and identifies impacts and mitigation measures based on the Concept Plan. This report also describes the proposed development layout, discusses relevant natural heritage policy, and identifies work to be completed as part of future studies which will include an updated EIA as more detailed information about the planning process, proposed development and agency requirements are identified.

2 STUDY APPROACH

As input to this report, a review of available background information was undertaken using secondary source information and refined / updated based on results of in-season ecological fieldwork conducted across the Subject Lands in 2024 and 2025. In addition to the field surveys completed in 2024 and 2025, the following sources were reviewed as part of this assessment:

Policy documents:

- Halton Region Official Plan (Office Consolidation May 16, 2024)
 - Note that as of July 1, 2024, the Halton Region Official Plan is no longer an official plan for the Regional Municipality of Halton and has been deemed an official plan of each lower-tier municipality in Halton³.
- Town of Milton Official Plan (Office Consolidation February 2026)

Online database tools:

- Natural Heritage Information Centre (NHIC) Database
- Geospatial Ontario Database (Natural Heritage Layers)
- Ontario Nature’s Reptile and Amphibian Atlas
- Ontario Breeding Bird Atlas
- Ebird.org
- Google Earth imagery, over the timescale of 2009 to 2025

¹ Milton Logistics Hub Environmental Assessment Report. The Review Panel for the Joint Process. January 27, 2020.

² This study does not include lands within the approved CN Rail Milton Logistics Hub itself.

³ Given the overlap in natural heritage policies between the Halton Region and Town of Milton Official Plans, only discussion with respect to the Town Official Plan has been included in the current report.

- Fisheries and Oceans Canada (DFO) Aquatic Species at Risk Mapping
- Conservation Halton (CH) Online Regulation Mapping

3 EXISTING CONDITIONS

3.1 Overview

Based on air photo interpretation and confirmed through field surveys, the Subject Lands consist primarily of active agricultural operations (row crops) and rural residences, with wooded areas, wetlands, watercourses and drainage features scattered throughout. Several major rural roads bisect the Subject Lands, as does a rail line adjacent to the logistics hub. The CN Milton Logistics Hub lands are located on the west side of the rail line, with the majority of the Subject Lands located east of the rail line, except for Phase 4 (Parcel 17). Field survey components are described in respective sections below, with a chronology of field surveys included in Appendix A. Data analysis and evaluation included preparation of species inventories, habitat assessments, and evaluations of significance and sensitivity using relevant guidelines and policy, as described herein.

3.1.1 Physiography, Drainage & Soils

This section incorporates information from the Stormwater Management Report, CN Rail Intermodal Lands – Milton (Envision Consultants Ltd.; April 2026), the Fluvial Geomorphological Assessment Milton Link (GEO Morphix; May 2026) and the Hydrogeological Investigation and Water Balance Report (EXP Services Inc.; December 2025).

The Subject Lands are within a physiographic region known as the Peel Plain, which is the lake bottom of former glacial Lake Peel. The Peel Plain is a level-to-undulating area of clay soils that generally slopes southeast towards Lake Ontario, following the topography of the underlying till (Chapman & Putnam, 2007). The dominant surficial sediment of the Peel Plain comprises Halton Till, subglacial deposits of the last Laurentide Ice Sheet in the region. Consistent with the description of the Peel Plain physiographic region, grades across the Subject Lands are relatively flat, with the north-eastern portion of the Subject Lands (east of First Line) draining towards Sixteen Mile Creek. The remainder of the Subject Lands generally drains south and east towards the rail line, towards Indian Creek and eventually Bronte Creek.

Throughout the Subject Lands, there is a layer of reworked till below the topsoil, extending to a depth of approximately 0.7 m. The layer of reworked till lies above a clayey silt to silty clay till that extends to a minimum of 5 to 8 m with occasional seams of silty sand to sandy soil. This hardened, fine-grained till is likely erosion resistant. Groundwater levels are highly variable, ranging from 0.15 m below ground to nearly 6 m below ground, however, groundwater levels are generally 1 m or less across the majority of the Subject Lands. Groundwater flow direction generally follows the prevailing surface drainage patterns.

3.1.2 Designated Natural Heritage Features

Several designated natural heritage features are present on the Subject Lands (Figure 1). Per Schedule 6 of the Town of Milton Official Plan (Office Consolidation, February 2026), herein referred to as the Town OP, portions of the Subject Lands are designated as *Environmental System*. Per Policy 2.5.1.1, the Town recognizes an *Environmental System* comprised of a Green System, Blue System, Natural Hazard, Air and Soil. Specifically, the Green System consists of Local Natural Heritage, Greenbelt Natural Heritage, Parks and Open Space, and Urban Forest, some of which are relevant to the Subject Lands. As it relates to natural heritage, components of the Local Natural Heritage System (LNHS) include the following, some of which are present within the Subject Lands:

- *Key Features*, which include:
 - Significant habitat of *Endangered* and *Threatened* species;
 - *Significant Wetlands*;
 - *Significant Woodlands*;
 - *Significant Valleylands*;
 - *Significant Wildlife Habitat*;
 - Significant Areas of Natural and Scientific Interest;
 - Fish habitat;
- Enhancements to *Key Features*;
- Linkages;
- Buffers;
- Watercourses that are within a Conservation Authority Regulation Limit or that provide a linkage to a wetland or significant woodland;
- Wetlands other than those considered significant; and
- Escarpment Natural Area and Escarpment Protection Area as identified in the Niagara Escarpment Plan.
- A small area in the southeast portion of the Subject Lands (within Phase 4) includes the following Provincial designations:
 - Trafalgar Moraine Area of Natural and Scientific Interest; and
 - The Natural Heritage System of the Protected Countryside of the Greenbelt Area is present, per Schedule 4 of the Greenbelt Plan (2017).
- Per Conservation Halton (CH) mapping (2026⁴) portions of the Subject Lands are considered 'regulated' by CH due to the presence of various hazard lands including, floodplain, wetlands, watercourses and their associated meander belts and stable top of bank hazards.

3.2 Vegetation & Flora

3.2.1 Approach – Field Surveys & Analyses

A three-season botanical inventory and vegetation assessment within the Subject Lands was conducted on the following dates:

- Spring: May 2, 2024
- July 4 and July 5, 2024

⁴ [Planning and Permits](#)

■ October 3, 2024

The scope of fieldwork and analyses included the following:

- Classifying, mapping and evaluating vegetation communities within the Subject Lands. Vegetation communities were classified using the Ecological Land Classification for Southern Ontario (ELC) (Lee et al. 1998).
- Evaluating vegetation community significance, using Natural Heritage Resources of Ontario: S-ranks for communities in site regions 6 and 7 (Bakowsky 1996; NHIC website).
- Botanical inventory and preparation of a vascular plant species list (Appendix B).
 - Plant species status was evaluated using The Vascular Plants of Halton Region, Ontario (Crins et al. 2006) for regional significance; the NHIC website for provincial rarity ranks (i.e., S-Ranks); the Species at Risk in Ontario list (COSSARO) for provincial status designations; and the Canadian Species at Risk List (Committee on the Status of Endangered Wildlife in Canada [COSEWIC]) for national status designations.
 - Nomenclature generally follows the Natural Heritage Information Centre and VASCAN (Brouillet et al. 2024; NHIC 2024a)
 - Botanical Quality – the quality of a particular vegetation community can be reflected in its richness of conservative species as indicated by the Floristic Quality Index (FQI) number (Oldham et al. 1995). FQI is a measurement of a vegetation community's ecological quality based on its plant species composition. FQI is calculated by weighting the mean *Coefficient of Conservatism*⁵ divided by species richness. Generally, a FQI of 1 – 10 represents a community that is of low botanical quality, 11 – 20 is moderate, 21 – 35 is high quality, and >35 is exceptional.

3.2.2 *Floristics*

In total, 268 plant species were recorded during WSP field surveys in the Subject Lands. Thirteen of the recorded plant species could not be accurately identified beyond genus-level due to a lack of distinguishable traits observed at the time of the field surveys. A complete list of vascular plant species for each vegetation community is provided in Appendix B. Of the species recorded:

- 154 (60%) are native and 101 (40%) are non-native.
- None is provincially rare (i.e., S-rank S1 – S3).
- None is globally rare (i.e., G-rank G1 – G3).
- No plant SAR subject to the provisions of the Endangered Species Act, ESA (2007) or Species at Risk Act, SARA (2002) were recorded.
- Eight species classified as Rare in Halton Region by Crins et al. (2006) were recorded:

⁵ Coefficient of Conservatism. Rank of 0 to 10 based on plants degree of fidelity to a range of synecological parameters: (0-3) Taxa found in a variety of plant communities; (4-6) Taxa typically associated with specific plant community but tolerate moderate disturbance; (7-8) Taxa associated with plant communities in advanced successional stages with minor disturbance; (9-10) Taxa with high fidelity to a narrow range of synecological parameters.

- Clammy Hedge-hyssop (*Gratiola neglecta*) – rare on the Subject Lands but locally common in a small MAM2 inclusion of Veg. Unit 8 located directly northeast of Veg. Unit 11 in Parcel 9.
- Common Three-square Bulrush (*Schoenoplectus pungens*) – rare, only recorded in a small portion of Veg. Unit 7/10 located in Parcel 8 (17T 594698 4812769).
- Great Duckweed (*Spirodela polyrhiza*) – rare on the Subject Lands but locally common in both Veg. Unit 9 (Parcel 5; 17T 593904 4813547) and Veg. Unit 11 (Parcel 8; 17T 594807 4812901) where the species was observed mixed with other duckweed species (*Lemna sp.*) in small, permanent pools present in each feature.
- Horned Pondweed (*Zannichellia palustris*) - rare, recorded in the portion of Tributary 1 of Sixteen Mile Creek that intersects Veg. Unit 2 (Parcel 1), between the abandoned house and barn and Britannia Road to the north.
- Small Pondweed (*Potamogeton pusillus*) – rare, recorded in the portion of Tributary 1 of Sixteen Mile Creek that intersects Veg. Unit 2 (Parcel 1), between the abandoned house and barn and Britannia Road to the north.
- Smooth Arrowwood (*Viburnum dentatum var. lucidum*) – rare, one individual recorded in the southeast limits of Veg. Unit 3 (Parcel 1; 17T 594456 4814833).
- Red-rooted Flatsedge (*Cyperus erythrorhizos*) – occasional within Veg. Unit 7/10, primarily scattered along the northern portion directly adjacent to Veg. Unit 9 (Parcel 5), with some individuals found in the portion of the unit that extends north of Veg. Unit 9 (in Parcel 4).
- Yellow-seed False Pimpernel (*Lindernia dubia*) – Occasional, scattered throughout the northern and central portions of Veg. Unit 7/10 (Parcel 4 and Parcel 5).
- Of the 154 naturally occurring native species recorded for which CC values are provided, the CC values range from 0 to 8 with the majority (94%) between 0 and 6 (i.e., moderate to high disturbance tolerance). The following eight species have a CC value of >6, which is considered highly conservative and only includes species that grow in vegetation communities with low levels of recent disturbance:
 - Canada Garlic (*Allium canadense*) – rare along the edge of the Veg. Unit 6 ground layer (Parcel 1).
 - Clammy Hedge-hyssop – rare in Veg. Unit 8 (Parcel 9).
 - Eastern Mannagrass (*Glyceria septentrionalis*) – rare in Veg. Unit 9 (Parcel 5).
 - Michigan Lily (*Lilium michiganense*) – rare in Veg Units 5a (Parcel 1) and 9 (Parcel 9).
 - Downy Arrowwood (*Viburnum rafinesqueanum*) - rare in the understory of Veg Units 5a (Parcel 1).
 - Smooth Arrowwood – rare in Veg. Unit 3 (Parcel 1)
 - Wood Anemone (*Anemone quinquefolia*) - rare in Veg Units 5a (Parcel 1) and 9 (Parcel 9).
 - Yellow-seed False Pimpernel – occasional in Veg. Unit 7/10 (Parcel 4 and 5).

3.2.3 *Vegetation Communities*

Thirteen natural / cultural vegetation communities (“Veg. Units”) were mapped on the Subject Lands, based on field surveys and air photo interpretation. Three of these (Veg. Units 5a, 9 and 11) are considered a provincially significant vegetation community (S3) type per the Natural Heritage Information Centre’s Plant Community List (NHIC 2024b): Fresh – Moist Shagbark Hickory Deciduous Forest community (FOD9-4). All surveyed vegetation communities are depicted on Figure 2, listed below and described in Table 1, based on conditions recorded at the time of 2024 surveys.

Vegetation Types:

Unit 1: **CUW1** Mineral Cultural Woodland: Parcel 11 and Parcel 13

Unit 2: **CUM1** Mineral Cultural Woodland: Parcel 1

Unit 3: **CUW1** Mineral Cultural Woodland: Parcel 1

Unit 4: **CUT1** Mineral Cultural Thicket: Parcel 1

Unit 5: **FOD9-4** Fresh – Moist Shagbark Hickory Deciduous Forest: Parcel 1

Unit 6: **FOD6-5** Fresh – Moist Sugar Maple – Hardwood Deciduous Forest: Parcel 1

Unit 7 / 10: **MAM2** Mineral Meadow Marsh: Parcels 2, 3, 4, 5, 8 and 9

Unit 8: **CUM1** Mineral Cultural Meadow: Parcels 2, 4, 8, 9, and 17

Unit 9: **FOD9-4** Fresh – Moist Shagbark Hickory Deciduous Forest: Parcel 5

Unit 11: **FOD9-4** Fresh – Moist Shagbark Hickory Deciduous Forest: Parcels 8 and 9

Unit 12: **MAS2-1** Cattail Mineral Shallow Marsh: Parcel 9

Unit 13: **FOD5-1** Dry – Fresh Sugar Maple Deciduous Forest: Parcel 17

Table 1: Vegetation Community Descriptions

Unit	ELC Vegetation Type	Component	Component Species	Plant Species of Conservation Concern	Additional Description and Comments
1	CUW1 Mineral Cultural Woodland (Parcels 11 and 13)	Canopy	Abundant Norway maple (<i>Acer platanoides</i>), Freeman’s maple (<i>Acer x freemanii</i>), Manitoba maple (<i>Acer negundo</i>), and Blue Spruce (<i>Picea pungens</i>).	None	This is a culturally derived vegetation community likely resulting from the abandonment of two adjacent residential lots. The community is comprised of planted and naturally regenerating / adventive trees and shrubs, graminoids, and herbaceous species in the understory and ground layer. Dominated by typical early successional and/or tolerant species. Disturbances include the presence of exotic plant species and scattered trash. Inclusion / Complex: Mineral Cultural Meadow (CUM1) complex.
		Sub-Canopy	Occasional Manitoba Maple, Apple Species (<i>Malus sp.</i>), Staghorn Sumac (<i>Rhus typhina</i>), and Eastern Red Cedar (<i>Juniperus virginiana</i>).		
		Understory	Occasional Staghorn Sumac, Tatarian Honeysuckle (<i>Lonicera tatarica</i>), Common Buckthorn (<i>Rhamnus cathartica</i>), and Manitoba Maple		
		Ground Layer	Abundant Kentucky Bluegrass (<i>Poa pratensis ssp. pratensis</i>), Tall Goldenrod (<i>Solidago altissima</i>), Old Field Aster (<i>Symphyotrichum pilosum</i>), New England Aster (<i>Symphyotrichum novae-angliae</i>), Panicked Aster (<i>Symphyotrichum lanceolatum</i>), and Tufted Vetch (<i>Vicia cracca</i>).		
2	CUM1 Mineral Cultural Meadow (Parcel 1)	Canopy	Sparse Basswood (<i>Tilia americana</i>), Norway Maple, Scots Pine (<i>Pinus sylvestris</i>), and Horse Chestnut (<i>Aesculus hippocastanum</i>)	Horned Pondweed (R) Small Pondweed (R) Both species observed within Tributary 1 of 16 Mile Creek, between the abandoned house and barn and Britannia Road to the north.	This is a culturally derived vegetation community likely resulting from the abandonment of a rural homestead and previous vegetation clearing along the existing drain that runs through the length of the Veg. Unit. The community is comprised of sparse planted and naturally regenerating / adventive trees and shrubs, and abundant graminoids, and herbaceous species in the ground layer. Dominated by typical early successional and/or tolerant species. Disturbances include the presence of exotic plant species, an abandoned house and dilapidated barn, scattered trash, an un-paved driveway, and ATV tracks running south through the Veg. Unit from the driveway. Inclusion / Complex: This community contains a small Manitoba Maple cultural woodland and a small Grey Dogwood thicket adjacent to the barn. The community also includes shallow marsh vegetation dominated by Hybrid Cattail and Reed Canary Grass along the drain. The drain opens into a small pond filled with Cattail near the house and barn where it then reverts back to its linear form after passing through a culvert running underneath the property’s driveway. It is likely that the feature was a dug pond as this feature was not visible on the property during a review of available historic aerial imagery for the area from 1954 (University of Toronto).
		Sub-Canopy	Occasional Manitoba Maple.		
		Understory	Occasional Common Buckthorn, Grey Dogwood (<i>Cornus racemosa</i>), and Chokecherry (<i>Prunus virginiana</i>).		
		Ground Layer	Abundant Smooth Brome (<i>Bromus inermis</i>), Reed Canarygrass (<i>Phalaris arundinacea</i>), Tall Goldenrod, and Blue Cattail (<i>Typha x glauca</i>).		
3	CUW1 Mineral Cultural Woodland (Parcel 1)	Canopy	n/a	Smooth Arrowwood (R): one individual recorded in the southeast limits of Veg. Unit 3 (Parcel 1; 17T 594456 4814833).	This is a small woodland community growing along the banks of Tributary 2 of Sixteen Mile Creek. Cover consists of a dense Manitoba Maple and Hawthorn layer with varying levels of understory and groundcover. Disturbances include the presence of exotic plant species, scattered trash, and an ATV path that intersects the Veg. Unit. Inclusion / Complex: This community contains a small Fowl Manna Grass Mineral Meadow Marsh (MAM2-4) inclusion adjacent to the watercourse in the southeast end of the Veg. Unit.
		Subcanopy	Abundant Manitoba Maple and Hawthorn (<i>Crataegus sp.</i>).		
		Understory	Abundant European Buckthorn and Hawthorn with Grey Dogwood and Manitoba Maple associates.		
		Ground Layer	Abundant Common Buckthorn with Herb-Robert (<i>Geranium robertianum</i>), Canada Avens (<i>Geum canadense</i>), and Broad-leaved Enchanter’s Nightshade (<i>Circaea canadensis</i>) associates.		
4	CUT1 Mineral Cultural Thicket (Parcel 1)	Canopy	n/a	None	This is a small cultural thicket community present along a section of Tributary 2 of Sixteen Mile Creek that has steeper banks than adjacent areas. Disturbances include the presence of exotic plant species. Inclusion / Complex: None
		Sub-Canopy	Sparse Green Ash (<i>Fraxinus pennsylvanica</i>), Common Pear (<i>Pyrus communis</i>), and Norway Maple.		
		Understory	Abundant Hawthorn, Common Buckthorn, and Grey Dogwood with the occasional Tatarian Honeysuckle.		

Unit	ELC Vegetation Type	Component	Component Species	Plant Species of Conservation Concern	Additional Description and Comments
		Ground Layer	Occasional Tall Goldenrod, Smooth Brome, Common Buckthorn, and Wild Strawberry (<i>Fragaria virginiana</i>).		
5a	FOD9-4 Fresh – Moist Shagbark Hickory Deciduous Forest (Parcel 1). Provincially significant type (S3)	Canopy	Abundant Shagbark Hickory (<i>Carya ovata</i>) with Bur Oak (<i>Quercus macrocarpa</i>), Sugar Maple (<i>Acer saccharum</i>), and Basswood associates.	None	This vegetation community covers most of the existing mature woodlot present in the northern portion of Parcel 1. Disturbances include the presence of exotic plant species and trash in areas adjacent to Britannia Road. Old farm equipment has also been dumped along the eastern edge of the woodlot. Inclusion / Complex: A Common Buckthorn dominated Mineral Cultural Thicket (CUT1) exists as a strip of vegetation cover along the community's northeastern border.
		Subcanopy	Occasional Shagbark Hickory, Sugar Maple, American Beech (<i>Fagus grandifolia</i>), and Eastern Hop-hornbeam (<i>Ostrya virginiana</i>).		
		Understory	Abundant Common Buckthorn with Green Ash, Chokecherry, and Grey Dogwood associates.		
		Ground Layer	Abundant Spotted Geranium (<i>Geranium maculatum</i>), Common Buckthorn, and Green Ash with Rosy Sedge (<i>Carex rosea</i>).		
5b	FOD6-5 Fresh – Moist Sugar Maple – Hardwood Deciduous Forest (Parcel 1)	Canopy	Abundant Sugar Maple with Shagbark Hickory, Basswood, and American Beech associates.	None	This mature forest community is present in eastern portion of the same woodlot as Veg. Unit 5a. Disturbances include the presence of exotic plant species. Inclusion / Complex: None
		Sub-Canopy	Abundant Sugar Maple with Shagbark Hickory, Basswood, and American Beech associates.		
		Understory	Infrequent Chokecherry, Shagbark Hickory, White Ash, and Green Ash.		
		Ground Layer	Infrequent Shagbark Hickory, White Ash, Running Strawberry, and Spotted Geranium.		
6	MAS2-1 Cattail Mineral Shallow Marsh (Parcel 1)	Canopy	n/a	None	This marsh community is associated with Tributary 2 of Sixteen Mile Creek, extending from Britannia Road to the northeast boundary of Veg. Unit 3. Disturbances include the presence of exotic plant species and an ATV trail that runs along the eastern portion of the community, adjacent to Veg. Unit 4. Inclusion / Complex: None
		Sub-Canopy	n/a		
		Understory	Abundant Blue Cattail		
		Ground Layer	Infrequent Bittersweet Nightshade (<i>Solanum dulcamara</i>), Meadow Foxtail (<i>Alopecurus pratensis</i>), Panicked Aster, Spotted Jewelweed (<i>Impatiens capensis</i>), and Purple Loosestrife (<i>Lythrum salicaria</i>).		
7/10	MAM2 Mineral Meadow Marsh (Parcels 2, 3, 4, 5, 8, and 9).	Canopy	n/a	Common Three-square Bulrush (R): only recorded in a small portion of Veg. Unit 7/10 located in Parcel 8 (17T 594698 4812769), west of Veg. Unit 11.	Blocks of meadow marsh vegetation communities are present in several locations across the Subject Lands. The communities are typically associated with drainage features and low-lying sections of agricultural fields where pooling water has likely prevented these areas from being plowed and/or prevented crops from establishing.
		Sub-Canopy	n/a		
		Understory	n/a		

Unit	ELC Vegetation Type	Component	Component Species	Plant Species of Conservation Concern	Additional Description and Comments
		Ground Layer	Abundant Reed Canarygrass, Blue Cattail, Fall Panicgrass (<i>Panicum dichotomiflorum</i>), Meadow Foxtail, Blunt Spikerush (<i>Eleocharis obtusa</i>), and European Reed (<i>Phragmites australis</i> ssp. <i>australis</i>).	Red-rooted Flatsedge (R): within Veg. Unit 7/10, primarily scattered along the northern portion directly adjacent to Veg. Unit 9 (Parcel 5), with some individuals found in the portion of the unit that extends north of Veg. Unit 9 (in Parcel 4). Yellow-seed False Pimpernel (R): scattered throughout the northern and central portions of Veg. Unit 7/10 (Parcel 4 and Parcel 5).	Parcel 2: Located in the southwest corner of the parcel, along Tributary 1 of Indian Creek, this block was characterized by a dense coverage of European Reed. Parcel 3: This block is an extension of the block present on Parcel 2, present directly west of First Line along Tributary 1 of Indian Creek. Here European Reed is less abundant, and the block also includes Blue Cattail and Meadow Foxtail. Parcel 4 and 5: This block is present on both Parcels 4 and 5 and is contiguous with a woodland (Veg. Unit 9) on Parcel 5, with drainage across Parcel 4 conveyed to the wetland via HDF 2a, outletting at the downgradient end of the wetland through HDF 2b, across Parcel 5. Dominant species varied throughout the block with Reed Canarygrass, Blue Cattail, Blunt Spikerush and other herbaceous wetland vegetation being dominant in the northern half of the block and Fall Panicgrass comprising most of the block's southern half. Parcel 8: Situated in the northern portion of the parcel, this block is located adjacent to the start of HDF 3. The small wetland feature primarily consisted of Reed-canary Grass and Blue Cattail. Parcel 9: Located along the southeast parcel boundary, this block contained a small depression in the agricultural field where wetland species such as Cattails (<i>Typha</i> sp.) had established. Inclusion / Complex: The blocks of MAM2 vegetation were complexed with an MAS2-1 community in Parcels 3, 4, 8, and 9 as the ratio between cattail vegetation and graminoid vegetation frequently varied. The level and presence of standing water also varied at each wetland depending on the timing of the site visit and location within the feature(s).
8	CUM1 Mineral Cultural Meadow (Parcels 2, , 4, 8, 9 and 17)	Canopy	n/a	Clammy Hedge-hyssop (R): rare on the Subject Lands but locally common in a small MAM2 inclusion of Veg. Unit 8 directly northeast of Veg. Unit 11 in Parcel 9.	This vegetation community is present in several locations across the Subject Lands where some form of previous disturbance has occurred. Parcel 2: Two blocks of CUM1 vegetation are present in the western and southern corner of the parcel. The western block is characterized by the remnants of an old homestead (confirmed through a review of historic aerial imagery). No structures other than an old construction trailer remain; however, several piles of wood were noted within the property and evidence of dumping was observed at the site entrance off Frist Line. The site was dominated by non-native grass species. The southern block was a small section of agricultural field that had been left fallow in 2024 and 2025. Species included a mix of non-native grass species and native and non-native forb species. Parcel 4: Blocks of CUM1 vegetation in the parcel consist of two narrow, linear features along the parcel's northwest boundary and a small block of cultural meadow vegetation in the northern corner, directly adjacent to First Line. All blocks were primarily comprised of non-native grass species with some native forbs and graminoids observed. This was primarily in the northwestern blocks where wetland species were able to establish in small depressions scattered throughout the features (<0.05 ha). A portion of the northwest block contained a thin hedgerow. Two parallel access roads for the rail line construction intersect the northwest blocks. Parcel 8: This block of CUM1 vegetation is primarily located in the northeast portion of Parcel 8 with the block also overlapping a small portion of Parcel 9. The block bi-sects Veg. Unit 11 and is associated with an old homestead (confirmed through a review of historic aerial imagery). The community is in various stages of succession with a more established shrub layer and a small Cultural Woodland inclusion primarily comprised of Trembling Aspen (<i>Populus tremuloides</i>) present. In addition, a small Cultural Woodland primarily comprised of Trembling Aspen (<i>Populus tremuloides</i>) is present in Parcel 8. Two concrete pads are present in the center of the community. A small piece of infrastructure (potentially a weather facility) is present in the northern portion of the block. Parcel 17: This block is comprised of several large fields currently been used for horse pastures. Extensive grazing was observed at this block.
		Subcanopy	n/a		
		Understory	n/a		
		Ground Layer	Abundant Kentucky Bluegrass, Meadow Foxtail, Tall Ryegrass (<i>Lolium arundinaceum</i>), Garden Bird's-foot Trefoil (<i>Lotus corniculatus</i>), Smooth Brome (<i>Bromus inermis</i>), and Tall Goldenrod.		

Unit	ELC Vegetation Type	Component	Component Species	Plant Species of Conservation Concern	Additional Description and Comments
9	FOD9-4 Fresh – Moist Shagbark Hickory Deciduous Forest (Parcel 5) Provincially significant type (S3)	Canopy	Dominated by Shagbark Hickory with occasional Bur Oak and Black Walnut (<i>Juglans nigra</i>) associates.	Greater duckweed (R) : rare on the Subject Lands but locally common in Veg. Unit 9 (Parcel 5; 17T 593904 4813547) where the species was observed mixed with other duckweed species (<i>Lemna</i> sp.) in small, permanent pool in the northern portion of Veg. Unit 9.	This mature, lowland forest community is present in the western portion of Parcel 5. Disturbances include the presence of exotic plant species and scattered trash in the woodlot. Inclusion / Complex : A small Black Walnut plantation is present along the western edge of the community. A small pond dominated by Broad-leaved Cattails (<i>Typha latifolia</i> ; MAS2-1) is also present in the northwest corner of the community.
		Sub-Canopy	Abundant Shagbark Hickory with Bur Oak, Hawthorn, American Elm (<i>Ulmus americana</i>) associates.		
		Understory	Abundant Common Buckthorn and Grey Dogwood with Hawthorn and Chokecherry associates.		
		Ground Layer	Abundant Thicket Creeper (<i>Parthenocissus vitacea</i>), Common Buckthorn, Rosy Sedge, Canada Avens, and Broad-leaved Enchanter's Nightshade.		
11	FOD9-4 Fresh – Moist Shagbark Hickory Deciduous Forest (Parcels 8 and 9) Provincially significant type (S3)	Canopy	Dominated by Shagbark Hickory with occasional Bur Oak and Basswood associates.	Greater Duckweed (R) : rare on the Subject Lands but locally common in Veg. Unit 11 (Parcel 8; 17T 594807 4812901) where the species was observed mixed with other duckweed species (<i>Lemna</i> sp.) in small, permanent pool in the northern portion of the feature.	This mature, lowland forest community consists of two woodlot blocks separated by a cleared area now occupied by meadow vegetation. The northern portion of the feature is situated in Parcel 8 while the southern portion is situated along the northeastern limit of Parcel 9. While Common Buckthorn was abundant in both woodlot blocks, the coverage in the northern block was noted to be noticeably denser in comparison, Disturbances include the presence of exotic plant species, scattered trash in the woodlot, and previous clearing. Inclusion / Complex : A Duckweed Floating-leaved Shallow Aquatic community (SAF1-3) is present in the small pond located in the northern woodlot block.
		Sub-Canopy	Dominated by Shagbark Hickory with occasional Bur Oak, Basswood, and Eastern Hop-hornbeam associates.		
		Understory	Abundant Common Buckthorn with Grey Dogwood, Chokecherry, and Green Ash associates.		
		Ground Layer	Abundant Common Buckthorn, with Thicket Creeper, Eastern Poison-ivy (<i>Toxicodendron radicans</i> var. <i>radicans</i>), Shagbark Hickory, and Spotted Jewelweed associates.		
12	MAS2-1 Cattail Mineral Shallow Marsh (Parcel 9)	Canopy	n/a	None	This is a small, isolated pocket of wetland vegetation in the northeast portion of Parcel 9. The wetland is mostly surrounded by a thicket dominated by Common Buckthorn. Disturbances include exotic plant species. Inclusion / Complex : A Mineral Cultural Thicket (CUT1) surrounds the wetland vegetation.
		Sub-Canopy	Sparse Green Ash, White Elm, Apple and White Ash.		
		Understory	Abundant Common Buckthorn with Grey Dogwood and Hawthorn associates.		
		Ground Layer	Abundant Narrow-leaved Cattail (<i>Typha angustifolia</i>), Common Buckthorn with Wood Avens (<i>Geum urbanum</i>) and Riverbank Grape (<i>Vitis riparia</i>) associates.		
13	FOD5-1 Dry – Fresh Sugar Maple Deciduous Forest (Parcel 17)	Canopy	Abundant Sugar Maple with sparse Willow species (<i>Salix</i> sp.) and Norway Spruce (<i>Picea abies</i>) associates.	None	This small woodlot is situated along Lower Base Line West near Tremaine Road. The woodlot contains a sparse groundcover layer. A small pond is present in the feature along with a deep cut roadside ditch. This community was surveyed from the roadside. Disturbances include the presence of exotic plant species and gaps in canopy cover. Inclusion / Complex : A Duckweed Floating-leaved Shallow Aquatic community (SAF1-3) is present in the small pond located in the woodlot.
		Sub-Canopy	Abundant Sugar Maple with Manitoba Maple associates.		
		Understory	Occasional Tatarian Honeysuckle and Common Buckthorn		
		Ground Layer	Abundant Coltsfoot (<i>Tussilago farfara</i>), with occasional Garlic Mustard (<i>Alliaria petiolate</i>) and Tall Goldenrod.		

R – Rare in Halton Region

3.2.4 Hedgerows

Hedgerows are present throughout the Subject Lands, found within or extending along the boundaries of all parcels. Hedgerows were generally composed of a mixture of native tree species and a dense shrub layer typically comprised of non-native and invasive species. Common species observed included: Bur Oak; Black Walnut; Apple sp.; Hawthorns; Common Buckthorn; Tartarian Honeysuckle; Grey Dogwood; Riverbank Grape; and Thicket Creeper. The ground layer was similar in composition to the cultural meadow (CUM) vegetation communities throughout the Subject Lands, with a mixture of non-native grass species, and native and non-native forb species.

In some cases, hedgerows can provide connections or ecological linkages between fragmented ecosystems, such as the agricultural / rural residential land use matrix present across the Subject Lands. However, these hedgerows do not provide this linkage function due the presence of roadways, a major rail corridor, development, and a lack of vegetation cover often disrupting any potential linkage function.

3.3 Wildlife

3.3.1 Breeding Birds

Approach – Breeding Bird Survey

Two rounds of breeding bird surveys were undertaken by qualified, experienced staff, using protocols consistent with the Ontario Breeding Bird Atlas (OBBA) on May 29, May 30 and July 4, 2024. These were targeted early morning surveys within the southern Ontario bird breeding period, conducted under appropriate weather conditions (i.e., low wind and no precipitation).

All habitats within and immediately adjacent to the Subject Lands were thoroughly surveyed using walking transects and 5-minute point counts at pre-determined locations. Bird observations were recorded for all directions and distances from the stations; therefore, some individuals may have been counted more than once. Level of breeding bird evidence observed was recorded following standard criteria established by the Ontario Breeding Bird Atlas [OBBA] (Cadman et al. 2007, Bird Studies Canada 2009).

For the purpose of this report, avian Species of Conservation Concern (SCC) include: federally and provincially designated Species at Risk (SAR) (listed as Endangered, Threatened or Special Concern), provincially rare / uncommon species (S-rank S1 to S3), 'Area Sensitive' species listed in the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015) and regionally significant species (Dwyer 2006).

Results

Results are presented by Parcel Number and point count location (i.e., BB1), as shown on Figure 2.

In total, 54 species were recorded across the Subject Lands. Refer to Appendix C for the full listing. Key results are as follows:

- Breeding Species. 46 species are considered 'breeding' (i.e., 'possible', 'probable' or 'confirmed' breeding evidence). Eight species are potential breeders within the local landscape but with no evidence of breeding:
 - Bank Swallow (*Riparia riparia*): recorded as a foraging visitant.
 - Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides virescens*), Ring-billed Gull (*Larus delawarensis*) and Turkey Vulture (*Cathartes aura*): all recorded flying over the Subject Lands.

- Eastern Phoebe (*Sayornis phoebe*), White-crowned Sparrow (*Zonotrichia leucophrys*) and Wilson's Warbler (*Cardellina pusilla*): Observed migrating through the Subject Lands.
- Five species recorded with breeding evidence are designated as SAR in Ontario⁶ (COSSARO) and/or Canada (COSEWIC), some of which are subject to provisions of the Species at Risk Act:
 - Barn Swallow (*Hirundo rustica*) – *Special Concern* provincially; *Threatened* federally: mainly recorded as an aerial forager, however, potential breeding habitat is present within an abandoned house on Parcel 1 (BB3) and a barn on Parcel 17 (BB18) as individuals were observed entering and exiting these structures.
 - Bobolink (*Dolichonyx oryzivorus*) – *Threatened* provincially and federally: Three individuals recorded with 'probable' breeding evidence on lands south of Parcel 17 (BB19), outside of the Subject Lands.
 - Eastern Meadowlark (*Sturnella magna*) – *Threatened* provincially and federally: One individual recorded with 'possible' breeding evidence on Parcel 17 (BB18); and one individual recorded with 'possible' breeding evidence on lands south of Parcel 17 (BB19), outside of the Subject Lands.
 - Eastern Wood-pewee (*Contopus virens*) – *Special Concern* provincially and federally: One individual recorded with 'possible' breeding evidence within the woodlot on Parcel 1 (BB7); and one individual recorded with 'possible' breeding evidence within the woodlot on Parcel 5 (BB12).
 - Wood Thrush (*Hylocichla mustelina*) – *Special Concern* provincially; *Threatened* federally: One individual recorded with 'possible' breeding evidence within the woodlot on Parcel 1 (BB7).
- Six species recorded with breeding evidence are considered Significant (i.e., *rare*, *uncommon* or *locally significant*) in Halton Region (Dwyer, 2006):
 - Horned Lark (*Eremophila alpestris*) – considered *uncommon* in Halton: One individual recorded with 'possible' breeding evidence on Parcel 1 (BB3); three individuals recorded with 'possible' breeding evidence on Parcel 13 (one at BB15; two at BB16).
 - Northern Mockingbird (*Mimus polygottos*) – considered *uncommon* in Halton: One individual recorded with 'possible' breeding evidence on Parcel 13 (BB15).
 - Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) – considered *uncommon* in Halton: One individual recorded with 'possible' breeding evidence on Parcel 1 (BB3).
 - Red-bellied Woodpecker (*Melanerpes carolinus*) – considered *uncommon* in Halton: One individual recorded with 'possible' breeding evidence within the woodlot on Parcel 5 (BB12).
 - Vesper Sparrow (*Pooecetes gramineus*) – considered *uncommon* in Halton: A total of 9 individuals recorded across the Subject Lands as follows:
 - Five individuals recorded with 'probable' breeding evidence on Parcel 1 (one individual at each of BB1, BB2, BB4, BB5 and BB6).
 - One individual recorded with 'possible' breeding evidence on Parcel 2 (BB9).

⁶ Note that none of the avifauna recorded on the Subject Lands are included on the Protected Species in Ontario (PSO) List (O. Reg. 60/26).

- One individual recorded with ‘possible’ breeding evidence on Parcel 8 (BB13).
- One individual recorded with ‘possible’ breeding evidence on Parcel 9 (BB14).
- One individual recorded with ‘possible’ breeding evidence on Parcel 13 (BB16).
- Willow Flycatcher (*Empidonax traillii*) – considered *uncommon* in Halton: Two individuals recorded with ‘possible’ breeding evidence on Parcel 1 (one at BB5 and one at BB6).
- Two species recorded with breeding evidence are considered Area Sensitive in Ecoregion 7E (MNR 2015):
 - Savannah Sparrow (*Passerculus sandwichensis*): A total of 21 individuals recorded across the Subject Lands as follows:
 - Nine individuals recorded with ‘probable breeding evidence on Parcel 1 (two individuals at each of BB1, BB2 and BB3; one individual at each of BB4, BB5 and BB6).
 - Two individuals recorded with ‘possible’ breeding evidence on Parcel 2 (one individual at each of BB8 and BB9).
 - One individual recorded with ‘possible’ breeding evidence on Parcel 4 (BB11).
 - One individual recorded with ‘possible’ breeding evidence on Parcel 5 (BB12).
 - Three individuals recorded with ‘probable’ breeding evidence on Parcel 13 (two at BB15; one at BB16).
 - Four individuals recorded with ‘probable’ breeding evidence on Parcel 17 (one at BB18; three at BB19).
 - Vesper Sparrow: As above.

An overview of avifauna results and habitats by contiguous Parcel blocks is presented below.

Phase 1 – Parcels 1 and 2 (BB1 – BB9):

These parcels consist primarily of active agricultural fields with hedgerows, CH regulated watercourses (and associated riparian habitat and floodplain) and a woodland feature (Veg. Unit 5) adjacent to Britannia Road on Parcel 1. The primary features of significance in terms of avifauna habitat are Veg. Unit 5 (woodland), the riparian vegetation (Veg. Units 2, 3, 4 and 6) associated with the two mapped watercourses on Parcel 1 and Veg. Unit 7 / 10 on Parcel 2.

In total, 32 species were recorded with breeding evidence on these parcels. Avifauna species recorded with breeding evidence were primarily common, disturbance tolerant species, with some forest-associated species (e.g., Eastern Wood-pewee, Great Crested Flycatcher [*Myiarchus crinitus*] and Wood Thrush) recorded in Veg. Unit 5 and wetland-associated species (e.g., Common Yellowthroat [*Geothlypis trichas*], Swamp Sparrow [*Melospiza georgiana*], Willow Flycatcher and Yellow Warbler [*Setophaga petechia*] recorded within the riparian habitats. In addition, open-country species were also recorded across these parcels (e.g., Horned Lark, Killdeer [*Charadrius vociferus*], Savannah Sparrow and Vesper Sparrow).

Phase 2 – Parcels 3, 4 and 5 (BB10 – BB12):

These parcels consist primarily of active agricultural fields, with hedgerows, disjunct patches of cultural meadow habitat, a CH regulated watercourse (and associated riparian habitat and floodplain) and a woodland / wetland feature, Veg. Unit 9 on Parcel 5 and Veg Unit 7 / 10 on Parcel 4. The primary features of significance in terms of avifauna habitat are the woodland and associated wetland.

In total, 23 species were recorded with breeding evidence on these parcels. Avifauna species recorded with breeding evidence were primarily common, disturbance tolerant species, with some forest-associated species recorded in Veg. Unit 9 (e.g., Eastern Wood-pewee and Red-bellied Woodpecker), wetland-associated species recorded in Veg. Unit 7 / 10 (e.g., Common Yellowthroat, Swamp Sparrow and Yellow Warbler) and open-country species recorded across all parcels (e.g., Field Sparrow [*Spizella pusilla*], Killdeer and Savannah Sparrow).

Phase 3 – Parcels 7, 8, 9 and 13 (BB13 – BB16):

These parcels consist primarily of active agricultural fields, with hedgerows, small, isolated wetlands, successional meadow habitats and a small woodland feature on Parcels 8 and 9 (Veg. Unit 11). The primary feature of significance in terms of avifauna habitat is the Veg. Unit 11 woodland.

In total, 30 species were recorded with breeding evidence on these parcels. Avifauna species recorded with breeding evidence were primarily common, disturbance tolerant species, with some wetland-associated (e.g., Swamp Sparrow and Yellow Warbler) and open-country species (e.g., Field Sparrow, Horned Lark, Savannah Sparrow and Vesper Sparrow) also recorded.

Phase 4 – Parcel 17 (BB17 – BB19):

This parcel consists of active agricultural fields and actively grazed pastures, with associated farm buildings present. There are no natural habitats present.

In total, 23 species were recorded with breeding evidence on these parcels. Avifauna species recorded with breeding evidence were primarily common, disturbance tolerant species, with some open-country species also recorded (e.g., Field Sparrow, Killdeer and Savannah Sparrow). One SAR was recorded with breeding evidence on Parcel 17: Eastern Meadowlark, which is not included on the Protected Species in Ontario (PSO) List (O. Reg. 60/26).

3.3.2 Herpetofauna

Approach – Spring Amphibian Breeding Survey

Three rounds of spring breeding surveys for anurans (frogs and toads) were completed at 17 locations (AC1 – AC17) across the Subject Lands as shown on Figure 2. Survey locations were chosen based on a review of available background information and aerial photography, and field-fit based on on-site conditions. Surveys were conducted per the Marsh Monitoring Program (MMP) protocol (Bird Studies Canada, 2008) on April 15, May 16, May 21, June 18 and June 19, 2024.

Each survey was conducted at dusk / early evening under appropriate weather conditions (i.e., suitable air temperatures and low wind). Night-time air temperatures were $\geq 5^{\circ}\text{C}$ for the first round of survey, $\geq 10^{\circ}\text{C}$ for the second round of survey and $\geq 17^{\circ}\text{C}$ for the third round of survey. Each station was surveyed for three minutes and surveys were completed between one half hour after sunset and midnight. Amphibian calling activity was rated using three levels: Level 1 (individual calls can be counted with no overlap), Level 2 (some calls can be counted or estimated, with some overlap) or Level 3 (calls continuous and overlapping, individuals not distinguishable).

Results

Seven anuran species were recorded during spring amphibian breeding surveys: American Toad (*Anaxyrus americanus*); Western Chorus Frog (*Pseudacris triseriata*); Gray Treefrog (*Hyla versicolor*); Green Frog (*Lithobates clamitans*); Northern Leopard Frog (*Lithobates pipiens*); Spring Peeper (*Pseudacris crucifer*); and Wood Frog (*Lithobates sylvaticus*). Amphibians were recorded at eight of the 17 stations: AC1, AC6, AC9, AC10, AC11, AC13, AC14 and AC17. No calling amphibians were recorded at AC2, AC3, AC4, AC5, AC7, AC8, AC12, AC15 and AC16. Refer to Table 2 for a summary of the highest recorded call level and abundance for each species at each station.

With the exception of Spring Peeper at one station (AC11), all species were recorded in low abundance, as follows:

- American Toad – recorded at three stations (AC9, AC10 and AC17) in low abundance (call level 1, 1-2 individuals).
- Western Chorus Frog – recorded at four stations (AC9, AC10, AC11 and AC14) in low abundance (call level 1, 1-2 individuals).
- Gray Treefrog – recorded at two stations (AC9 and AC11) in low abundance (call level 1, 2-8 individuals).
- Green Frog – recorded at four stations (AC1, AC9, AC11 and AC13) in low abundance (call level 1, 2-6 individuals).
- Northern Leopard Frog – recorded at two stations (AC13 and AC17) in low abundance (call level 1, 1-2 individuals).
- Spring Peeper – recorded at six stations (AC6, AC9, AC10, AC11, AC13 and AC17) in low abundance (call level 1, 2-6 individuals) at all stations except AC11, which this species was recorded in high abundance (call level 3).
- Wood Frog – recorded at one station (AC11) in low abundance (call level 1, 1 individual).

The greatest diversity was recorded on Parcels 3 (AC9), 4 (AC10), 5 (AC11 / AC 13) and 11 (AC17), though all at Level 1 (low abundance).

Table 2. Spring Amphibian Breeding Survey Results – Highest Abundance Recorded at Each Station by Species

Station Number	Observation		
	Species	Call Code	Count
Phase 1			
AC1 Parcel 1	Green Frog	L1	2
AC2 Parcel 1	No Observations		
AC3 Parcel 1	No Observations		
AC4 Parcel 1	No Observations		

Station Number	Observation		
	Species	Call Code	Count
AC5 Parcel 1	No Observations		
AC6 Parcel 1	Spring Peeper	L1	4
AC7 Parcel 2	No Observations		
Phase 2			
AC8 Parcel 3	No Observations		
AC9 Parcel 3	American Toad	L1	1
	Western Chorus Frog	L1	1
	Spring Peeper	L1	2
	Gray Treefrog	L1	2
	Green Frog	L1	2
AC10 Parcel 4	American Toad	L1	2
	Western Chorus Frog	L1	1
	Spring Peeper	L1	6
AC11 Parcel 5	Western Chorus Frog	L1	2
	Spring Peeper	L3	
	Wood Frog	L1	1
	Gray Treefrog	L1	8
	Green Frog	L1	3
AC12 Parcel 5	No Observations		
AC13 South of Parcel 5	Northern Leopard Frog	L1	2
	Spring Peeper	L1	2
	Green Frog	L1	6
Phase 3			
AC14 Parcel 9	Western Chorus Frog	L1	1
AC15 Parcel 8/9	No Observations		
AC16 North of Parcel 8	No Observations		
AC17 Parcel 11	American Toad	L1	2
	Northern Leopard Frog	L1	1
	Spring Peeper	L1	2

Approach – Snake Hibernacula Survey

Two visual encounter surveys were completed on April 23 and May 12, 2025 using techniques described in the Survey Protocol for Ontario's Species at Risk Snakes (MNRF; December 2016). Temperatures were suitable for snake emergence during each survey (13°C - 21°C), with sunny conditions that were suitable for basking to occur. Each survey took approximately two hours and involved visual encounter / wandering transects to inspect potential hibernacula features (cracks / crevices in old building foundations, stone piles), sun-exposed basking areas and grass immediately surrounding old buildings, specifically an old farmhouse foundation and abandoned barn in Phase 1 (Parcel 1).

Results

One Eastern Gartersnake (*Thamnophis sirtalis sirtalis*) was observed during the May 12 survey in Veg. Unit 2 along Tributary 1 of Sixteen Mile Creek. Potentially suitable snake hibernacula was observed in the former farmstead area, however no snakes or evidence of snake use was observed. These features are relatively isolated from natural areas by roads and agricultural fields, which may limit use by snakes.

3.3.3 Supplemental Wildlife Observations

In addition to the targeted surveys described above in previous sections, all direct wildlife observations and wildlife signs (including browse, track / trails, animal scat, bird nesting activity, tree cavities, burrows and vocalizations) were documented, as recorded during all field surveys.

Evidence of the following species was recorded incidentally:

- Six herpetofauna species:
 - American Toad, Eastern Gartersnake, Gray Treefrog, Green Frog, Midland Painted Turtle (*Chrysemys picta*) and Northern Leopard Frog.
- Four invertebrate species:
 - Chimney Crayfish (*Fallicambarus fodiens*) burrows, Ebony Jewelwing (*Calopteryx maculata*), Red Admiral (*Vanessa atalanta*) and Monarch (*Danaus plexippus*).
- Seven mammal species:
 - Coyote (*Canis latrans*), Eastern Chipmunk (*Tamias striatus*), Eastern Cottontail (*Sylvilagus floridanus*), Eastern Gray Squirrel (*Sciurus carolinensis*), Raccoon (*Procyon lotor*), Short-tailed Weasel (*Mustela erminea*), Striped Skunk (*Mephitis mephitis*) and White-tailed Deer (*Odocoileus virginianus*).
 - Although not confirmed during field surveys, based on the habitats present, the general area likely also supports several other common species such as Groundhog (*Marmota monax*), Long-tailed Weasel (*Mustela frenata*), Muskrat (*Ondatra zibethicus*), Virginia Opossum (*Didelphis virginiana*) and a number of small mammals that often go undetected (e.g., bats, shrews, mice, moles and voles).

3.3.4 Significant Wildlife Habitat

Evaluation

No areas of *Significant Wildlife Habitat* (SWH) are currently identified on the Subject Lands based on available background information. An evaluation of SWH was completed using the Significant Wildlife Habitat Criterion

Schedules for Ecoregion 7E (MNRF 2015), based on fieldwork completed in 2024 and 2025. See Appendix D for the full evaluation. Key results are included on Figure 2, as follows:

Candidate SWH (Parcels 1, 5, 8 and 9) – not evaluated through targeted surveys:

- Bat Maternity Colonies
 - Candidate, unconfirmed habitat is present in Veg. Units 5, 9 and 11.

Confirmed SWH (Parcels 1, 5 and 17)

- Other Rare Vegetation Communities
 - Confirmed SWH is present in Veg. Units 5A, 9 and 11, characterized as considered Fresh – Moist Shagbark Hickory Deciduous Forest (FOD9-4) which is considered a provincially rare (S3) vegetation community.
- Special Concern and Rare Wildlife Species
 - Veg. Units 5 and 9 support this type of SWH based on the presence of Wood Thrush (Veg. Unit 5) and Eastern Wood-pewee (Veg. Units 5 and 9) during the bird breeding season.

3.4 Aquatic Habitat

3.4.1 *Headwater Drainage Feature Assessment*

Approach

Headwater Drainage Feature (HDF) assessments were conducted to identify the flow conditions and connectivity of surface water features across the Subject Lands. Potential HDF's, drainage patterns and linkages across the Subject Lands were identified shortly after spring freshet conditions and compared with aerial imagery. These assessments followed the Evaluation, Classification, and Management of Headwater Drainage Features Guidelines (HDF Guidelines) developed by the Toronto and Region Conservation Authority and Credit Valley Conservation (TRCA and CVC, 2014) to evaluate and classify each feature. The analysis is based on data collected in the on-site surface water features according to survey protocols described in Ontario Stream Assessment Protocol (OSAP) Section 4 Module 11 – Unconstrained Headwater Sampling (Gorenc and Stanfield, March 2017).

Field investigations were completed on several dates in 2024 and 2025, including surveys undertaken shortly after the spring freshet and before crops were planted. Prior to the field investigations, the following background information was considered:

- Regulated watercourse per available CH information.
- Land topography.
- Evidence of flowing / standing water.
- Potential flow paths as indicated by moist / wet soils.
- HDF feature definition and/or evidence of erosion.

Survey Methodology

Part 1: Evaluation

Based on a review of aerial photography and corporate experience, it was concluded that the HDF's within the agricultural fields across the Subject Lands were '*low sensitivity sites*' (i.e., features that are ill-defined, contain only ephemeral flow and are unlikely to contain sensitive species and/or habitat) and as such, a *Rapid Survey Technique* was used for the assessment, as outlined in the Evaluation, Classification and Management of Headwater Drainage Feature Guidelines (TRCA and CVC, 2014). Using this evaluation method, components of the headwater sampling protocol were applied, documenting HDF form and flow conditions, riparian vegetation and site features that are important components of habitat.

The unconstrained headwater sampling approach as outlined by OSAP 2017, allows for a rapid assessment method for characterizing the amount of water and sediment transport, storage capacity and drainage feature types found on an extended landscape where access is generally unconstrained. The unconstrained headwater sampling approach specifically identifies three sampling events to effectively assess HDF form and function:

Sample Event 1: Conducted in the short period of time following a major freshet event, which in Ontario generally occurs during late winter and spring, and before new vegetative growth covers and disrupts any newly deposited sediment.

Sample Event 2: Conducted in late April through mid-May, after the melt / thaw related interflow has ceased. This survey should be completed prior to leaf out so that vegetation growth does not impact findings, preferably, after at least three days with no precipitation.

Sample Event 3: Conducted in July to mid-September, following at least three days without a significant (i.e. flow generating) precipitation event.

Prior to field investigations, 12 potential HDF's were noted through review of available aerial imagery. An assessment of these HDF's was conducted over four surveys dates in 2024 (April 19 and April 18) and 2025 (March 17 and August 15), representing Sampling Events 1, 2 and 3 (OSAP, 2017).

Information collected during the field investigations encompassed the following general parameters, where relevant:

- Feature Type (e.g., defined natural channel, channelized, not defined, etc.).
- Riparian Conditions (e.g., none, cropped land, not defined, etc.).
- Flow Conditions (e.g., no water, standing water, interstitial flow, minimal or substantial flow).
- Feature Vegetation.
- Feature / Bankfull Widths / Depths.
- Sediment Deposition / Transport.
- Flow Measurements.
- Channel Connectivity.

The spring assessments provide insight into the potential for sediment deposition prior to agricultural influences and the summer assessment provided further context with respect to the flows that the HDF's convey and if the

features provide functions throughout the year (i.e., are the assessed features more substantive than just providing flow conveyance during the spring freshet). The agricultural fields were observed to have many wet areas during the spring assessments, which held water in low-lying areas, remaining relatively stagnant and becoming dry in the late spring / summer. Of the assessed HDF's, six (HDF 6 to HDF 12) were dry or only contained stagnant water in Sample Events 1 and 2. The remaining six HDF's (HDF 1 to HDF 6)⁷ were confirmed to convey water through the Subject Lands during Sample Events 1 and 2, with their sensitivity / significance assessed, as detailed below. All of the assessed HDF's were dry during Sample Event 3.

The HDF's assessed within the Subject Lands, as well as their associated management recommendations are presented on Figure 2.

Part 2: Classification

The data collected during the HDF evaluation phase (Part 1: Evaluation) was used to apply appropriate classifications to the HDF's being assessed, identifying the functions of each HDF that were considered during Part 3: Management Recommendations. Following the Guidelines, a classification was applied to each of the following four categories: Hydrology; Riparian; Fish and Fish Habitat; and Terrestrial Habitat (see Table 3).

Part 3: Management Recommendations

The classification categories identified in Part 2 provide the basis of the management recommendations provided below. A flow chart in the Guidelines provides guidance through the process of translating the classification results to management recommendations.

Results

The HDF assessment was conducted within the Subject Lands and did not extend onto adjacent lands due to access and safety restrictions. Reaches on adjacent lands were visually assessed from the edges of the Subject Lands where possible to further understand potential downstream connectivity. Specifically, the HDF assessments were completed by assessing the agricultural fields and the forested areas in Phase 1 (Parcels 1 and 2), Phase 2 (Parcels 3, 4 and 5), Phase 3 (Parcels 7, 8, 9, 11 and 13) and Phase 4 (Parcel 17). In total, seven reaches with HDF potential were identified, as follows;

- HDF 1 in Parcel 1
- HDF 2a in Parcel 4 and HDF 2b in Parcel 5
- HDF 3 in Parcel 7
- HDF 4 in Parcel 9
- HDF 5 in Parcel 13
- HDF 6 in Parcel 17

The following evaluations were made following Sample Events 1, 2 and 3 (OSAP, 2017), with relevant input from other field surveys, primarily the vegetation surveys with respect to the presence of riparian, wetland and terrestrial habitat associated with the HDF's.

⁷ HDF 2 was split into two reaches (2a and 2b) as there is a wetland separating the upstream and downstream reaches of the HDF.

- **HDF 1:** Overland flow through active cropland; no defined feature, no native vegetation / terrestrial habitat and no direct fish use (contributing functions only based on apparent connection to downstream watercourse). This feature was actively flowing during Sample Events 1 and 2, conveying flow across the agricultural field onto adjacent lands east of the Subject Lands.
- **HDF 2a:** Overland flow through active cropland, conveying flows from adjacent lands; wetland present at downstream end of agricultural field (Veg. Unit 7 / 10) with evidence of breeding amphibians (AC10); no direct fish use (contributing functions only based on apparent connection to downstream watercourse beyond HDF 2b). This feature was actively flowing during Sample Events 1 and 2, conveying flow across the agricultural field into Veg. Unit 7 / 10.
- **HDF 2b:** Overland flow through active cropland; wetland present at upstream end of agricultural field (Veg. Unit 7 / 10) with evidence of breeding amphibians (AC10); no direct fish use (contributing functions only based on apparent connection to downstream watercourse). This feature was actively flowing during Sample Events 1 and 2, conveying flow from Veg. Unit 7 / 10, across the agricultural field onto adjacent lands south of the Subject Lands.
- **HDF 3:** Overland flow along edge of active cropland; first ~100 m adjacent to forest (Veg. Unit 11), remainder of feature has no native vegetation / terrestrial habitat and no direct fish use (contributing functions only based on apparent connection to downstream watercourse). Downstream of confluence with HDF 4, feature becomes a small swale along the edge of an agricultural field. This feature was actively flowing during Sample Events 1 and 2, conveying flow across the agricultural field to the confluence with HDF 4.
- **HDF 4:** Overland flow along edge of active cropland; portion is adjacent to hedgerow, otherwise no native vegetation / terrestrial habitat and no direct fish use (contributing functions only based on apparent connection to downstream watercourse). Downstream of confluence with HDF 3, feature becomes a small swale along the edge of an agricultural field. This feature was actively flowing during Sample Events 1 and 2, conveying flow across the agricultural field onto adjacent lands south of the Subject Lands.
- **HDF 5:** Low-lying area along edge of agricultural field; no native vegetation / terrestrial habitat and no direct fish use. This feature consists of a low-lying area in an agricultural field that holds water following the spring freshet and connects to a roadside ditch along Lower Base Line.
- **HDF 6:** Swale along a hedgerow bisecting an agricultural field; cultural vegetation associated with the hedgerow, contributing terrestrial habitat, but no direct fish use (contributing functions only based on apparent connection to downstream watercourse). This feature was actively flowing during Sample Events 1 and 2, conveying flow from the agricultural fields onto adjacent lands south of the Subject Lands.

The classification and management recommendation for each HDF feature segment resulting from the assessment of each feature across Sample Events 1, 2 and 3 is provided in Table 3 along with management recommendations in accordance with the Guidelines, below.

Table 3. Summary of HDF Functional Classifications and Management Recommendations

Drainage Feature Segment	Parcel	Step 1		Step 2	Step 3	Step 4	Management Recommendation
		Hydrology*	Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	
HDF 1	1	FC – 4 (Minimal surface flow) FT – 4 (No defined feature, overland flow only) Valued or Contributing	Active Agriculture	Cropped Land Limited Functions	Allochthonous transport only Contributing Functions (based on assumed connectivity to downstream watercourse)	No terrestrial habitat present Limited Functions	Mitigation
HDF 2a	4	FC – 4 (Minimal surface flow) FT – 4 (No defined feature, overland flow only) Valued or Contributing	Active Agriculture	Cropped Land Limited Functions (conveys flow into Wetland (Veg. Unit 7 / 10))	Allochthonous transport only Contributing Functions (based on assumed connectivity to downstream watercourse)	No terrestrial habitat present Limited Functions (evidence of amphibian breeding habitat present in wetland (AC10))	Mitigation
HDF 2b	5	FC – 4 (Minimal surface flow) FT – 4 (No defined feature, overland flow only) Valued or Contributing	Active Agriculture	Cropped Land Limited Functions (Wetland Veg. Unit 7 / 10) at upstream end of feature)	Allochthonous transport only Contributing Functions (based on assumed connectivity to downstream watercourse)	No terrestrial habitat present Limited Functions (evidence of amphibian breeding habitat present in wetland (AC10))	Mitigation
HDF 3	7	FC – 4 (Minimal surface flow) FT – 4 (No defined feature, overland flow only) Valued or Contributing	Active Agriculture	Cropped Land; small portion (~100 m) adjacent to woodland (Veg. Unit 11) Limited Functions; Important Functions adjacent to woodland	Allochthonous transport only Contributing Functions (based on assumed connectivity to downstream watercourse)	No terrestrial habitat present Limited Functions	Mitigation (small portion adjacent to woodland is non-sensitive and does not facilitate a connection between the woodland and any other habitats)
HDF 4	9	FC – 4 (Minimal surface flow) FT – 4 (No defined feature, overland flow only); FT – 7 (Swale; downstream of confluence with HDF 3) Valued or Contributing	Active Agriculture	Cropped Land Limited Functions	Allochthonous transport only Contributing Functions (based on assumed connectivity to downstream watercourse)	No terrestrial habitat present Limited Functions	Mitigation

Drainage Feature Segment	Parcel	Step 1		Step 2	Step 3	Step 4	Management Recommendation
		Hydrology*	Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	
HDF 5	13	FC – 2 (Standing water connected to a roadside ditch) FT – 4 (No defined feature, overland flow only) Valued or Contributing	Active Agriculture	Cropped Land Limited Functions	No connection to a fishery No Function	No terrestrial habitat present Limited Functions	No Management Required
HDF 6	17	FC – 4 (Minimal surface flow) FT – 7 (Swale) Valued or Contributing	Hedgerow; Active Agriculture	Cropped Land Limited Functions	Allochthonous transport only Contributing Functions (based on assumed connectivity to downstream watercourse)	No terrestrial habitat present Limited Functions	Mitigation

* FC = OSAP Flow Condition Codes; FT – OSAP Feature Type Codes

Management Recommendations

Based on the assessment documented herein, six HDF reaches were assigned a management recommendation of Mitigation; with one HDF reach assigned a management recommendation of No Management Required per the HDF guidelines, as follows:

- **No Management Required – Limited Functions** (e.g., features with no or minimal flow and no habitat value): HDF 5.
 - The feature that was identified during desktop pre-screening has been field verified to confirm that no feature and/or functions associated with HDF's are present on the ground and/or there is no connection to downstream. These features are generally characterized by lack of flow, evidence of cultivation, furrowing, presence of a seasonal crop, and lack of natural vegetation. No management recommendations are required.
- **Mitigation – Contributing Functions** (e.g., contributing fish habitat): HDF 1, HDF 2a, HDF 2b, HDF 3, HDF 4 and HDF 6.
 - Replicate or enhance functions through enhanced lot level conveyance measures, such as well-vegetated swales (herbaceous, shrub and tree material) to mimic online wet vegetation pockets or replicated through constructed wetland features connected to downstream.
 - Replicate on-site flow and outlet flows at the top end of the system to maintain feature functions with vegetated swales, bioswales, etc. If catchment drainage has been previously removed due to diversion of stormwater flows, restore lost functions through enhanced lot level controls (i.e., restore original catchment using clean roof drainage).
 - Replicate functions by lot level conveyance measures (e.g., vegetated swales) connected to the natural heritage system, as feasible and/or low impact development stormwater options.

3.4.2 *Aquatic Habitat Assessment & Fish Community Sampling*

Approach

An aquatic habitat assessment was undertaken to identify and assess the sensitivity of mapped surface water features on the Subject Lands, specifically the watercourses in Phases 1 and 2. To facilitate the review of watercourse mapping and drainage conditions, topographic maps and aerial photography were used to compile an understanding of the features present prior to field investigations. Existing background information was also reviewed, all of which informed the field investigations.

The aquatic habitat assessment was completed on August 18 and 19, 2024. The field investigation included a collection of representative photographs and notes on the following watercourse characteristics:

- Flow condition, clarity, general gradient and velocities.
- Channel dimensions and general character.
- Morphology (e.g., riffles, pools, etc.).
- Cover opportunities (e.g., woody debris, undercut banks, boulders, aquatic vegetation, etc.).
- Substrate type.

- Bank height, character and stability / evidence of erosion.
- Riparian vegetation.
- Physical barriers to fish movement.
- Potential specialized habitat areas, including potential spawning habitat, good nursery habitat, holding habitat.
- Evidence of groundwater discharge.
- Disturbances, habitat limitations and potential habitat enhancement opportunities.

In conjunction with the aquatic habitat assessments, fish community sampling was completed wherever possible (i.e., in locations with sufficient water depths) to confirm if any of the assessed watercourses directly support fish habitat within the Subject Lands, and to characterize fish community composition to the extent possible. Fish community sampling was completed using a backpack electrofisher under a Licence to Collect Fish for Scientific Purposes issued by the Ministry of Natural Resources and Forestry (MNRF).

Results

Tributary 1 of Sixteen Mile Creek

The assessed reach of Tributary 1 of Sixteen Mile Creek conveys permanent flow within a defined channel. Flows are conveyed through the Subject Lands from the northwest, originating from residential lands upstream of Britannia Road. The tributary conveys flow southward across Parcel 1, through open cultural meadow with cattails and Phragmites (Veg. Unit 2). A 1.75 m diameter makeshift farm culvert is located in the middle portion the assessed reach. Within the Subject Lands, this watercourse is approximately 750 m long, extending from Britannia Road to its confluence with Tributary 2 in the south portion of Parcel 1 before continuing downstream east of the Subject Lands.

Habitat Assessment

The assessed reach consists of a channelized section of the watercourse that is surrounded by agricultural fields with a riparian buffer (Veg. Unit 2). The assessed reach consisted of flats (55%), runs (25%), and pools (20%). The mean wetted width ranged from 1.2 m (in the runs and flats) to 11 m in the pools, while the mean wetted depth averaged 0.3 m. The mean bankfull width was 2 m (in the runs and flats) and extended to 13 m (pools). The bankfull depth measured 0.35 m on average throughout the assessed reach. The channel banks are gradually sloped and were stable at the time of assessment with little evidence of erosion. Substrate within the assessed reach consisted of silt (45%), gravel (15%), sand (15%), muck (15%) and detritus (10%). Instream cover consisted of overhanging woody debris (5%), instream woody debris (5%), undercut banks (5%), organic debris (5%), and overhanging (25%) and instream vascular macrophytes (25%). Sparse submergent and emergent instream vegetation was visible, consisting of Reed Canary Grass, Phragmites, and cattails. Riparian trees and shrubs were scattered along the assessed reach, with cultural meadow habitat and grasses being the predominate riparian vegetation present. The farm culvert in the middle portion of the assessed reach was slightly perched (0.1 m) and likely acts as a seasonal barrier to fish movement during low flow conditions.

Fish Community

Based on the aquatic species captured during 2024 field surveys, combined with the habitat and flow regime assessment presented above, Tributary 1 of Sixteen Mile Creek has been assessed to function as direct fish habitat. Several common, disturbance tolerant species were captured during fish community sampling conducted by WSP in 2024, as presented in Table 4:

Table 4. Fish Community Sampling Results – Tributary 1 of Sixteen Mile Creek

Common Name	Scientific Name
Bluegill	<i>Lepomis macrochirus</i>
Brook Stickleback	<i>Culaea inconstans</i>
Brown Bullhead	<i>Ameiurus nebulosus</i>
Creek Chub	<i>Semotilus atromaculatus</i>
Fathead Minnow	<i>Pimephales promelas</i>
Pumpkinseed	<i>Lepomis gibbosus</i>
White Sucker	<i>Catostomus commersonii</i>

In addition, the following species are identified in Geospatial Ontario mapping (aquatic resource area line segment data) as potentially being present within Tributary 1 of Sixteen Mile Creek: Blacknose Dace (*Rhinichthys atratulus*), Bluntnose Minnow (*Pimephales notatus*), Common Carp (*Cyprinus carpio*), Common Shiner (*Luxilus cornutus*), Emerald Shiner (*Notropis atherinoides*), Fantail Darter (*Etheostoma flabellare*), Johnny / Tesselated Darter (*Etheostoma nigrum*), Largemouth Bass (*Micropterus nigricans*), Longnose Dace (*Rhinichthys cataractae*), Rainbow Darter (*Etheostoma caeruleum*), River Chub (*Nocomis micropogon*), Rosyface Shiner (*Notropis rubellus*), Smallmouth Bass (*Micropterus dolomieu*), Stonecat (*Noturus flavus*) and Yellow Perch (*Perca flavescens*).

Tributary 2 of Sixteen Mile Creek

The assessed reach of Tributary 2 of Sixteen Mile Creek conveys permanent flow within a defined channel. Flows are conveyed through the Subject Lands from the northwest, originating from residential lands upstream of Britannia Road. The tributary conveys flow southward through Parcel 1 along the west side of Veg. Unit 5, through an open channel with cattails and Phragmites (Veg. Units 3, 4 and 6). Within the Subject Lands, this watercourse is approximately 720 m long, extending from Britannia Road to its confluence with Tributary 1 in the south portion of Parcel 1 before continuing downstream east of the Subject Lands.

Habitat Assessment

The assessed reach consists of a channelized section of the watercourse that is surrounded by agricultural fields and a deciduous forest (Veg. Unit 5) located in the west portion of Parcel 1. The assessed reach consisted of flats (75%), runs (15%), and pools (10%). The mean wetted width ranged from 1.2 m (in the runs and flats) to 3.5 m in the pools, while the mean wetted depth averaged 0.4 m. The mean bankfull width was 2 m (in the runs and flats) and extended to 4 m (pools). The bankfull depth measured 0.35 m on average throughout the assessed reach. The channel banks are gradually sloped and were stable at the time of assessment with little evidence of erosion. Substrate within the assessed reach consisted of silt (40%), sand (15%), muck (15%) gravel (10%), and detritus (20%). Instream cover consisted of overhanging woody debris (5%), instream woody debris (5%), undercut banks (5%), organic debris (5%), and overhanging (35%) and instream vascular macrophytes (35%). Dense emergent instream vegetation was visible, consisting of Reed Canary Grass, Phragmites, and cattails. Riparian trees and shrubs were scattered along the assessed reach, including mixed forest with cultural meadow and grasses within the riparian edge of the channel. The dense instream vegetation may present seasonal barriers to fish movement during low flow conditions.

Fish Community

Based on the aquatic species captured during 2024 field surveys, combined with the habitat and flow regime assessment presented above, Tributary 2 of Sixteen Mile Creek has been assessed to function as direct fish

habitat. Several common, disturbance tolerant species were captured during fish community sampling conducted by WSP in 2024, as presented in Table 5.

Table 5. Fish Community Sampling Results – Tributary 2 of Sixteen Mile Creek

Common Name	Scientific Name
Blacknose Dace	<i>Rhinichthys atratulus</i>
Bluegill	<i>Lepomis macrochirus</i>
Brook Stickleback	<i>Culaea inconstans</i>
Brown Bullhead	<i>Ameiurus nebulosus</i>
Creek Chub	<i>Semotilus atromaculatus</i>
Fathead Minnow	<i>Pimephales promelas</i>
Goldfish	<i>Carassius auratus</i>
Largemouth Bass	<i>Micropterus salmoides</i>
Pumpkinseed	<i>Lepomis gibbosus</i>
White Sucker	<i>Catostomus commersonii</i>

In addition, the following species are identified in available background information as potentially being present within Tributary 2 of Sixteen Mile Creek, per Geospatial Ontario (aquatic resource area line segment data): Bluntnose Minnow, Common Carp, Common Shiner, Emerald Shiner, Fantail Darter, Johnny / Tessellated Darter, Longnose Dace, Rainbow Darter, River Chub, Rosyface Shiner, Smallmouth Bass, Stonecat and Yellow Perch.

Tributary 1 of Indian Creek

The assessed reach of Tributary 1 of Indian Creek conveys permanent flow within a defined channel. Flows are conveyed through the Subject Lands from the west, originating from agricultural and residential lands upstream of Britannia Road. The tributary conveys flow eastward through Parcel 3 along the west side of First Line, through an open channel with cattails and Phragmites (Veg. Unit 7 / 10). Within the Subject Lands, this watercourse is approximately 490 m long within Parcel 3, from Britannia Road to First Line then continues under First Line via a 0.45 m diameter corrugated steel pipe culvert onto Parcel 2 for approximately 250 m before continuing downstream east of the Subject Lands. Note that the upstream portion of the watercourse on Parcel 3 is located within the CN Intermodal lands and was not assessed as part of this study.

Habitat Assessment

The assessed reach consists of a narrow, channelized section of the watercourse, surrounded by agricultural fields with dense patches of Phragmites (Veg. Unit 7 / 10). At the time of assessment, the reach of the watercourse within Parcel 2 was mostly dry and water was only observed at the First Line culvert and upstream on Parcel 3. There was an instream barrier to fish movement at the First Line culvert outlet resulting from accumulated aggregates, debris and dense Phragmites. This barrier likely restricts the upstream movement of fish on a seasonal basis (i.e., when water levels are low) and dry state of the channel indicates that the assessed reach likely only functions as direct fish habitat seasonally (i.e., when water levels are sufficient). The assessed reach consisted of flats (55%) and pools (45%). The mean wetted width ranged from 0.8 m in the flats to 5.2 m in the pools, while the mean wetted depth averaged 0.25 m. The mean bankfull width was 1.5 m in the flats and extended to 6 m in the pools. The bankfull depth measured 0.15 m on average throughout the assessed reach. The channel banks are gradually sloped and were stable at the time of assessment with little evidence of erosion. Substrate within the assessed reach consisted of silt (30%), sand (20%), muck (15%), detritus (20%) and gravel

(15%). Instream cover consisted of organic debris (25%), and overhanging (35%) and instream vascular macrophytes (35%). Dense emergent instream vegetation was visible, consisting of Phragmites, and cattails. Cultural meadow and grasses within the riparian edge of the channel was the predominant riparian vegetation present. In addition to the debris at the culvert outlet at First Line, the dense instream vegetation has created a seasonal barrier to fish movement during low flow conditions.

Fish Community

Based on the aquatic species captured during 2024 field surveys, combined with the habitat and flow regime assessment presented above, Tributary 1 of Indian Creek has been assessed to function as direct fish habitat. However, considering the habitat conditions, the assessed reach likely only provides direct fish habitat on a seasonal basis when water levels are sufficient. A single common, disturbance tolerant species was captured during fish community sampling conducted by WSP in 2024, as presented in Table 6:

Table 6. Fish Community Sampling Results – Tributary 1 of Indian Creek

Common Name	Scientific Name
Pumpkinseed	<i>Lepomis gibbosus</i>

In addition, the following species are identified in Geospatial Ontario mapping (aquatic resource area line segment data) as potentially being present within Tributary 1 of Indian Creek: Bluntnose Minnow, Brook Stickleback, Brown Bullhead, Common Shiner, Creek Chub, Fathead Minnow, Green Sunfish (*Lepomis cyanellus*) and White Sucker.

4 RECOMMENDED NATURAL HERITAGE SYSTEM

An overview of natural heritage features present and their rationale for inclusion / exclusion from the Natural Heritage System across the Subject Lands is presented in Table 7, by Phase and parcel. This evaluation considers ecological significance and sensitivity of the features present based on the results of field investigations and available background information, as well as applicable natural heritage policy at the time of assessment. It is understood that natural heritage features and functions will need to be considered in future studies, with an updated impact assessment and recommendations for mitigation / protection confirmed as part of an updated EIA. Recommendations with respect to the NHS are discussed in Table 7 and Section 4.1. The recommended NHS and Concept Plan are shown on Figure 3

Table 7. Recommended Natural Heritage System

Parcel #	Natural Feature Description	Rationale for NHS Inclusion / Exclusion
Phase 1		
1	▪ Two watercourses are present: Tributaries 1 and 2 of Sixteen Mile Creek, each with associated riparian habitat (cultural meadow / thicket / woodland and forest). ▪ Identified as permanent features per Geospatial Ontario. ▪ Included in the LNHS per Schedule 6 of the <u>Town OP</u>. ▪ Mapped floodplain / meander belt and CH-regulated area along entirety of each reach. ▪ Two regionally significant species recorded in Tributary 1: Horned Pondweed and Small Pondweed. Both species were located between the abandoned house and barn present in the parcel and Britannia Road to the north. ▪ Provides an ecological linkage function. These tributaries originate upstream (west of Britannia Road) as separate watercourses and continue downstream on adjacent lands as a single channel. The entirety of each watercourse supports mapped floodplain / meander belt and CH-regulated area. ▪ Reaches upstream of Britannia Road have been realigned based on air photos. ▪ HDF 1. One non-regulated drainage feature through active agriculture in south portion of parcel – continues off-property to the east, connects to permanent watercourse downstream of the Subject Lands based on CH mapping. No native vegetation or terrestrial habitat is present (active cropland). Function is limited to flow conveyance through the Subject Lands to downstream features. ▪ Cultural Vegetation. Veg. Units 2 / 3 / 4. Cultural meadow / thicket / woodland associated with Tributaries 1 and 2 of Sixteen Mile Creek. One regionally significant plant species recorded: Smooth Arrowwood. ▪ Woodland. ▪ Veg. Unit 5. Deciduous forest - approximately 5 ha in size, contiguous with a major creek / certain headwater feature (as defined in the <u>Town OP</u>); considered <i>Significant Woodland</i> per the <u>Town OP</u>; supports confirmed SWH based on 2024 and 2025 fieldwork as discussed in Section 3.4.4. Several plant species with high CC value recorded. Included in the LNHS per Schedule 6 of the <u>Town OP</u>. ▪ Veg. Unit 6. <i>Narrow deciduous forest associated with Tributary 2 of Sixteen Mile Creek. One high CC value plant recorded: Canada Garlic</i>	▪ Watercourses and associated riparian vegetation (Veg. Units 2 / 3 / 4 / 6). Tributaries 1 and 2 of Sixteen Mile Creek and associated floodplain / regulated areas have been confirmed to be components of the recommended NHS. As part of the proposed development, the reach of Tributary 1 of Sixteen Mile Creek within the Subject Lands is proposed to be realigned north / east of its current location. Tributary 2 of Sixteen Mile Creek will be retained in-situ, with precise feature limits, setbacks / buffering measures and specific mitigation measures to be implemented in a future development scenario determined as part of future studies for approval by relevant agencies. The potential for the realignment of Tributary 1 of Sixteen Mile Creek will be confirmed with relevant agencies (e.g., the Town, CH, DFO, etc.), with required technical studies and design details prepared and permits for the proposed works acquired through future submissions. ▪ Linkage. The two watercourses (including the proposed realigned reach) provide an ecological linkage function, connecting habitats within the Subject Lands to habitats on adjacent lands, though this function is likely diminished by the presence of major roads, development and lack of vegetation cover. The current linkage function provided by these features will be maintained / improved via setbacks and enhancements. ▪ HDF 1. HDF management recommendation of “Mitigation”. Removal of this feature will be consistent with the parameters identified in the “Mitigation” management recommendation of the HDF Guidelines (i.e., maintain hydrologic inputs to downstream receiving waterbodies), with future technical studies demonstrating feasibility and an engineering approach consistent with Town and CH requirements. Not included as a component of the recommended NHS. ▪ Veg. Unit 5 woodland. Based on the results of fieldwork as documented herein and in consideration of applicable policy, this woodland is considered a <i>Significant Woodland</i> and will be retained in-situ. This woodland is confirmed to be a component of the recommended NHS as it meets criteria to be considered a <i>Significant Woodland</i> per the <u>Town OP</u> (greater than 4 ha in size) and supports Confirmed SWH. Precise feature limits, setbacks / buffering measures and specific mitigation measures to be implemented in a future development scenario will be determined as part of future studies for approval by relevant agencies. ▪ Anthropogenic vegetation along riparian zones of Tributaries 1 and 2 of Sixteen Mile Creek are small areas of <i>cultural meadow / thicket / woodland and cattail marsh</i> in Veg. Units 2 / 3 / 4 / 6 with <i>limited ecological attributes and no unique features / functions</i>. <i>None</i> is included as a component of the recommended NHS. ▪ Hedgerows are present, <i>none of which supported any significant or sensitive plants or wildlife</i>. <i>None</i> is included as a component of the recommended NHS.
2	▪ One watercourse is present: Tributary 1 of Indian Creek, one short (~230 m) reach of channel with associated riparian vegetation (meadow marsh and cultural meadow). ▪ Identified as intermittent (Geospatial Ontario). ▪ Included in the LNHS per Schedule 6 of the <u>Town OP</u>. ▪ Mapped floodplain / meander belt and CH-regulated area present along the entire reach (as well as along reaches on adjacent lands). ▪ Provides an ecological linkage function. This tributary originates upstream of Britannia Road before being conveyed through Parcel 3 (within the CN Logistics Hub Lands) immediately upstream of Parcel 2. Continues downstream on adjacent lands outside of the Subject Lands (appearing as straightened reaches based on air photos). ▪ Wetland. Veg. Unit 7 / 10 is present along the watercourse. ▪ Cultural Meadow. Veg. Unit 8, an ~1.3 ha patch of cultural meadow associated with a former farmstead and an 0.61 ha patch of cultural meadow in the southeast corner of Parcel 2 – neither of which is mapped as a CH Regulated area or included in the LNHS per Schedule 6 of the <u>Town OP</u>.	▪ Tributary 1 of Indian Creek and associated riparian vegetation (Veg. Unit 7 / 10). Tributary 1 of Indian Creek and associated floodplain / regulated area has been confirmed to be a component of the recommended NHS. This watercourse will be retained in-situ, with precise feature limits, setbacks / buffering measures and specific mitigation measures to be implemented in a future development scenario determined as part of future studies for approval by relevant agencies ▪ Linkage. Tributary 1 of Indian Creek and its associated riparian habitat also provides some ecological linkage function, connecting habitats within the Subject Lands with habitats on adjacent lands, though this function is likely diminished by the presence of major roads, development and lack of vegetation cover. The current linkage function provided by this feature will be maintained / improved via setbacks and enhancements. ▪ Veg. Unit 8 cultural meadow. No significant features (wildlife, wildlife habitat or vegetation) associated with these habitat blocks were recorded, based on 2024 and 2025 fieldwork and not identified as part of the LNHS per Schedule 6 of the <u>Town OP</u>. Not included as a <i>component of the recommended NHS</i>. ▪ Hedgerows are present, <i>none of which supported any significant or sensitive plants or wildlife</i>. <i>None</i> is included as a component of the recommended NHS.

Parcel #	Natural Feature Description	Rationale for NHS Inclusion / Exclusion
Phase 2		
3	▪ One watercourse is present: Tributary 1 of Indian Creek, with a main east-west channel and another reach that conveys roadside drainage along Britannia Road. The main branch includes riparian vegetation (meadow marsh); the other branch / ditch extends through cropland and has no natural vegetation. ▪ Identified as intermittent (Geospatial Ontario). ▪ Included in the LNHS per Schedule 6 of the <u>Town OP</u>. ▪ Mapped floodplain / meander belt and CH-regulated area. ▪ Provides an ecological linkage function. ▪ Has been modified via construction of a road on the CN Intermodal Lands. ▪ This tributary originates upstream of Brittania Road before being conveyed through Parcel 3 (within the CN Intermodal Lands). Continues downstream on Parcel 2 and adjacent lands outside of the Subject Lands (appearing as straightened reaches based on air photos). ▪ Wetland. Veg. Unit 7 / 10 is present along the watercourse.	▪ Tributary 1 of Indian Creek and associated riparian vegetation (Veg. Unit 7 / 10). Tributary 1 of Indian Creek and associated floodplain / regulated area has been confirmed to be a component of the recommended NHS. This watercourse will be retained in-situ, with precise feature limits, setbacks / buffering measures and specific mitigation measures to be implemented in a future development scenario determined as part of future studies for approval by relevant agencies ▪ Linkage. Tributary 1 of Indian Creek and its associated riparian habitat also provides some ecological linkage function, connecting habitats within the Subject Lands with habitats on adjacent lands, though this function is likely diminished by the presence of major roads, development and lack of vegetation cover. The current linkage function provided by this feature will be maintained / improved via setbacks and enhancements. ▪ Hedgerows are present, none of which supported any significant or sensitive plants or wildlife. None is included as a component of the recommended NHS.
4	▪ No regulated watercourses are present on Parcel 4, but a small portion of CH-mapped floodplain / regulated area associated with Tributary 1 of Indian Creek on adjacent lands south of Parcel 5 extends on to Parcel 4. ▪ HDF 2a. The majority of this HDF is not mapped as regulated by CH, except for a small portion coincident with a wetland at the downstream end of the HDF. ▪ This non-regulated drainage feature extends across Parcel 4 into Parcel 5, with a very small extension upstream onto Parcel 3. Associated with the Veg. Unit 7 / 10 wetland community. ▪ Wetland. Veg. Unit 7 / 10. Contiguous with the Veg. Unit 9 woodland on Parcel 5, identified as a regulated feature per CH mapping and a component of the LNHS per Schedule 6 of the <u>Town OP</u>. This wetland receives water from HDF 2a on Parcel 4, and outlets to downstream habitat through HDF 2b on Parcel 5 and supports two regionally significant plant species: Red-rooted Flatsedge and Yellow-seed False Pimpernel. ▪ Cultural Meadow. Veg. Unit 8 (~ 0.4 ha patch of cultural meadow) adjacent to First Line. Veg. Unit 8 (~1.2 ha) adjacent to construction access roads in northeast portion of property. <i>Not identified as a regulated feature or LNHS component.</i>	▪ Floodplain / regulated habitat associated with Tributary 1 of Indian Creek. Any modifications to CH regulated floodplain will require future studies / submissions to demonstrate feasibility under a future development scenario, subject to approval by CH and other agencies as required. Not included as a component of the recommended NHS. ▪ HDF 2a. HDF management recommendation of “Mitigation”. Removal of this feature will be consistent with the parameters identified in the “Mitigation” management recommendation of the HDF Guidelines (i.e., maintain hydrologic inputs to downstream receiving features, in this case the Veg. Unit 7 / 10 wetland), with future technical studies demonstrating feasibility and an engineering approach consistent with Town and CH requirements. Not included as a component of the recommended NHS. ▪ Veg. Unit 7 / 10 wetland. Identified as part of the LNHS per Schedule 6 of the Town OP, contiguous with the Veg. Unit 9 woodland on Parcel 5. Based on fieldwork completed as part of this study, its inclusion in the LNHS and its connection to Confirmed SWH, this feature will be retained in-situ and has been included as a component of the recommended NHS. Precise feature limits, setbacks / buffering measures and specific mitigation measures will be determined as part of future studies for approval by relevant agencies. ▪ Veg. Unit 8 cultural meadow. No significant features (wildlife, wildlife habitat or vegetation) associated with this vegetation was recorded, based on 2024 and 2025 fieldwork and not identified as part of the LNHS per Schedule 6 of the <u>Town OP</u>. <i>Not included as a component of the recommended NHS.</i> ▪ Hedgerows are present, none of which supported any significant or sensitive plants or wildlife. None is included as a component of the recommended NHS.
5	▪ No regulated watercourses are present on Parcel 5, but the majority of this parcel is encompassed by CH-mapped floodplain / regulated area associated with Tributary 1 of Indian Creek on adjacent lands to the south. ▪ Woodland. Veg. Unit 9 – 3.2 ha deciduous forest that includes a provincially significant vegetation community, a regionally rare plant species and Confirmed Significant Wildlife Habitat. Also confirmed to <i>support one regionally significant plant species (Great Duckweed) and several plant species with high CC value.</i> ▪ HDF 2b. This non-regulated drainage feature conveys flow downstream from the Veg. Unit 7 / 10 wetland to lands south of the Subject Lands. ▪ Wetland. Veg. Unit 7 / 10, identified as a regulated feature per CH mapping and a component of the LNHS per Schedule 6 of the <u>Town OP</u>. This wetland receives water from HDF 2a on Parcel 4, and outlets to downstream habitat through HDF 2b on Parcel 5 and supports two regionally significant plant species: Red-rooted Flatsedge and Yellow-seed False Pimpernel.	▪ Floodplain / regulated habitat associated with Tributary 1 of Indian Creek. Any modifications to CH regulated floodplain will require future studies / submissions to demonstrate feasibility under a future development scenario, subject to approval by CH and other agencies as required. Not included as a component of the recommended NHS. ▪ HDF 2b. HDF management recommendation of “Mitigation”. Removal of this feature will be consistent with the parameters identified in the “Mitigation” management recommendation of the HDF Guidelines (i.e., maintain hydrologic inputs originating from the Veg. Unit 7 / 10 wetland to downstream receiving features), with future technical studies demonstrating feasibility and an engineering approach consistent with Town and CH requirements. Not included as a component of the recommended NHS. ▪ Linkage. The hedgerow extending south from Veg Unit 9 and the wetland habitat (Veg. Unit 7 / 10) may provide some ecological linkage function, connecting habitats within the Subject Lands (Veg. Units 9 and 7 / 10) with habitats on adjacent lands to the south, though this function is likely diminished by the presence of the rail corridor, development, and sparse vegetation cover along the hedgerow itself. Not included as a component of the recommended NHS. ▪ Veg. Unit 7 / 10 wetland. Identified as part of the LNHS per Schedule 6 of the <u>Town OP</u>, contiguous with the Veg. Unit 9 woodland. Based on fieldwork completed as part of this study, its inclusion in the LNHS and its connection to Confirmed SWH, this feature will be retained in-situ and has been included as a component of the recommended NHS. Precise feature limits, setbacks / buffering measures and specific mitigation measures will be determined as part of future studies for approval by relevant agencies. ▪ Veg. Unit 9 woodland. Based on the results of fieldwork as documented herein and in consideration of applicable policy, this woodland is confirmed to be a component of the recommended NHS as it supports Confirmed SWH. Precise feature limits, setbacks / buffering measures and specific mitigation measures will be determined as part of future studies for approval by relevant agencies. ▪ Hedgerows are present, none of which supported any significant or sensitive plants or wildlife. None is included as a component of the recommended NHS.

Parcel #	Natural Feature Description	Rationale for NHS Inclusion / Exclusion
Phase 3		
7	- No naturally vegetated features or regulated watercourses are present on Parcel 7, but a portion is mapped as floodplain / regulated area by CH, associated with Tributary 1 of Indian Creek on adjacent lands to the north. HDF 3. This non-regulated drainage feature conveys flows from lands to the northeast through active agriculture in the central portion of Parcel 7, converging with HDF 4 on Parcel 9 before flowing off-site to the south. No native vegetation, terrestrial habitat or direct fish habitat is present. Function is limited to flow conveyance to downstream features.	Floodplain / regulated habitat associated with Tributary 1 of Indian Creek. Any modifications to CH regulated floodplain will require future studies / submissions to demonstrate feasibility under a future development scenario, subject to approval by CH and other agencies as required. Not included as a <i>component of the recommended NHS</i>. HDF 3. HDF management recommendation of “Mitigation”. Removal of this feature will be consistent with the parameters identified in the “Mitigation” management recommendation of the HDF Guidelines (i.e., maintain hydrologic inputs to downstream receiving waterbodies), with future technical studies demonstrating feasibility and an engineering approach consistent with Town and CH requirements. Not included as a component of the recommended NHS. Hedgerows are present, none of which supported any significant or sensitive plants or wildlife. None is included as a component of the recommended NHS.
8 and 9	- No regulated watercourses or mapped floodplains are present on either parcel. HDF 4. This non-regulated drainage feature conveys flows south through active agriculture in the central portion of this Parcel 9 and converges with HDF 3 before flowing off-site to the south. Wetlands. Three small (0.13 ha, 0.1 and 0.17 ha), isolated wetlands are present (Veg. Units 7 / 10 and 12). One regionally significant plant species recorded: Common Three-square Bulrush Woodlands. Two small woodland blocks (Veg. Unit 11), Confirmed SWH present as discussed in Section 3.3.4. One regionally significant plant species recorded: Great Duckweed. Cultural meadow. Veg. Unit 8. Present adjacent to / bisecting Veg. Unit 11 woodland patches. One regionally significant plant species / high CC value species was recorded within a small MAM2 inclusion: Clammy Hedge-hyssop.	HDF 4. HDF management recommendation of “Mitigation”. Removal of this feature will be consistent with the parameters identified in the “Mitigation” management recommendation of the HDF Guidelines (i.e., maintain hydrologic inputs to downstream receiving waterbodies), with future technical studies demonstrating feasibility and an engineering approach consistent with Town and CH requirements. Not included as a component of the recommended NHS. Veg. Unit 11 woodlands. Based on the results of fieldwork as documented herein and in consideration of applicable policy, these woodlands are confirmed to be a component of the recommended NHS as they support Confirmed SWH. Precise feature limits, setbacks / buffering measures and specific mitigation measures will be determined as part of future studies for approval by relevant agencies. Veg. Units 7 / 10 and 12 wetlands. These are small, isolated features in an agricultural land use matrix. Removal of these features is warranted from an ecological perspective as their viability is unlikely in a future development scenario based on their small size and isolated nature. Future studies will demonstrate the feasibility of removal as it relates to hazards, subject to approval by CH and other agencies as required. Not included as a <i>component of the recommended NHS</i>. Veg. Unit 8 cultural meadow. While one regionally rare species was identified, no other significant features (wildlife, wildlife habitat or vegetation) associated with this habitat was recorded, based on 2024 and 2025 fieldwork and not identified as part of the LNHS per Schedule 6 of the <u>Town OP</u>. Not included as a <i>component of the recommended NHS</i>. Hedgerows are present, none of which supported any significant or sensitive plants or wildlife. None is included as a component of the recommended NHS.
11 and 13	- No regulated watercourses or mapped floodplains are present on either parcel. - Both parcels are almost entirely active cropland with minimal natural vegetation. HDF 5. This non-regulated drainage feature is a depression in an active agricultural field that contributes flows to a roadside ditch along Lower Base Line West during / immediately following the spring freshet or large rain events. Cultural Vegetation. A very small cultural woodland (Veg. Unit 1) straddles the northeast limits of Parcel 11 and Parcel 13 at First Line. No significant or sensitive features / functions are present.	HDF 5. HDF management recommendation of “No Management Required”. Not included as a <i>component of the recommended NHS</i>. Veg. Unit 1 cultural woodland. No significant features (wildlife, wildlife habitat or vegetation) associated with this community was recorded, based on 2024 and 2025 fieldwork and not identified as part of the LNHS per Schedule 6 of the <u>Town OP</u>. Not included as a <i>component of the recommended NHS</i>. - The houses / barns on Parcel 11 may support SAR wildlife and would need to be reviewed through in-season fieldwork prior to any demolition / construction works on this property, to determine presence / absence of SAR wildlife, and if needed, follow-up consultation with required agencies completed prior to any development activities to ensure compliance with relevant legislation. Hedgerows are present, none of which supported any significant or sensitive plants or wildlife. None is included as a component of the recommended NHS.

Parcel #	Natural Feature Description	Rationale for NHS Inclusion / Exclusion
Phase 4		
17	- The majority of Parcel 17 (aside from a farmstead in the central portion) consists of active agricultural fields used for pasture and row crops. - No regulated watercourses or mapped floodplains are present. Greenbelt (<i>Natural Heritage System of the Protected Countryside of the Greenbelt Area</i>) encompasses a small area in the southern portion. <i>Trafalgar Moraine Earth Science Area of Natural and Scientific Interest</i> (ANSI) present across approximately the southern two thirds of the Parcel. Species at Risk Habitat. SAR avifauna were recorded using this habitat (Eastern Meadowlark recorded with 'Possible' breeding evidence), as discussed in Section 3.3.1. HDF 6. This non-regulated drainage feature conveys flows south along a hedgerow in the central portion and outlets into a roadside ditch along Tremaine Road. Non-sensitive, disturbed terrestrial habitat is present, associated with the hedgerow. Function is limited to flow conveyance to downstream features. Woodland. Veg. Unit 13 is a very small deciduous forest adjacent to Lower Base Line Road near Tremaine Road, with a small wetland pond, which was assessed from the road.	Greenbelt and ANSI. Greenbelt NHS present in southern portion, ANSI present across majority of this Parcel. The ANSI is a component of the LNHS per the <u>Town OP</u>. No development is proposed within the Greenbelt. Consultation with respect to development in the ANSI will occur with the Town and other agencies as required. Grassland bird SAR habitat. The areas used for pasture at the time of field investigations provided suitable breeding habitat for grassland SAR avifauna in 2024 (Eastern Meadowlark with 'possible' breeding evidence recorded). Removal of suitable habitat will be completed per guidance in Section 6.2. - The buildings associated with the farm operation may support SAR wildlife and would need to be reviewed through in-season fieldwork prior to any demolition / construction works on this property, to determine presence / absence of SAR wildlife, and if needed, follow-up consultation with required agencies completed prior to any development activities to ensure compliance with relevant legislation. HDF 6. HDF management recommendation of "Mitigation". Removal of this feature will be consistent with the parameters identified in the "Mitigation" management recommendation of the HDF Guidelines (i.e., maintain hydrologic inputs to downstream receiving waterbodies), with future technical studies demonstrating feasibility and an engineering approach consistent with Town and CH requirements. Not included as a component of the recommended NHS. Veg. Unit 13 woodland. Does not meet criteria to be considered a part of the LNHS per the <u>Town OP</u>, however, this community may support SAR habitat. Based on the Concept Plan, this feature is proposed for removal. Appropriate field surveys prior to development to assess for the presence of SAR habitat will be completed, and if needed, follow-up consultation with required agencies completed prior to any development activities to ensure compliance with relevant legislation at that time. Not included as a <i>component of the recommended NHS</i>. Hedgerows are present, none of which supported any significant or sensitive plants or wildlife. None is included as a <i>component of the recommended NHS</i>.

4.1 Natural Heritage System Results & Recommendations

Based on the results of field investigations, available background information and review of applicable natural heritage policy, natural heritage features across the Subject Lands have been assessed, with a recommended NHS identified. Features included within the recommended NHS are to be retained in-situ, with no modifications, aside from the proposed realignment of Tributary 1 of Sixteen Mile Creek. Precise feature limits will be confirmed with the Town and CH, with updated, detailed assessments of impacts, recommendations for mitigation and monitoring (if relevant) identified as part of future studies, including an updated EIA, for approval by relevant agencies. Several features were reviewed as part of this study and not identified for inclusion in the recommended NHS. Key findings with respect for all assessed features are outlined below.

- The Veg. Unit 5 woodland on Parcel 1 (*Significant Woodland*); the Veg. Unit 7 / 10 wetland on Parcel 4 / 5 and Veg. Unit 9 woodland on Parcel 5 (Confirmed SWH); and the Veg. Unit 11 woodlands on Parcels 8 and 9 (Confirmed SWH) are considered *Key Features* of the LNHS per Policy 2.5.1.13 of the Town OP. Per Policy 5.2.3.1 d) alteration of LNHS components is not permitted, unless it can be demonstrated that there will be no negative impacts on the natural features and areas or their ecological functions.
 - These features will be retained in-situ, with an updated EIA prepared to the satisfaction of the Town to demonstrate no negative impacts to these features resulting from development on adjacent lands, following confirmation of feature limits and locations of development setbacks.
- Tributaries 1 and 2 of Sixteen Mile Creek on Parcels 1 and 2; and Tributary 1 of Indian Creek on Parcels 2 and 3 are also considered *Key Features* of the LNHS.
 - Tributary 1 of Sixteen Mile Creek is proposed to be realigned within a wider, improved riparian channel corridor north / east of its current location. It is anticipated that the design of the proposed realignment will be consistent with realigned reaches of the watercourse immediately upstream of the Subject Lands will be subject to future studies and detailed designs to be approved by the relevant agencies, with required permits acquired prior to construction.
 - Tributary 2 of Sixteen Mile Creek and Tributary 1 of Indian Creek will be retained in-situ, with an updated EIA prepared to the satisfaction of the Town to demonstrate no negative impacts to these features from development on adjacent lands, following confirmation of feature limits and locations of development setbacks.
- HDF's 1 to 6 were assessed and determined to fall under the "Mitigation" (HDF's 1, 2a, 2b, 3, 4 and 6) or "No Management Required" (HDF 5) management recommendations. The proposed development will consider these features based on the criteria included in those management recommendations, subject to an updated EIA confirming these management recommendations and feasibility of implementing the required mitigations contained within the management recommendations, subject to the satisfaction of the Town and other relevant agencies.
- CH regulated floodplain is present across the Subject Lands, generally associated with reaches within and adjacent to the Subject Lands of the tributaries discussed above. Proposed modification or development within CH regulated floodplain will include consultation with CH, accompanying detailed technical studies with any works completed in accordance with permits issued by CH.

- Portions of the *Trafalgar Moraine Earth Science ANSI* and *Greenbelt Natural Heritage System* are present on Parcel 17 in Phase 4. Development potential within / adjacent to these designated areas will be confirmed with the Town through the development application process.
- Small, isolated wetlands, cultural meadows, cultural woodlands and hedgerows are scattered throughout the Subject Lands. In general, these are features of low ecological sensitivity. Removal / modification of these features and any required compensation measures will be confirmed with appropriate review agencies (i.e., the Town and CH), with details provided in future submissions.
- Potential SAR habitat is present across the Subject Lands as discussed in Table 7 and Sections 3.0, 6.3 and 6.4. As the development application process proceeds, an updated EIA will confirm that the proposed development conforms with relevant SAR legislation in force at the time of subsequent submissions.

5 MILTON LINK DEVELOPMENT PROPOSAL

5.1 Overview

As part of the OPA / ZBA submission, and in consideration of the recommended Natural Heritage System, a Concept Plan has been prepared to demonstrate a potential development layout across the Subject Lands (WW+P, June 2026; Appendix E).

The Concept Plan identifies four development Phases from north to south and consists of:

- 11 industrial warehouse buildings, ranging in size from ~45,764 m² to ~111,590 m² and associated parking infrastructure. The total proposed building footprints are ~817,061 m².
- Six Stormwater Management (SWM) facilities across the Subject Lands (not including any Low Impact Development measures).
- Incorporation of the recommended Natural Heritage System, as discussed in Section 4.

5.2 Stormwater Management

The SWM approach is identified in the stormwater management report prepared as part of the current submission: Stormwater Management Report, CN Rail Intermodal Lands – Milton (Envision Consultants Ltd.; April 2026) and has considered relevant information from other technical studies. Relevant drawings are included in Appendix F, for additional details, the reader is referred to that report.

The SWM strategy has been broken down by Phase and consists of the following elements, as summarized below:

Phase 1

- Two wet detention ponds are proposed to provide water quality, extended detention and peak flow control for the lands draining to Sixteen Mile Creek, which includes three buildings and associated parking, laneways and landscape areas.
- The smaller pond (easternmost) will treat runoff from Building A1 and associated hardscaping, while the larger pond (westernmost) will treat runoff from the majority of the proposed development area west of the *Significant Woodland* (Veg. Units 5a / 5b) and Tributary 2 of Sixteen Mile Creek.

- Low Impact Development (LID) measures are proposed to treat runoff from roughly 1.1 ha that includes the site entrance from First Line and staff parking areas west of Building A3. The type, location and configuration of LID's, including those required to maintain groundwater recharge will be identified during detailed design.
- Water Quality
 - The two wet detention ponds have been sized to provide Enhanced water quality protection. Each pond provides more than the required permanent pool volume to achieve Enhanced quality control.
 - Runoff from the parking and entrance area on the west side of Phase 1 will be treated by LID's and/or Manufactured Treatment Devices (MTD) prior to discharging downstream.
- Extended Detention and Quantity Control
 - Each pond has been sized to meet or exceed the required extended detention and peak flow control criteria.
 - Outlet structures have not been configured for the wet detention ponds. These will be designed following verification of the proposed SWM strategy.

Phase 2

- A single wet detention pond is proposed to provide water quality, extended detention and peak flow control for the majority of the Phase 2 lands.
- Clean runoff from the roof of Building B2 and/or the proposed parking area east of the woodland (Veg. Unit 9) will be directed to the wetland (Veg. Unit 7 / 10) at the same location as HDF 2a, to maintain the current hydrologic function. Clean roof runoff from Building B3 will be directed to the current outlet location of HDF 2b to maintain the hydrologic function of the downstream receiving system. In each case, roof runoff will be managed through bioretention facilities and/or flow spreaders to deliver runoff in a diffused manner to replicate natural inflows at these locations.
- Based on the presence of an existing pipeline along the northern portion of the Phase 2 lands, storm runoff from the Building B1 area to the wet detention pond will require a swale to convey drainage from that area to the pond. Storage may be required at Building B1 to limit the size of the swale needed to convey post-development flows to the pond.
- Water Quality
 - The proposed wet detention pond has been sized to provide Enhanced water quality protection. The pond provides more than the required permanent pool volume to achieve Enhanced quality control.
- Extended Detention and Quantity Control
 - The pond has been sized to meet or exceed the required extended detention and peak flow control criteria.
 - The outlet structure has not been configured for the wet detention pond. This will be designed following verification of the proposed SWM strategy.

Phase 3

- Two wet detention ponds are proposed to provide water quality, extended detention and peak flow control for the majority of the Phase 3 lands. Perimeter parking areas along the east and south sides of the Phase 3 lands will be treated with LID's and directed to existing outlets to minimize the diversion of drainage areas.
- Both ponds will discharge to recently the recently improved drainage system on the east side of the rail line.
- Clean roof runoff from either Building C1 or C2 and/or treated runoff from the proposed parking areas east and west of the retained woodlands (Veg. Unit 11) will be directed to these features, as required.
- Water Quality
 - The two wet detention ponds have been sized to provide Enhanced water quality protection. Each pond provides more than the required permanent pool volume to achieve Enhanced quality control.
- Extended Detention and Quantity Control
 - Each pond has been sized to meet or exceed the required extended detention and peak flow control criteria.

Phase 4

- A single wet detention pond is proposed to provide water quality, extended detention and peak flow control for the majority of the Phase 4 lands.
- LID measures are proposed to treat runoff from approximately 1.8 ha of parking area, with excess runoff directed to a ditch along Tremaine Road.
- Water Quality
 - The proposed wet detention pond has been sized to provide Enhanced water quality protection. The pond provides more than the required permanent pool volume to achieve Enhanced quality control.
- Extended Detention and Quantity Control
 - The pond has been sized to meet or exceed the required extended detention and peak flow control criteria.
 - The pond will discharge to a ditch along Lower Base Line, which may require improvements to the ditch in order to safely convey and contain the proposed peak flow rates.

5.3 Water Balance

For each Phase of the development, an infiltration deficit in the post-development condition is expected based on the conversion of permeable agricultural land to land uses that have a high proportion of impermeable surface area. The infiltration deficit is expected to range from 9,000 m³ in Phase 1, up to 37,360 m³ in Phase 3. The SWM report (Envision 2026) identifies a series of potential LID measures that could be implemented across the Subject Lands to maintain existing groundwater recharge levels, including:

- Bioretention facilities
- Infiltration galleries

- Stormwater tree trenches
- Vegetated swales
- Permeable pavement
- Extended Detention and Quantity Control

Additional investigations and analyses are required and will be carried out in future design stages to determine the most appropriate infiltration and LID practices to be implemented in each Phase in order to maintain the water balance across the Subject Lands to pre-development conditions. In addition, feature-based water balance analyses for retained NHS features are recommended to be completed as part of future studies to ensure that the hydrology of retained features that depend on inputs from portions of the Subject Lands proposed for development is maintained.

5.4 Tributary 1 of Sixteen Mile Creek Realignment

Similar to the reach upstream of Britannia Road, the proposed realignment of Tributary 1 of Sixteen Mile Creek is an opportunity to replace the existing channelized reach and narrow riparian area with a dynamically stable channel containing a natural riffle and pool system, with cross sectional dimensions closer to that of a naturalized watercourse conveying similar flows. While details will be confirmed as part of future submissions, it is reasonable to anticipate that a natural channel design approach would be suitable for this system, which would be expected to offer significant improvements to aquatic and terrestrial habitat through an open channel with varied morphologies and other natural design elements.

From a habitat perspective, the important contributions of the watercourse include the provision of aquatic habitat, organic inputs to the system, provision of a more complex corridor system with elements that have a wide range of hydroperiods, and aquatic and terrestrial elements. While no channel designs have been prepared for the current submission, it is expected that the proposed design will reinstate and enhance channel form and function, provide habitat variability, improve sediment transport, and provide greater substrate and morphological variability.

The primary objectives of the design will be to:

- Establish a channel pattern, profile and cross-sectional form that is geomorphologically stable over the long term.
- Integrate appropriately with the upstream realigned reach and downstream receiving system to maintain continuity of channel processes.
- Provide a well-defined bankfull channel and floodplain appropriate to the valley setting and anticipated flow regime.
- Support improved riparian condition and opportunities for enhancement of aquatic and terrestrial habitat.
- Support opportunities for improved water quality and thermal regime, which may include integration with online and/or offline wetland features, where compatible with the SWM approach and ecological restoration strategy.
- Mitigate erosion hazards to the proposed development and surrounding lands.

- Coordinate with SWM, grading and ecological restoration objectives to support a functional channel corridor.
- As noted in Section 4.1, it is anticipated that the proposed channel realignment will generally be consistent with the realigned reach upstream of Britannia Road.

Confirmation of the above approach, as well as natural channel designs will be included in an updated EIA as part of future submissions. All required permits and approvals from relevant review agencies will be acquired prior to commencement of construction.

6 POLICY ASSESSMENT

The following provides an overview of relevant natural heritage legislation and policy pertinent to the Subject Lands. Key policies and implications as they relate to natural heritage features within the Subject Lands are discussed, based on the results of fieldwork and review of desktop information.

6.1 Fisheries Act, 1985

6.1.1 Policy Overview

The Fisheries Act (administered by Fisheries and Oceans Canada [DFO]) provides provisions for the protection of fish and fish habitat. Specifically, the provisions related to the protection of fish and fish habitat state:

Section 34.4 (1): “No person shall carry on any work, undertaking or activity, other than fishing that results in the death of fish.”, and

Section 35 (1): “No person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption or destruction (HADD) of fish habitat.”

As such, proponents that plan to undertake activities in or near water have the potential to negatively affect fisheries, and as such, are responsible for avoiding, mitigating and possibly offsetting potential negative effects. Avoidance is achieved by undertaking measures which avoid the potential for the project to cause the death of fish or otherwise alter, disrupt or destroy fish habitat. These measures include project design considerations, location of activities, and timing of works. Mitigation is implemented by following best practices such as those described in the ‘Measures to protect fish and fish habitat’ on DFO’s *Projects Near Water Website*⁸. Any negative residual impacts to fish and fish habitat that remain following the implementation of avoidance and mitigation measures, is considered to have the potential to negatively affect the fishery. This potential for negative residual effects has to be reviewed by DFO under the Fisheries Act. If DFO determines that negative residual effects are likely to result in the death of fish or HADD of fish habitat as a result of the project, then a *Fisheries Act Authorization* will be required.

6.1.2 Study Assessment

Features that are subject to the Fisheries Act are present on the Subject Lands⁹, specifically Tributaries 1 and 2 of Sixteen Mile Creek and Tributary 1 of Indian Creek. The proposed realignment of Tributary 1 of Sixteen Mile Creek and development adjacent to each of these features will need to be reviewed with respect to potential project implications related to the Fisheries Act. If negative residual effects cannot be avoided, review of proposed

⁸ [Projects near water](#)

⁹ Note that based on the intermittent / ephemeral nature and lack of potential refuge habitat, the reaches of the assessed HDF’s across the Subject Lands are not subject to the Fisheries Act. Impacts to any downstream receiving features are not anticipated based on the implementation of the management recommendations in the HDF Guidelines.

works by DFO to determine potential permitting needs will be completed prior to the initiation of any development-related activities that could impact the watercourses.

6.1.3 Conclusion

Future studies and submissions to DFO will identify proposed works within and adjacent to watercourses that are subject to the Fisheries Act, as well as potential impacts / recommended mitigation and protection measures. If required following DFO review of any proposed works involving watercourses that are subject to the Fisheries Act, authorization under the Fisheries Act will be acquired before proceeding with works.

6.2 Migratory Birds Convention Act

6.2.1 Overview of Key Policies

Most birds in Canada are protected by the *Migratory Birds Convention Act* (MBCA; Canada 1994), which prohibits the disturbance or destruction of migratory birds, their eggs and nests on all lands in Canada, even incidentally. With the update to the Migratory Birds Regulations, 2022 (MBR, 2022; Canada 2022) in July 2022, nest protection has been limited to active nests for most migratory bird species. Schedule 1 of the MBR identifies 18 migratory bird species whose nests are protected year-round and must be confirmed inactive for a defined period (ranging between 12 and 36 months depending on the species) before they can be disturbed or destroyed. The nests must also be registered at the start of the defined period.

Although Environment and Climate Change Canada (ECCC) can issue permits allowing the destruction of nests for scientific purposes or to prevent damage being caused by birds, there are currently no permits available to exempt development, including maintenance and rehabilitation activities. ECCC advises that proponents schedule activities outside of the migratory bird nesting season to avoid incidental take. Proponents can apply for a damage or danger permit to remove or actively deter migratory birds from structures if it can be clearly demonstrated that the bird activity is causing damage to the structure or poses a health and safety concern for people.

6.2.2 Study Assessment

Implications of the MBCA and MBR have potential to occur during the construction phase of the project when the land is cleared of vegetation, potentially removing nests of migratory birds.

Thirty-nine migratory bird species subject to the MBCA were recorded with breeding evidence within the Subject Lands. Areas where vegetation removals are proposed provide habitat primarily for generalist and/or urban adapted, tolerant species; no unique / specialized avian habitat features will be directly impacted by the proposed development.

Compliance with the MBCA and MBR is best achieved through a due diligence approach, which identifies potential risk, based on a site-specific analysis in consideration of the Avoidance Guidelines and Best Management Practices information on the ECCC website: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/guidelines.html>.

- Proponent awareness of the MBCA, potential for nesting in the area and potential for impacts to migratory birds, nests and eggs. Areas within the local landscape provide suitable nesting habitat for wetland- and forest-associated, as well as generalist species, the majority of which will not be impacted by the proposed development.
- Implementation of the following avoidance and mitigation measures, where possible:

- Avoiding works (i.e., vegetation / potential nesting habitat removal) with the “regional nesting period” for this area. Refer to the ECCC website for additional information: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>.
- Minimizing areas of vegetation removal.
- Recommending Best Management Practices (BMPs) during construction to minimize potential indirect impacts to vegetation / potential nesting habitat outside of the approved development limits.

6.3 Species at Risk Act

6.3.1 Policy Overview

At a federal level, SAR designations for species occurring in Canada are initially determined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). If approved by the federal Minister of the Environment and Climate Change, species are added to the federal List of Wildlife Species at Risk (Canada 2002), species are added to the federal List of Wildlife Species at Risk (Canada 2002).

It is prohibited to kill, harm, harass, capture, possess, collect, buy, sell, or trade individuals, as well as damage or destroy the residence of a species listed as extirpated, endangered, or threatened on Schedule 1 of the Species at Risk Act (SARA). Furthermore, species that are included on Schedule 1 as *Extirpated*, *Endangered* or *Threatened* are afforded protection of species-specific critical habitat on federal lands once critical habitat is defined in a recovery strategy. Any alterations to critical habitat on federal lands require a permit under Section 73(3) of SARA. A permit may only be issued if the following conditions are met:

- all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted
- all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals
- the activity will not jeopardize the survival or recovery of the species

Although species listed as special concern are not afforded the same degree of legal protection, Section 65 of SARA requires that a management plan be developed that includes measures for the conservation of the species and their habitats, and it is expected that federal landowners will implement these measures on their lands.

On private or provincially-owned lands, only individuals and residences of aquatic species and migratory birds (as defined by the MBCA) that are listed as *Endangered*, *Threatened* or *Extirpated* are protected under SARA, and critical habitat protection on non-federal lands is afforded only to aquatic species, unless ordered by the Governor in Council.

6.3.2 Study Assessment

Applicability:

The project is on non-federal (private) lands and there is no order by Governor in Council; hence SARA only applies to aquatic and migratory bird species / habitat.

Individuals and Residences:

Five SARA-listed migratory bird species were recorded on and adjacent to the Subject Lands: Bank Swallow, Barn Swallow, Bobolink, Eastern Meadowlark and Wood Thrush, each *Threatened*, Schedule 1 under SARA. Breeding evidence was recorded for all species except Bank Swallow.

Critical Habitat:

No critical habitat for SARA-listed aquatic or migratory bird species is present within the Subject Lands and none is known on adjacent lands where there is potential for indirect impact.

Further, we are aware of no downstream critical habitat for aquatic SAR species which would be impacted by the proposed activities with the proper implementation of recommended mitigation and protection measures, which will be confirmed / refined through future submissions.

Recommendations:

Implement all recommended during-construction measures / best management practices to mitigate potential impacts to SAR individuals and all measures as part of an approved SWM plan to mitigate potential impact to downstream aquatic habitat.

Implement all requirements for MBCA compliance (See Section 6.2).

6.4 Species Conservation Act

6.4.1 Policy Overview

On June 5, 2025, the Province of Ontario enacted Bill 5: Protecting Ontario by Unleashing our Economy Act, 2025, which established the Species Conservation Act, 2025 (SCA). An Order in Council subsequently named March 30, 2026 as the day the SCA came into force and the Endangered Species Act (ESA), 2007 was repealed. Provincial species-at-risk protections are therefore now governed by the SCA and its associated regulations. Under the SCA framework, species protection and compliance are implemented through a suite of regulations that include:

- the PSO List, which identifies protected species and their classifications;
- requirements for registrable activities, including preparation of a conservation plan by qualified professionals and associated monitoring and record-keeping requirements;
- excepted activities that do not require a permit or registration; and
- prescribed permit activities, which continue to require a permit under the SCA.

Transitional provisions also apply to certain authorizations and registrations originating under the former ESA framework. In particular, some activities may be treated as deemed registrations or deemed permits under the SCA, and certain agreements entered into before June 5, 2025 may continue during the transition period. Where transitional instruments apply, references to “habitat” are to be interpreted using the ESA definition of “habitat” as it read on June 4, 2025, including areas prescribed under former Ontario Regulation 832/21 (Habitat), as applicable. This legislative and regulatory context has been considered in the identification, screening, and assessment of protected species potentially associated with the Subject Lands.

6.4.2 Study Assessment

Potentially suitable (unconfirmed) habitat for species afforded protection under the SCA (2025) is present within the Subject Lands. As such, a SAR habitat suitability evaluation ('screening') was undertaken based on the results of fieldwork and a list of SAR known to occur within the region from a review of various sources, including: the NHIC website; Ontario Breeding Bird Atlas website; Ontario Reptile and Amphibian Atlas website; DFO aquatic species at risk mapping; and professional / corporate experience.

The habitat assessment is included in Appendix G. In that process, we assessed 'probability to occur on the Subject Lands' based on the habitat requirements for each species. Through that assessment, we concluded that for the majority of species included in the screening, no suitable habitat is present or only a small amount / marginally suitable habitat is present and the probability of occurrence within the Subject Lands is none or low. For those species with high potential for occurrence, discussion is provided below. It is important to note that this assessment was undertaken based on the results of fieldwork completed in 2024 and 2025 as well as currently available background information. This assessment should be updated as part of future studies / submissions to confirm / refine findings and recommendations based on site conditions, survey guidance and SAR compliance requirements at that time.

No SAR included on the PSO List were recorded during field surveys, however, suitable habitat for *Endangered* bat species and two plant species was identified, as follows:

- **Potential habitat for *Endangered* (included on the PSO List) bats: Eastern Red Bat (*Lasiurus borealis*), Eastern Small-footed Myotis (*Myotis leibii*), Northern Hoary Bat (*Lasiurus cinereus*), Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), Silver-haired Bat (*Lasionycteris noctivagans*), and Tri-coloured Bat (*Perimyotis subflavus*).** Potentially suitable roosting habitat for these species is present in the woodland communities (Veg. Units 5, 9, 11 and 13). There is also potential for these species to use isolated trees, smaller cultural woodlots (i.e., Veg. Units 1 and 3), hedgerows and anthropogenic structures (e.g., barns and farmhouses) throughout the Subject Lands. In general, impacts related to the removal of less suitable, more isolated habitats can be managed through the development process such that impacts to these species can be avoided. Woodland communities with the most suitable habitat have been identified for retention, based on the presence of other attributes that warrant their retention based on applicable policy (i.e., *Significant Woodland*, Confirmed SWH). Future studies and consultation with MECP will occur to confirm required compliance measures if habitat for these species that will not be retained (e.g., anthropogenic structures) is confirmed within the Subject Lands.
- While not recorded during 2024 or 2025 field surveys, suitable habitat for the following plant species is present: **Eastern Flowering Dogwood (*Cornus florida*) and Butternut (*Juglans cinerea*), each listed as *Endangered*; included on the PSO List.** An updated botanical inventory will be completed in suitable habitats as part of future studies, with appropriate SCA compliance measures undertaken, if required, according to current standards at that time prior to the initiation of development-related activities.

6.5 Provincial Planning Statement (2024)

6.5.1 Policy Overview

The Provincial Planning Statement (PPS), 2024 is a streamlined province-wide land use planning policy framework. Under the PPS, significant natural heritage features are protected from development and site alteration through natural heritage provisions that restrict development in and/or adjacent to certain natural heritage features.

Per Policy 4.1.4., development and site alteration shall not be permitted in:

- a) *Significant Wetlands* in Ecoregions 5E, 6E and 7E; and
- b) *Significant Coastal Wetlands*.

Per Policy 4.1.5., unless it has been demonstrated that there will be no negative impacts on the natural features or ecological functions, development and site alteration shall not be permitted in:

- a) *Significant Wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
- b) *Significant Woodlands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- c) *Significant Valleylands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- d) *Significant Wildlife Habitat*;
- e) *Significant Areas of Natural and Scientific Interest*; and
- f) *Coastal Wetlands* in Ecoregions 5E, 6E and 7E that are not subject to Policy 4.1.4.b).

Per Policy 4.1.6., development and site alteration shall not be permitted in fish habitat except in accordance with Provincial and Federal requirements.

Per Policy 4.1.7., development and site alteration shall not be permitted in habitat of *Endangered* species and *Threatened* species, except in accordance with Provincial and Federal requirements.

Per Policy 4.1.8., development and site alteration shall not be permitted on adjacent lands (i.e., within 120 m) to the natural heritage features and areas identified in Policies 4.1.4., 4.1.5. and 4.1.6. unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

6.5.2 Study Assessment

Based on field surveys completed in 2024 and 2025, background information and in consideration of relevant guidance documents, an assessment of the presence of each feature listed under Policy 4.1 of the PPS and associated policies as it relates to the Subject Lands is provided below:

- *Significant Wetlands* in Ecoregions 5E, 6E and 7E:
 - No *Significant Wetlands* are present.
- *Significant Coastal Wetlands*:
 - Not applicable.
- *Significant Wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E:
 - Not applicable.
- *Significant Woodlands* in Ecoregions 6E and 7E:
 - Per the Town OP, Veg. Unit 5 meets the criteria to be considered a *Significant Woodland* as it is greater than 4 ha in size. See Table 7 for discussion.

- *Significant Valleylands* in Ecoregions 6E and 7E:
 - No *Significant Valleylands* are present.
- *Significant Wildlife Habitat*:
 - Per the discussion in Section 3.3.4, the following types of SWH have been confirmed within the Subject Lands:
 - Other Rare Vegetation Communities (Veg. Units 5A, 9 and 11). These communities consist of Shagbark Hickory Woodlands (FOD9-4) which is considered a provincially rare (S3) vegetation community.
 - Special Concern and Rare Wildlife Species. Veg. Units 5 and 9 also support this type of SWH based on the presence of Wood Thrush (Veg. Unit 5) and Eastern Wood-pewee (Veg. Units 5 and 9) during the bird breeding season.
- *Significant Areas of Natural and Scientific Interest*:
 - The *Trafalgar Moraine Earth Science ANSI* is present in the south portion of the Subject Lands, encompassing a portion of Parcel 17 (Phase 4).
- Fish Habitat:
 - Fish habitat is present within Tributaries 1 and 2 of Sixteen Mile Creek and Tributary 1 of Indian Creek. See discussion in Sections 3.4.2 and 6.1.
- Habitat of *Endangered* and *Threatened* Species
 - No provincially listed *Endangered* species were recorded within the Subject Lands. Three provincially listed *Threatened* species were recorded during field surveys: Bank Swallow, Bobolink and Eastern Meadowlark, though none are included on the PSO List. No suitable breeding habitat was confirmed for Bank Swallow (recorded foraging over the Subject Lands) and Bobolink (recorded on adjacent lands to the south). Eastern Meadowlark was recorded with 'Possible' breeding evidence within the horse pasture on Parcel 17 (Phase 4).

6.5.3 Conclusion

Several features that are subject to the natural heritage policies of the PPS, including: *Significant Woodlands*, *Significant Wildlife Habitat*, *ANSI*, Fish Habitat and Habitat of *Endangered* and *Threatened* Species are present within the Subject Lands.

All *Significant Woodlands* and *Significant Wildlife Habitat* will be retained in-situ and protected as part of the proposed development, with the mitigation and protection measures identified herein confirmed as part of an updated EIA following confirmation of feature limits, and as planning and design of the development progresses.

Features that provide confirmed Fish Habitat and potential Habitat of *Endangered* and *Threatened* Species will continue to be assessed as planning and design of the proposed development progresses, with appropriate assessments and consultation with required agencies completed to ensure compliance with relevant legislation (e.g., *Fisheries Act*, SARA and SCA).

Development potential within the portion of the *Trafalgar Moraine Earth Science ANSI* that intersects the Subject Lands will be confirmed with the Town.

6.6 Greenbelt Plan, 2017

The *Greenbelt* was introduced in 2005 to help shape the future of this region. The *Greenbelt* is the cornerstone of Ontario's Greater Golden Horseshoe Growth Plan (Growth Plan) which is an overarching strategy that provides clarity and certainty about urban structure, where and how future growth should be accommodated and what must be protected for current and future generations.

The Greenbelt Plan includes lands within and builds upon the protections provided by the Niagara Escarpment Plan (NEP), and the Oak Ridges Moraine Conservation Plan (ORMCP). The Greenbelt Plan, together with the NEP and ORMCP, identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas, and functions occurring on this landscape. The Greenbelt Plan, together with the Growth Plan, the NEP and the ORMCP, builds on the PPS to establish a land use planning framework for the Greater Golden Horseshoe that supports a thriving economy, a clean and healthy environment, and social equity.

The *Protected Countryside* is comprised of *Agricultural System*, *Natural System* and *Settlement Areas*. The *Natural Heritage System* of the *Protected Countryside* is present in the south portion of the Subject Lands.

6.6.1 Study Assessment

A small portion of the Subject Lands, specifically the southeast corner of Parcel 17 (Phase 4) is within the *Protected Countryside* of the Greenbelt Plan, which consists of an active agricultural field. No Key Natural Heritage or Key Hydrologic Features per applicable policies in the Greenbelt Plan are present. No development is proposed within the *Protected Countryside* of the Greenbelt Plan.

6.7 Town of Milton Official Plan (2026)

6.7.1 Policy Overview

Relevant policies of the Town of Milton Official Plan (Office Consolidation, Feb. 2026) related to the natural environment are found in Section 2.5 (*Green System* and *Blue System*; components of the broader *Environmental System*) and Section 5 (*Sustainable Environment*). A summary of key policies is provided below.

Per Section 2.5.1, the *Green System* consists of the Local Natural Heritage System, the Greenbelt Natural Heritage System and Parks and Open Spaces; and per Section 2.5.2 the *Blue System* is made up of the water resources that are found throughout Milton. Per Policy 5.1.1.1, the goal of the *Environmental System* is to ensure that the biological diversity and ecological functions within the Town and broader Halton Region will be preserved and enhanced for future generations.

The following policies identify the components of the *Environmental System*, some of which are present within the Subject Lands:

- Policy 2.5.1.13 – The Local Natural Heritage System consists of:
 - *Key Features*, which include:
 - Significant habitat of *Endangered* and *Threatened* species;
 - *Significant Wetlands*;

- *Significant Woodlands*;
- *Significant Valleylands*;
- *Significant Wildlife Habitat*;
- Significant Areas of Natural and Scientific Interest;
- Fish habitat;
- Enhancements to *Key Features*;
- Linkages;
- Buffers;
- Watercourses that are within a Conservation Authority Regulation Limit or that provide a linkage to a wetland or significant woodland;
- Wetlands other than those considered significant; and
- Escarpment Natural Area and Escarpment Protection Area as identified in the Niagara Escarpment Plan.
- Policy 2.5.2.1 – Included within the *Blue System* are key hydrological areas and key hydrologic features, some of which are present in the Subject Lands:
 - Key hydrologic areas:
 - Significant groundwater recharge area; and
 - Highly Vulnerable Aquifers.
 - Key hydrologic features:
 - Significant surface water contribution areas;
 - Seepage areas and springs;
 - Rivers;
 - Permanent and intermittent streams;
 - Inland lakes (and their littoral zones); and
 - Wetlands.

The following policies identify development criteria with respect to the above-noted features:

Per Policy 5.2.3.1 a): Development and site alteration is prohibited within *Significant Wetlands*, significant habitat of *Endangered* and *Threatened* species and fish habitat except in accordance with Provincial and Federal legislation.

Per Policy 5.2.3.1 b): Development and site alteration is prohibited within *Significant Woodlands*, *Significant Valleylands*, *Significant Wildlife Habitat* and Significant ANSI's, unless it has been demonstrated that there will be no negative impact on the feature or its ecological functions.

Per Policy 5.2.3.1 c): Development or site alteration is prohibited within lands adjacent to *Significant Wetlands*, *Significant Woodlands*, *Significant Valleylands*, *Significant Wildlife Habitat*, Significant ANSI's and fish habitat, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Per Policy 5.4.1.1: The proponent of any development in areas adjacent to watercourses and related physiographic and topographic formations shall be responsible for carrying out an Environmental Impact Assessment.

Per Policy 5.4.1.2: The Town shall ensure that current stormwater management techniques are employed in the design and implementation of all development to control both the quality and quantity of surface water runoff and to maintain the quality and quantity in the receiving watercourse(s).

Per Policy 5.4.1.3: The Town shall restrict development and site alteration in or near sensitive surface and groundwater features and require the proponent to carry out an Environmental Impact Assessment and where appropriate, hydrogeological and hydrological studies to protect, improve or restore such features.

6.7.2 Study Assessment

A review of natural heritage policies in the Town OP as they relate to the Subject Lands is summarized below. Specific to key features of the LNHS:

- Significant habitats of *Endangered* and *Threatened* species.
 - Per Table 7 and Section 6.4, potential habitat for *Endangered* and *Threatened* species included on the PSO List and subject to the SCA, 2025 may be present based on surveys completed in 2024 and 2025.
- *Significant Wetlands*.
 - No *Significant Wetlands* are present.
- *Significant Woodlands*.
 - A *Significant Woodland* per criteria in the Town OP is present. See Table 7 and Section 6.5.2.
- *Significant Valleylands*.
 - No *Significant Valleylands* are present.
- *Significant Wildlife Habitat*.
 - See discussion in Section 3.3.4 and Table 7.
- Significant Areas of Natural and Scientific Interest.
 - See discussion in Table 7 and Section 6.5.2.
- Fish Habitat.
 - See discussion in Sections 3.4.2 and 6.1.
- Enhancement areas to *Key Features*, Linkages and Buffers.

- Per Schedule 6 of the Town OP, Enhancement Areas, Linkages and Buffers are identified in a single designation, which is mapped within the Subject Lands. This designation is associated with the following features: Tributaries 1 and 2 of Sixteen Mile Creek; Tributary 1 of Indian Creek; the Veg. Unit 5 and 9 woodlands; and the Veg. Unit 7 / 10 wetland straddling Parcels 4 and 5 (and the associated downstream HDF).
- Based on the analysis presented herein, these features, particularly those associated with the tributaries do provide a linkage function between habitats inside and outside of the Subject Lands to some degree, although barriers (roads, development and limited natural vegetation cover) reduce functionality.
- Details with respect to the identified enhancement areas and buffers from natural features will be confirmed as part of future submissions for approval by the Town and other agencies as required.
- Watercourses that are within a Conservation Authority Regulation Limit or that provide a linkage to a wetland or *Significant Woodland*.
 - Tributaries 1 and 2 of Sixteen Mile Creek and Tributary 1 of Indian Creek are within CH's regulated area and in the case of Tributary 2 of Sixteen Mile Creek, provide a linkage to a *Significant Woodland* (Veg. Unit 5).
- *Wetlands* other than those considered significant under Section 4.9.1.3 a) ii).
 - No significant wetlands are present. See Tables 1 and 7 for a description of wetlands present within the Subject Lands and see the discussion in Section 4.1 as they relate to the recommended NHS and development implications.
- *Escarpment Natural Areas* and *Escarpment Protection Areas* per the Niagara Escarpment Plan.
 - None present.

Specific to key hydrologic areas and features of the Blue System:

- Significant Groundwater Recharge Area.
 - None is present per Schedule 8c of the Town OP.
- Highly vulnerable aquifers.
 - None is present per Schedule 8b of the Town OP.
- Significant surface water contribution areas.
 - None is known within the Subject Lands.
- Seepage areas and springs.
 - None is known within the Subject Lands and none was identified during field investigations.
- Rivers.
 - No rivers are present.
- Permanent and intermittent streams.

- See discussion in Section 3.4 and Table 7.
- Inland lakes (and their littoral zones).
 - No inland lakes are present.
- Wetlands.
 - See Tables 1 and 7 for a description of wetlands present within the Subject Lands and see the discussion in Section 4.1 as they relate to the recommended NHS and development implications.

6.7.3 Conclusion

The current study has identified a recommended NHS that incorporates components of the Town's *Environmental System*. Future studies, including an updated EIA, will confirm that the proposed development will not impact the features included within the recommended NHS or their ecological functions, following confirmation of feature limits. For features that are proposed for removal (e.g., small, isolated wetlands), or modification (e.g., Tributary 1 of Sixteen Mile Creek), future studies and consultation with relevant agencies will ensure compliance with applicable legislation as well as potential compensation measures to be implemented as part of the proposed development.

6.8 Conservation Halton

6.8.1 Policy Overview

Per Section 28 of the Conservation Authorities Act, R.S.O. 1990, CH has the responsibility to regulate activities in hazard lands (e.g., areas in and near watercourses (and their associated valleys, if applicable), wetlands, shorelines or floodplains). Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits is a regulation issued under the Conservation Authorities Act that provides a mechanism for CH to issue permits for development within areas regulated under Section 28 of the Conservation Authorities Act.

Per Section 28.1 (1) of the Conservation Authorities Act:

- An authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by Section 28, if, in the opinion of the authority,
 - The activity is not likely to affect the control of flooding, erosion, dynamic beaches or pollution or the conservation of land;
 - The activity is not likely to create conditions or circumstances, that, in the event of a natural hazard, might jeopardize the health or safety of persons, or result in the damage or destruction of property; and
 - Any other requirements that may be prescribed by the regulations are met.

6.8.2 Study Assessment

Per online CH mapping¹⁰, and as confirmed / refined through WSP field surveys in 2024 and 2025, regulated features are present, including watercourses, wetlands, floodplain, meander belt and stable top of bank hazard. These features are present across much of the Subject Lands, including on portions of Parcels 1, 2, 3, 4, 5, 7 and

¹⁰ <https://camaps.maps.arcgis.com/apps/webappviewer/index.html?id=a2928bf280194294a4027111f8ff284a>

9 (see Figure 1). There are other wetland features observed during 2024 and 2025 fieldwork that may not currently be mapped as regulated by CH; however, these features are also subject to CH's regulation.

To ensure that development has regard for flooding and erosion hazard features and the natural environment, while conforming to watershed development policies, CH is authorized under Section 28 of the Conservation Authorities Act to implement, enforce, and make decisions on applications for permits in accordance with Part VI of the Conservation Authorities Act and O. Reg 41/24. Policies and guidelines for the implementation of O. Reg 41/24 are found in the Conservation Halton Guidelines for the Administration of Part VI of the Conservation Authorities Act and Ontario Regulation 41/24 and Land Use Planning Policy Document (Conservation Halton; April 17, 2025).

6.8.3 Conclusion

Permitting requirements under Section 28 of the Conservation Authorities Act and O. Reg. 41/24 will be confirmed with CH prior to development. Outstanding tasks to evaluate applicable policy, demonstrate compliance and secure required permits includes, but are not limited to:

- Delineation / survey of watercourses.
- Delineation / survey of top of valley bank, stable top of bank and toe of slope (+ setbacks).
- Assessment of stream erosion and channel migration (e.g., meander belt assessment, erosion hazard analysis).
- Delineation of wetland limits.
- Delineation of flooding hazard limits.
- Confirmation / revision to floodplain limits.

These tasks will be completed and documented in future studies, including an updated EIA, prepared to the satisfaction of required agencies prior to the initiation of development-related activities.

7 RECOMMENDATIONS FOR MITIGATION AND IMPACT ASSESSMENT

7.1 Mitigation and Enhancement Measures

In order to ensure the long-term viability of the recommended NHS within the Subject Lands, the following mitigation and enhancement measures have been identified. Implementation of the identified measures, as well as others identified as planning and design of the development advances will be subject to confirmation / refinement as the development application process progresses. Detailed implementation plans and designs will be included in future studies (including an updated EIA), and subject to agency approval.

7.1.1 Development Setbacks and Buffers

Development setbacks are proposed in relation to NHS features (watercourses, woodlands and wetlands) that have been identified for retention as part of the NHS. Feature limits will be confirmed, verified with agencies (Town and CH) and surveyed for inclusion on base plans.

- Development Setbacks

- Setbacks from retained NHS features (watercourses, woodlands and wetlands) will be identified and confirmed through an updated EIA. Setbacks will be established based on approved and surveyed feature limits established with the Town and CH, as required and are recommended as follows:
 - Woodland dripline (Veg. Units 5a, 5b, 9 and 11) + 10 m.
 - Watercourse / riparian wetland (Tributary 2 of Sixteen Mile Creek and Tributary 1 of Indian Creek) + 15 m.
 - Wetland limit (Veg. Unit 7 / 10 on Parcels 4 / 5) + 15 m.
- Buffer Management
 - Within the setbacks from retained NHS features, naturalized buffer areas will be established in current agricultural fields. Buffer enhancements will focus on native species plantings and wildlife habitat elements, which will increase the size of the NHS within the Subject Lands, protect retained NHS features by reducing / reversing edge effects (e.g., sunscald, windthrow, increasing edge density) and provide additional habitat for wildlife.
 - Surface and groundwater inputs to receiving areas (e.g., wetland and watercourses) will be maintained to pre-development levels, with specific design elements incorporated into the design of the development to ensure that inputs from within developed areas are maintained to required locations.
- The naturalized buffers will ultimately form part of the NHS, once established. These areas will be separated from the development by permanent fencing or other suitable barrier (e.g., dense / thorny plantings) to prevent unauthorized intrusion into retained natural areas. Trails are proposed adjacent to / within setbacks to retained NHS features. Trail siting and design will be reviewed as part of future detailed submissions, with recommendations to limit impacts to retained NHS features included in an updated EIA, subject to approval by the Town.

7.1.2 Environmental Enhancement Areas

Establishment of naturalized buffers in current agricultural fields will provide an overall ecological enhancement to retained NHS features across the Subject Lands.

Subject to confirmation as part of future submissions, these enhancements are anticipated to include a combination of natural succession, supplemented with native species plantings, with the following objectives: establishing native species in disturbed areas (i.e., current agricultural fields) before non-native species can become established; providing additional supplementary habitat for wildlife; and enhancing retained habitat for wildlife species, via improved buffering and increased woodland edge density to reduce impacts from development.

In addition to establishing buffers adjacent to retained NHS features, the following environmental enhancements will be incorporated into the proposed development:

- **Realignment of Tributary 1 of Sixteen Mile Creek.** Details will be provided as part of future submissions, however, at a minimum, the proposed realignment will incorporate the following elements and is expected to be an improvement relative to existing conditions:
 - Wider riparian corridor consistent with upstream reaches; the current corridor is less than 10 m wide in spots.

- Improve aquatic habitat via incorporation of natural channel design techniques to create a dynamically stable channel with varied morphologies, (current channel has been straightened and altered by adjacent agricultural land uses).
- Incorporation of online and offline wetland features and incorporation of riparian habitat features to increase habitat diversity with designs to be confirmed as part of a future ecological restoration approach.
- **Enhancement of Former Agricultural Field in Phase 1.** Located between the *Significant Woodland* and Tributary 2 of Sixteen Mile Creek, an approximately 1.95 ha agricultural field is present, that will not be utilized for the proposed development. Details will be provided as part of future submissions, with the goal of creating naturalized habitat in the currently disturbed area, with a similar approach to that of the buffer enhancements (focus on native species plantings and wildlife habitat elements). The intention being that this area will ultimately form part of the NHS, increasing the NHS size and availability of habitat in a contiguous system that promotes connectivity between the *Significant Woodland* and the riparian communities along the realigned reach of Tributary 1 of Sixteen Mile Creek and the existing (to be further enhanced via setbacks and buffers) Tributary 2 of Sixteen Mile Creek.

7.1.3 Water Balance / Surface Water Inputs

Subject to future technical studies, surface and groundwater inputs to retained NHS features will be maintained post-development. Relevant measures will be incorporated into the detailed design of the proposed development (e.g., directing clean-roof runoff to select locations, groundwater infiltration measures, maintaining drainage patterns and volumes on a seasonal basis to receiving areas within and downstream of the Subject Lands). An updated EIA will incorporate relevant details from future technical studies to confirm potential impacts and refine mitigation / protection measures with respect to maintaining surface and groundwater inputs to NHS features.

7.1.4 Stormwater Management

As discussed in Section 5.2.

7.1.5 Environmental Stewardship

The following measures are recommended to promote environmental stewardship post-development and reduce potential impacts to retained and enhanced NHS features and flora / fauna that utilize these habitats.

- Prepare a stewardship brochure, which is intended to inform users and/or property managers about adjacent natural areas and how they can be responsible stewards of these features.
- Install 'Sensitive Features' signage at the development limit / natural area interface, which will be an element of the future buffer enhancement planting plans.
- Complete an assessment of invasive species throughout retained NHS features and develop a plan for control / management.
- Strategies to minimize light pollution and 'spillage' of light into retained NHS areas through the use of bird and bat-friendly lighting technologies and minimizing lighting adjacent to retained NHS areas.
- Integrate bird friendly building design elements to mitigate the risk of bird collisions (e.g., window glass type / treatments, visual markers, awnings and external lighting operation) for buildings adjacent to retained NHS areas.

7.1.6 Best Management Practices During Construction

The following measures are recommended to mitigate potential impacts during construction, and will be updated as designs of the proposed development progress:

- Installation of temporary Vegetation Protection Fencing prior to any site grading to delineate the work zone and prevent direct damage to adjacent retained vegetation (i.e., mechanical damage, root damage, soil compaction). This fencing is to remain in place until construction is complete.
- Erosion and Sediment Control (ESC) are proposed in the SWM report (Envision 2026) for implementation during construction and include the following:
 - Install silt fence at the downslope side of disturbed areas and snow fence (if necessary) along the perimeter of the development site, prior to the start of construction.
 - Install stone mud mats at all construction entrances.
 - Stockpile topsoil at designated locations and at least 15 m away from the staked limit of all natural heritage features. Stockpiles will be contained by silt fences on the downslope side.
 - Accumulated silt shall be removed from all sediment control devices as required during construction and disposed of in accordance with Town of Milton and MECP Guidelines.
 - All exposed soils are to be stabilized and vegetated as soon as possible using seed and mulch application on 100 mm of topsoil, as directed by the Engineer.
 - All catch basins are to be fitted with sediment control devices as directed by the Engineer and in accordance with Town of Milton standard requirements.
 - Additional erosion / sediment controls may be required on-site as determined by the Engineer.
 - No construction activity / machinery shall intrude beyond the silt / snow fence or property limit. All construction vehicles shall enter and leave the site via designated entrances.
 - All regraded areas that are not occupied by buildings, roads, sidewalks, driveways and other services shall be covered by 100 mm topsoil and sodded / seeded immediately after completion of final grading operations, as directed by the Engineer.
 - All temporary erosion and sediment controls must be installed prior to the commencement of site grading, must be inspected on a regular basis and after every rainfall event, and must be cleaned and maintained as required to prevent the migration of sediment from the site.
 - All sediment and erosion control facilities are to remain in place until finalization of construction activity.
 - All temporary erosion and sediment controls must be removed after construction and once the site has been stabilized to the Town of Milton's satisfaction. All areas disturbed by erosion / sediment control devices are to be restored with 100 mm topsoil and sodded / seeded after construction.
 - The Contractor shall keep public roadways free of debris during construction. Any material tracked from the site shall be promptly removed from roadways at the contractor's expenses.

- The Contractor is responsible to locate and protect all existing utilities and municipal services, and to make arrangement with utility companies prior to construction.
- All excavations shall be in accordance with the Ontario "Occupational Health and Safety Act", and other federal and provincial regulations related to construction projects.
- Other construction Best Management Practices (BMPs) to minimize ecological impacts, including:
 - Refuelling and equipment washing at least 30 m from retained natural areas.
 - Follow the Clean Equipment Protocol for Industry (Holloran 2013) when excavating moist or wet areas to prevent the spread of invasive species.
 - Prepare a spills management plan and keep on site.
 - No stockpiling or storage of construction materials or soils within or immediately adjacent to retained natural areas (including buffers).
- The following measures are recommended for the protection of wildlife in general:
 - Install ESC fencing prior to construction and maintain throughout construction to prevent wildlife from entering the construction areas.
 - If an animal encountered during construction does not move from the construction zone and construction activities are such that continuing construction in the area would result in harm to the animal, all activities that could potentially harm the animal will cease immediately and the Contract Administrator will be notified.
 - Follow ecologically appropriate timing windows for any vegetation removals:
 - MBCA. Potential impacts to migratory birds will be mitigated by completing vegetation / habitat removals outside of the Regional Nesting Period (see discussion in Section 6.2) and/or following other measures to demonstrate compliance with the MBCA.
 - Potential Species at Risk Bat Habitat. Potential impacts to potential / unconfirmed SAR bat habitat can be mitigated by completed removals outside of the active bat period (i.e., no removals between March 16 and November 30).
 - Prior to starting works each day, examine the construction areas (including staging areas and beneath any equipment parked overnight) to ensure no SAR (or other wildlife) have entered the construction zone.
 - If a SAR or possible SAR is found in the construction area, all activities that could potentially harm the animal will cease immediately and the Contract Administrator / Site Manager will be notified. The Contract Administrator / Site Manager will then contact the MECP for direction.
- The following measures are recommended to be implemented for the channel realignment works:
 - Implement all ESC measures and BMP's as described above.
 - In-water work associated with the realignment of Tributary 1 of Sixteen Mile Creek, specifically the connection and transfer of flows from the existing channel to the realigned channel, should occur within

the appropriate in-water work window of July 16th to March 14th of any given year (i.e., no in-water works from March 15th to July 15th), to be confirmed through a future Request for Review submission to DFO.

- Decommissioning of the existing channel should be undertaken after the newly constructed channel has been confirmed to be stable and able to receive flows. Fish and wildlife rescues conducted under all required permits should be completed prior to decommissioning.
- All disturbed and newly graded areas should be stabilized as quickly as possible to reduce the potential for erosion and sedimentation.

7.2 Impact Assessment

This section reviews potential impacts or condition changes to natural environmental features within the Subject Lands, based on direct activities (e.g. construction activities such as clearing and grading) or indirect activities (e.g. occupancy activities such as dumping of rubbish). The Concept Plan (WW+P; June 2026) is primarily restricted to culturally modified communities and active agricultural crop fields. As such, direct impacts to natural environment features are negligible.

The primary concerns relate to the realignment of Tributary 1 of Sixteen Mile Creek, the removal of the small, isolated wetlands in Phase 3 and potential indirect impacts to retained NHS features within the Subject Lands. Potential indirect impacts include, for example, construction-related impacts to retained natural features, changes to hydrology, as well as post-development occupancy activities. It is recommended that the identified mitigation measures are refined, as required, during subsequent design stages.

Three primary natural environment factors are discussed: 1) aquatic resources; 2) vegetation; and 3) wildlife. In Table 3, each factor is reviewed in terms of potential effects, proposed mitigation and residual effects. The Concept Plan and NHS are included on Figure 3.

Table 8: Potential Impacts and Proposed Mitigation Measures

Feature Significance and Sensitivity	Natural Environment Impacts	Mitigation Measures
AQUATICS Headwater drainage features - Six features (seven reaches) conveying flows through active agricultural crop lands. Tributary 1 of Sixteen Mile Creek is located in Phase 1 (Parcel 1) and adjacent lands to the northwest and east. Key attributes: - Permanent watercourse that directly supports a common, disturbance tolerant fish community. - Channelized reach within the Subject Lands with a narrow riparian buffer surrounding by agricultural fields. Upstream reach has been previously realigned. - Rearing, foraging and overwintering habitat for resident species present within the Subject Lands. Tributary 2 of Sixteen Mile Creek is located in Phase 1 (Parcel 1) and adjacent lands to the northwest and east. Key attributes: - Permanent watercourse that directly supports a common, disturbance tolerant fish community. - Channelized reach within the Subject Lands with a narrow riparian buffer surrounding by agricultural fields. Upstream reach has been previously realigned. - Rearing, foraging and overwintering habitat for resident species present within the Subject Lands. Tributary 1 of Indian Creek is located in Phases 1 (Parcel 2) and 2 (Parcel 3) and adjacent lands to the west, east and south. Key attributes: - Permanent watercourse that directly supports a common, disturbance tolerant fish community. - Narrow, channelized reach within the Subject Lands with a narrow riparian buffer surrounding by agricultural fields. Assessed reach has been disturbed by dumping of aggregates and invasive species. Upstream reach is located within the CN Intermodal Lands. - Rearing, foraging and overwintering habitat for resident species present within the Subject Lands.	Direct Impacts. Tributary 2 of Sixteen Mile Creek and Tributary 1 of Indian Creek will be retained in full. - Tributary 1 of Sixteen Mile Creek will be realigned to the north of its current location. The realigned channel will incorporate natural channel design techniques, and the design will generally be consistent with the realigned reach upstream. Details will be provided as part of future submissions. - The functions provided by all HDF reaches identified in Section 3.4.1 will be appropriately managed per the identified management recommendations via the stormwater management approach for the development, subject to further study. Indirect Impacts. There is potential for impact to watercourses within and downstream of the Subject Lands as the result of construction, changes in adjacent land use, changes to hydrology and occupancy-related activities Water quality. Potential for increased sedimentation / erosion and changes in nutrient / allochthonous inputs. However, there will be improvement in some areas, such as the removal of some chemical and/or fertilizer inputs from current agricultural practices. Erosion and Sediment Control measures will be implemented as per the SWM report and will be subject to agency approval at the detailed design stage. Erosion. Potential for erosion in receiving watercourses. Hydrology. Potential changes to the hydrological regime resulting from increases in impervious surface and elevated flows or as the result of SWM discharge. Hydrogeology. Potential impacts on the groundwater regime (decreased recharge/infiltration) and subsequent impacts to baseflow. Occupancy / Operation related effects. Potential for some impact to aquatic resources (e.g., refuse / vegetation dumping) and water quality effects related to commercial uses (i.e., chlorides, fuels and oils).	Surface Water (long-term) impacts. Mitigated by: <u>Development setbacks.</u> Providing a wide naturalized zone for sediment / contaminant filtration. Feature limits and locations of development setbacks will be confirmed in an updated EIA, in consultation with review agencies. <u>SWM strategy.</u> Only clean or treated runoff from the proposed development will be directed to any of the natural areas. At-grade surface runoff will be directed to SWM wet ponds, for 'Enhanced Level' quality control. The SWM strategy will provide for extended detention and peak flow control. <u>During-construction mitigation</u> measures to protect surface water quality will be implemented - including an Erosion and Sediment Control (ESC) Plan, Spills Management Plan, vegetation protection fencing and typical best-management practices. Water Balance - It is recommended that surface water inputs be maintained to all retained watercourses and the realigned channel. Opportunities to achieve a water balance to watercourses (and other NHS features) are available and will be confirmed through future studies and documented in an updated EIA. Erosion. Addressed via the proposed SWM strategy Occupancy / Operation-related Impacts to be mitigated by: <u>Buffer Management.</u> This buffer zone will include native species plantings to address: slope stability / erosion; additional sediment / nutrient filtration; and woodland edge integrity. The intent is to establish native vegetation in future buffers within current crop field areas. - Installation of permanent fencing at development / natural area interfaces. <u>Stewardship:</u> installation of 'natural areas signage' at the development / natural area interface and provide of a Stewardship Brochure to owners and building managers Monitoring. No specific aquatic monitoring is proposed at this time. Future submissions and consultation with review agencies will identify ecological monitoring requirements, as required.

Feature Significance and Sensitivity	Natural Environment Impacts	Mitigation Measures
VEGETATION ▪ Vegetation overview. The proposed Concept Plan predominantly occupies lands under agricultural use (row crops). Several natural heritage system components (watercourses / riparian zones, woodlands and wetlands) are present throughout the Subject Lands, as discussed in Sections 3.2 and 4.1. ▪ Wetlands. Primarily associated with larger NHS components (watercourses and woodlands); some small, disturbed, isolated features present in agricultural fields. ▪ Vegetation Communities. The following vegetation community types are present: Mineral Cultural Woodland (CUW1); Dry - Moist Old Field Meadow (CUM1-1); Mineral Cultural Thicket (CUT1); Fresh - Moist Shagbark Deciduous Forest (FOD9-4); Fresh - Moist Sugar Maple - Hardwood Deciduous Forest (FOD6-5); Mineral Meadow Marsh (MAM2); Cattail Mineral Shallow Marsh (MAS2-1); and Dry - Fresh Sugar Maple Deciduous Forest. ▪ FOD9-4 is provincially rare ▪ Designated Areas. Tributaries 1 and 2 of Sixteen Mile Creek; Tributary 1 of Indian Creek; Veg. Unit 5; Veg. Unit 7 / 10 on Parel 4; Veg. Unit 9 on Parcel 5; Veg. Unit 12 on Parcel 9 and a large portion of Parcel 17 (associated with a provincially designated ANSI) are identified on Schedule 6 of the <u>Town OP</u> as part of the LNHS. Veg. Unit 11 on Parcels 8 and 9 meet criteria to be considered part of the LNHS based on the fieldwork and analysis documented herein. Additionally, a small portion of the southeast corner of Parcel 17 is designated as <i>Protected Countryside – Natural Heritage System of the Greenbelt Area</i> on Schedule 4 of the Greenbelt Plan (2007). ▪ Flora. 268 vascular plant species were recorded. ▪ No species are federal or provincial SAR. ▪ None is globally or provincially rare. ▪ Eight species are considered Rare in Halton Region (Crins et al. 2006): Clammy Hedge-hyssop, Common Three-square Bulrush, Great Duckweed, Horned Pondweed, Small Pondweed, Smooth Arrowwood, Red-rooted Flatsedge and Yellow-seed False Pimpernel. ▪ Of the species with a CC value, most (94%) are ‘tolerant’ or ‘moderately conservative’ (CC 0-6). Eight species have a higher CC value: Canada Garlic, Clammy Hedge-hyssop, Eastern Mannagrass, Michigan Lily, Downy Arrowwood, Smooth Arrowwood, Wood Anemone and Yellow-seed False Pimpernel. ▪ 40% are non-native species. ▪ Disturbance. All vegetation communities are anthropogenically disturbed / influenced to varying degrees.	▪ Direct Impacts. Most natural vegetation will be retained. The following culturally derived, disturbed, less sensitive vegetation units are proposed for removal (~0.3 ha): small, isolated wetlands on Parcels 8 and 9 (Phase 3); (~0.35 ha): small, isolated, disturbed deciduous woodland on Parcel 17 (Phase 4); and (~3.18 ha): other vegetated areas (e.g., regenerating meadow around former farmsteads, fallow agricultural areas, hedgerows and isolated trees / tree clusters). Tributary 1 of Sixteen Mile Creek and its riparian corridor will be realigned north of its current location, which will create a wider corridor and increase the amount of habitat available for flora. ▪ Indirect Impacts. There is potential for impact to vegetation as a result of construction, changes in adjacent land use, changes to hydrology and occupancy-related activities. ▪ Woodland Edge Effects. Vegetation dieback at woodland edges can result in the exposure of the less disturbed forest zone to additional sunlight and invasive plant species which can lead to trunk damage (sunscauld), increased drying, and localized changes in ground flora (e.g., increase in exotic species) - particularly at the south and east-facing edges. Edge trees in the woodlands on and adjacent to the property have been pre-stressed via agricultural activities; no substantive increase in sunscauld or drying is anticipated in those areas. ▪ Construction-related Impacts (short-term). These include damage to vegetation outside the work zone; sedimentation; spills of contaminants/fuels; root pruning; damage to limbs; and soil compaction. ▪ Hydrogeology. Retained vegetation might be impacted by changes to hydrogeology across the Subject Lands. For example, wetlands that receive surface and groundwater inputs from areas that are proposed to be developed can be stressed if those inputs are significantly changed (e.g., change to surface water volume / flow direction; reduced infiltration or changes to groundwater flow direction). ▪ Occupancy / Operation-related Impacts. These may include: woodland and wetland edge effects (e.g., invasive species proliferation); trail creation; vandalism; refuse/vegetation dumping; effects of salt spray from road maintenance.	▪ Direct Impacts to be mitigated by: minimizing disturbance footprint to the extent possible; retaining the majority of existing vegetation communities in an enhanced natural heritage system; buffer enhancement / habitat creation (resulting in a larger natural heritage system). ▪ Indirect Impacts to be mitigated by: ▪ Measures to mitigate woodland edge effects and valley vegetation impacts: establishing minimum setbacks from agency-verified feature limits. ▪ Realignment of Tributary 1 of Sixteen Mile Creek. The realigned channel will incorporate natural channel design techniques and will increase the quality and quantity of habitat in the Subject Lands. ▪ <u>Buffer zone management</u>, via native species plantings to address: vegetation community and botanical diversity; slope stability / erosion; and woodland edge protection. The intent is to establish native vegetation in future buffers and enhance existing naturalized areas with improved native species diversity / abundance. ▪ Installing temporary <u>Vegetation Protection Fencing</u> prior to any site grading to delineate the work zone and prevent direct damage to adjacent retained vegetation (i.e., mechanical damage, root damage, soil compaction). This fencing will remain until construction is complete. ▪ <u>ESC Plan</u>. To prevent sedimentation of retained vegetation, ESC fencing will be installed at grading limits prior to site grading. Additional measures to be confirmed at final design. ▪ Hydrogeology mitigation measures. As described above. ▪ <u>Occupancy/Operation-related Impacts</u>. As described above. ▪ Monitoring. No specific vegetation monitoring is proposed at this time. Future submissions and consultation with review agencies will identify ecological monitoring requirements, as required.

Feature Significance and Sensitivity	Natural Environment Impacts	Mitigation Measures
WILDLIFE ■ The Subject Lands provide very little wildlife habitat within areas proposed for development (primarily agricultural lands). ■ The highest quality / most diverse wildlife habitat is associated with the woodlands, wetlands and watercourses / riparian habitats that have been identified for retention / enhancement (in the case of Tributary 1 of Sixteen Mile Creek). ■ Avifauna. 46 bird species considered to be breeding within the Subject Lands recorded – primarily common generalists / urban-adapted species, with woodland- and wetland-associated species recorded in those habitats. ■ Herpetofauna. Seven anurans and one snake species recorded. Habitat for herpetofauna primarily associated with areas identified for retention / enhancement. ■ Insects and Mammals. Several common / expected species were recorded during field surveys. No notable / specialized habitat is confirmed, though there is potential for SAR bat habitat in woodlands throughout the Subject Lands. ■ Species of Conservation Concern. ■ Five SAR (Barn Swallow, Bobolink, Eastern Meadowlark, Eastern Wood-pewee and Wood Thrush); six significant species in Halton (Horned Lark, Northern Rough-winged Swallow, Red-bellied Woodpecker, Vesper Sparrow and Willow Flycatcher); and two Area Sensitive species (Savannah Sparrow and Vesper Sparrow) were recorded with breeding evidence within / adjacent to the Subject Lands. ■ No nationally or provincially rare wildlife species were recorded. ■ Significant Wildlife Habitat. ■ No areas of SWH are identified in available background information. Based on WSP fieldwork and analysis, the following Candidate and Confirmed SWH types are present: Candidate Bat Maternity Colony SWH (Veg. Units 5, 9 and 11); Confirmed Other Rare Vegetation Communities (Veg. Units 5A, 9 and 11); and Confirmed Special Concern and Rare Wildlife Species (Veg. Units 5 and 9). ■ Wildlife Movement. Wildlife movement opportunities are present, primarily associated with watercourses that connect to habitats upstream and downstream of the Subject Lands. There are barriers to movement due to roads, development, and lack of contiguous vegetation cover and natural habitat.	Potential impacts on wildlife habitat are similar to those discussed for vegetation (i.e., direct / indirect impacts to habitat – removals of culturally derived and disturbed habitat and occupancy-related effects etc.). ■ Direct impacts. (~0.3 ha): small, isolated wetlands on Parcels 8 and 9 (Phase 3); (~0.35 ha): small, isolated, disturbed deciduous woodland on Parcel 17 (Phase 4); and (~3.18 ha): other vegetated areas (e.g., regenerating meadow around former farmsteads, fallow agricultural areas, hedgerows and isolated trees / tree clusters). Tributary 1 of Sixteen Mile Creek and its riparian corridor will be realigned north of its current location, which will create a wider corridor and increase the amount of habitat available for wildlife. ■ Movement opportunities. Negligible – loss of agricultural field and poor-quality habitats that provide potential movement opportunities for more tolerant species¹¹, but limited existing cover and connectivity. Existing relatively low-quality movement areas along watercourses will be retained and enhanced, an overall net improvement. ■ Indirect impacts. There is potential for indirect impacts to wildlife habitat as a result of construction, changes to hydrogeology and occupancy related activities. ■ Construction-related impacts. These are generally limited to temporary disturbances to edge habitats during construction. Potential for sedimentation and contamination are addressed by ESC and SWM measures. ■ Hydrogeology. Potential impacts to retained natural vegetation as the result of hydrogeological changes may also impact wildlife habitat, particularly for sensitive species (e.g., potential amphibian breeding in wetlands). ■ Occupancy / Operation – related impacts. These may include: disturbance; dumping; noise pollution; woodland edge effects; and other degradation of wildlife habitat (as discussed under preceding sections).	Retention and protection of vegetation in retained natural areas (as discussed above) will also protect wildlife habitat. Additionally, realignment of Tributary 1 of Sixteen Mile Creek will further increase the amount of wildlife habitat (in conjunction with the buffer enhancement). Mitigation measures include: setbacks and buffer management; maintenance of hydrogeological inputs; ESC plan; SWM strategy; stewardship measures; and temporary exclusion fencing during construction and permanent fencing following completion of construction. Additional specific mitigation measures for wildlife include the following: Avifauna ■ Retain, protect and enhance the natural vegetation that is to be retained as part of the natural heritage system – beneficial to all avifauna. ■ Retain and enhance habitat for successional species (e.g., via buffer naturalization / enhancement). ■ Increased natural heritage system size / diversity (via channel realignment [including incorporation of online wetland pockets], buffer naturalization and enhancement of former agricultural areas) – beneficial to all avifauna species. Herpetofauna ■ Retain, protect and enhance the natural vegetation that is to be retained as part of the natural heritage system – beneficial for amphibian breeding and foraging habitat. ■ Maintain groundwater and surface water inputs to receiving woodlands, wetlands and watercourses as required. ■ Increased natural heritage system size / diversity (via channel realignment [including incorporation of online wetland pockets], buffer naturalization and enhancement of former agricultural areas) – beneficial to all herpetofauna. Insects and Mammals ■ General measures for habitat protection / enhancement will benefit recorded or potential insect and mammal species. ■ Retain, protect and enhance the natural vegetation that is to be retained as part of the natural heritage system – (e.g., incorporate Milkweed and other nectaring plants into buffer planting plans) for Monarch habitat and other insect species. ■ Increased natural heritage system size / diversity (via channel realignment [including incorporation of online wetland pockets], buffer naturalization and enhancement of former agricultural areas) – beneficial to all insect and mammal species. ■ Habitat for wildlife Species of Conservation Concern. Habitat for potential SCC will be retained in the identified natural heritage system, with enhancements via buffer naturalization / improvements. ■ Wildlife Movement opportunities. Retain and enhance linkages along watercourses and the proposed realignment of Tributary 1 of Sixteen Mile Creek. ■ Monitoring. No specific wildlife monitoring is proposed at this time. Future submissions and consultation with review agencies will identify ecological monitoring requirements, as required.

¹¹ Tolerant wildlife species are adaptable species that are commonly found within disturbed/anthropocentric habitats, including for example White-tailed Deer, Raccoon, Eastern Cottontail, Striped Skunk, American Robin and Red-winged Blackbird. This is a qualitative description based on the nature of habitats in question, broader landscape context / matrix and understanding of species present or potentially present in the area, and based on corporate experience and other comparable sites.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

Based on the review discussed herein, it is anticipated that the proposed development can be undertaken while protecting key natural heritage features. Protection of the natural heritage system can be achieved through the design of the proposed development and the implementation of mitigation and protection measures, subject to refinement and updates as part of future submissions, and subject to approval by the Town and other agencies, as required. This conclusion reflects the following considerations:

- **Natural Area Protection and Enhancement.** Retention of features identified as part of the recommended NHS, and incorporation of appropriate mitigation measures ensure that there will be no intrusion into natural habitats that are part of the LNHS per the Town OP (e.g., *Significant Woodland*, *Significant Wildlife Habitat*). These areas will be retained in full and their ecological functions will be protected with development setbacks, permanent fencing and buffer enhancement. Details of the recommended mitigation, protection and enhancement measures will be confirmed / refined through updated submissions as the development application process progresses.
- **Phase 1 Tributary Realignment and Agricultural Field Enhancement.** The proposed channel realignment and enhancement of the agricultural field between the *Significant Woodland* and Tributary 2 of Sixteen Mile Creek will increase the size of the NHS in the Subject Lands and result in an improvement over the existing conditions. Details of the proposed realignment and enhancement approach will be confirmed through updated submissions as the development application process progresses.
- The recommended mitigation and enhancement measures identified in the current report will be confirmed and refined as part of updated submissions as the development application process progresses.
- Future studies will demonstrate that the proposed development is technically feasible with respect to elements that contribute to protection of NHS features (e.g., maintenance of surface and groundwater inputs, design of the realigned tributary, incorporation of enhancement elements).

8.2 Recommendations for Future Work

Per applicable policy and analyses presented in this study, natural heritage features that require retention in-situ, and those that are suitable for modification or removal based on ecological significance / sensitivity and subject to approval by relevant agencies, have been identified and discussed in the current report. A Concept Plan that considers the natural heritage analysis documented in this report has been prepared for this submission. As the development application process progresses, the following tasks will be completed, building on the information presented in this report:

- In consultation with the Town and other agencies as relevant, identify future study requirements, including land use planning studies (if applicable) and updated EIA requirements. Prepare Terms of Reference for required studies.
- Refine / confirm the extent of the natural heritage system across the Subject Lands as part of future studies. This process will include: updated fieldwork, confirmation of feature limits with required agencies and review of other technical studies as they relate to natural feature form and function (e.g., water balance, hydrogeology, fluvial geomorphology, etc.).

- Pending refinement of the natural heritage system as part of future studies, development limits across the Subject Lands will be updated accordingly to account for retention of features, as well as the implementation of required mitigation and protection measures (e.g., maintenance of surface and groundwater inputs, setbacks, buffers, etc.).
- In addition to refining / confirming the extent of the NHS, future studies specific to the natural environment (i.e., an updated EIA) will, at a minimum: review, confirm and continue to assess the proposed development as it relates to applicable policy at the time of submission; incorporate technical information from other disciplines as relevant (e.g., water balance, stormwater management, hydrogeology, etc.); identify potential impacts that may result from future development; and will recommend specific mitigation, protection, monitoring and compensation measures (as applicable).

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Signature Page

WSP Canada Inc.

Prepared by.

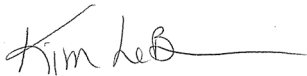


Steven Leslie, BES
Ecologist



Andrew Minielly, BES
Terrestrial Ecologist

Reviewed by



Kim LeBrun, HBSc
Team Lead, Ecology

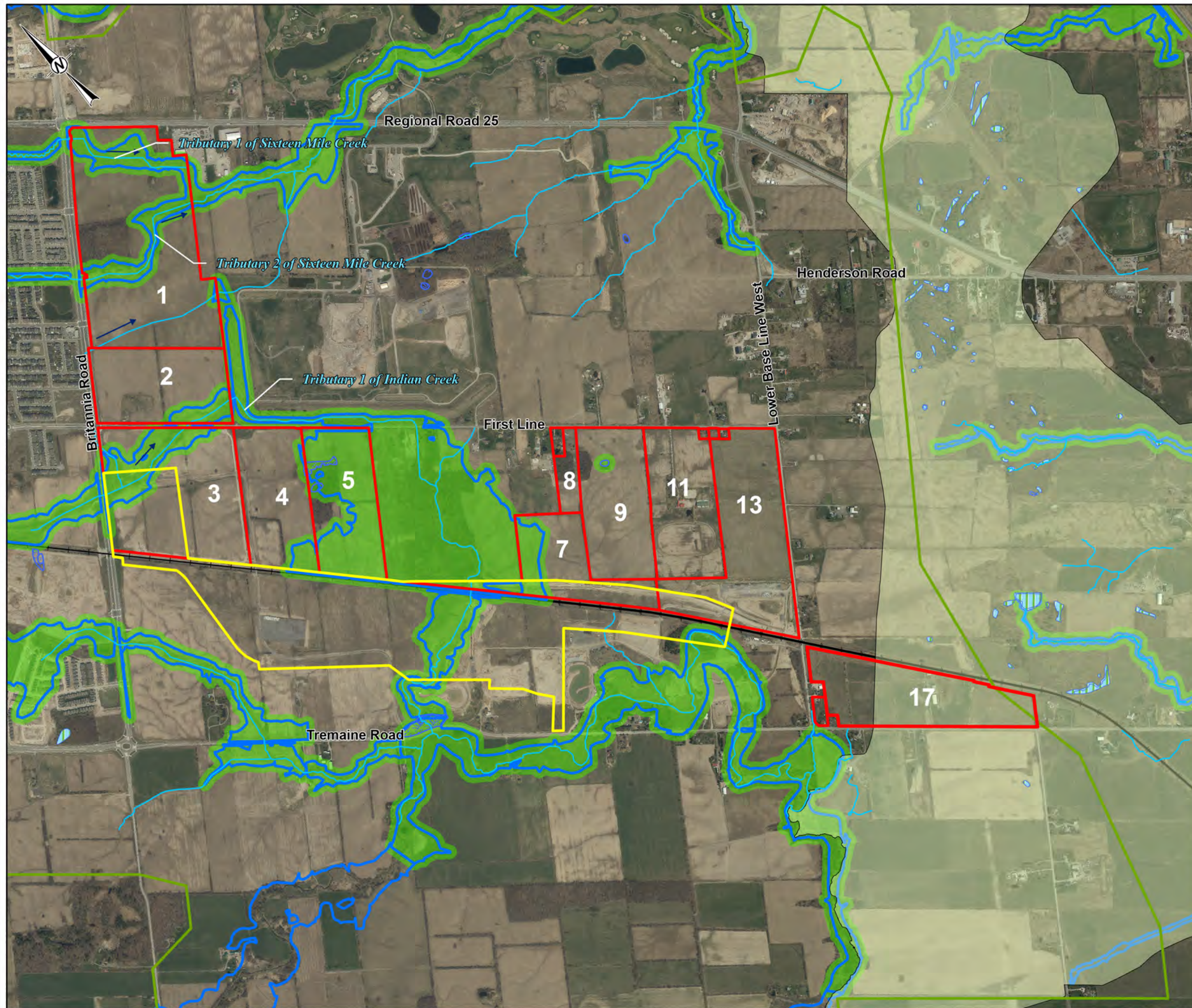
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FIGURES

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KEY MAP

SCALE: 1:400,000

LEGEND

- SUBJECT LANDS
- CN INTERMODAL LANDS
- CONSERVATION HALTON REGULATED FLOODPLAIN
- CONSERVATION HALTON REGULATED AREA (APPROXIMATE)
- GEOSPATIAL ONTARIO
 - WATERCOURSE (OHN)
 - FLOW DIRECTION
 - RAILWAY
 - UNEVALUATED WETLAND
 - NORTH OAKVILLE - MILTON WEST PROVINCIALLY SIGNIFICANT WETLAND COMPLEX
 - NATURAL HERITAGE SYSTEM OF THE PROTECTED COUNTRYSIDE OF THE GREENBELT PLAN AREA
 - TRAFALGAR MORaine EARTH SCIENCE AREA OF NATURAL AND SCIENTIFIC INTEREST

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT

TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.

PROJECT

MILTON LINK - NATURAL ENVIRONMENT REPORT & ENVIRONMENTAL IMPACT ASSESSMENT

TITLE

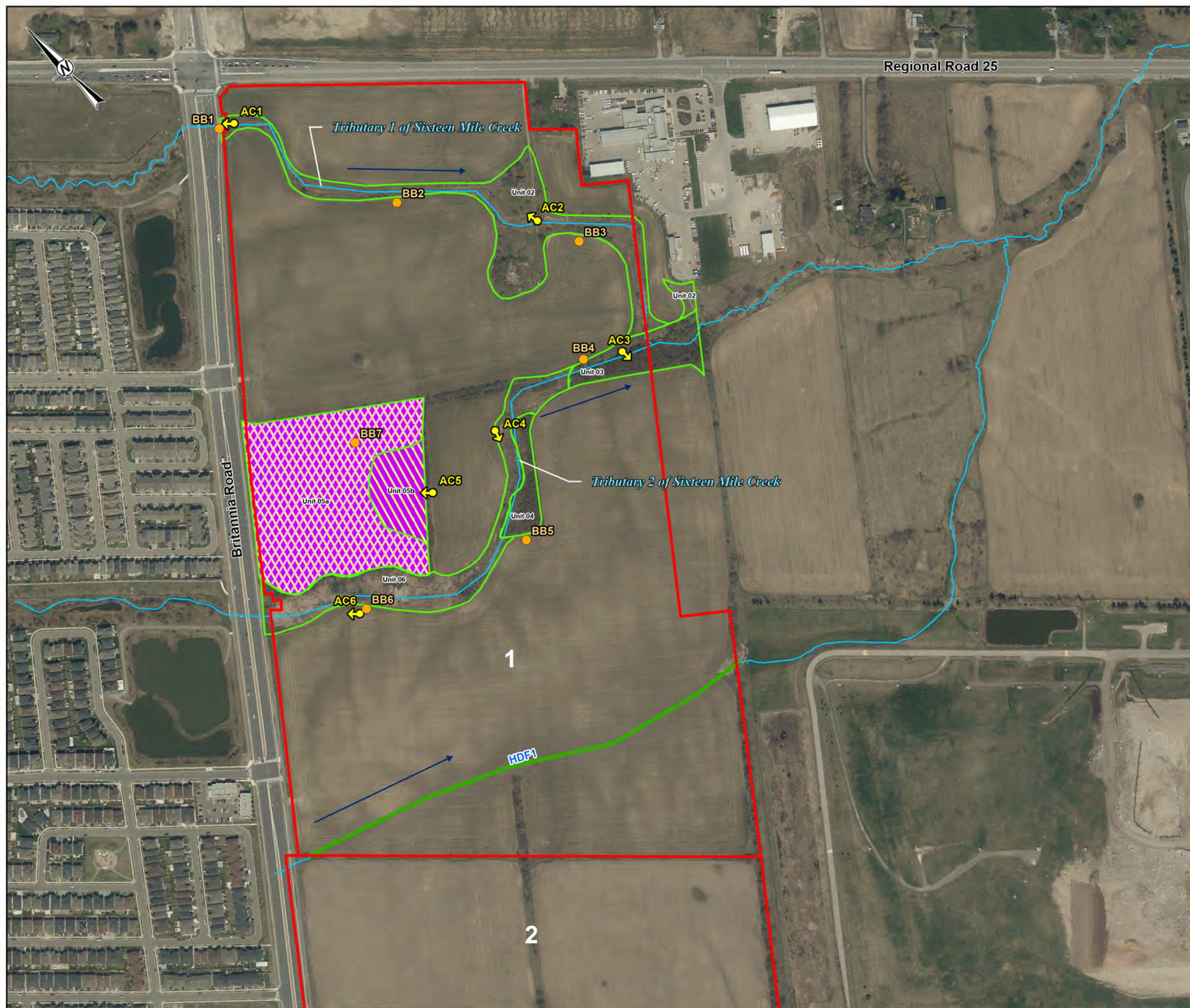
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CONSULTANT	YYYY-MM-DD	2026-06-01
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	PREPARED	LT
	REVIEWED	SL
	APPROVED	SL

PROJECT NO.	CONTROL	REV.	FIGURE
CA0022931	0001	A	1

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A4(18 x 25mm)

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LEGEND

- SUBJECT LANDS
- BREEDING BIRD POINT COUNT LOCATIONS (BBS)
- ↗ AMPHIBIAN CALLING STATION (AC)
- SIGNIFICANT WOODLAND
- GEOSPATIAL ONTARIO**
- WATERCOURSE (OHN)
- FLOW DIRECTION

HEADWATER DRAINAGE FEATURE MANAGEMENT RECOMMENDATIONS

- MITIGATION

CONFIRMED SIGNIFICANT WILDLIFE HABITAT

- OTHER RARE VEGETATION COMMUNITIES
- SPECIAL CONCERN AND RARE WILDLIFE SPECIES

VEGETATION COMMUNITY DESCRIPTIONS

UNIT 02: CUM1, MINERAL CULTURAL MEADOW

UNIT 03: CUW1, MINERAL CULTURAL WOODLAND

UNIT 04: CUT1, MINERAL CULTURAL THICKET

UNIT 05A: FOD9-4, FRESH - MOIST SHAGBARK HICKORY DECIDUOUS FOREST

UNIT 05: FOD6-5, FRESH - MOIST SUGAR MAPLE - HARDWOOD DECIDUOUS FOREST

UNIT 06: MAS2-1, CATTAIL MINERAL SHALLOW MARSH

- VEGETATION COMMUNITY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT

TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.

PROJECT

MILTON LINK - NATURAL ENVIRONMENT REPORT & ENVIRONMENTAL IMPACT ASSESSMENT

TITLE

EXISTING CONDITIONS & SURVEY LOCATIONS

CONSULTANT



YYYY-MM-DD	2026-06-01
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PREPARED	LT
REVIEWED	SL
APPROVED	SL

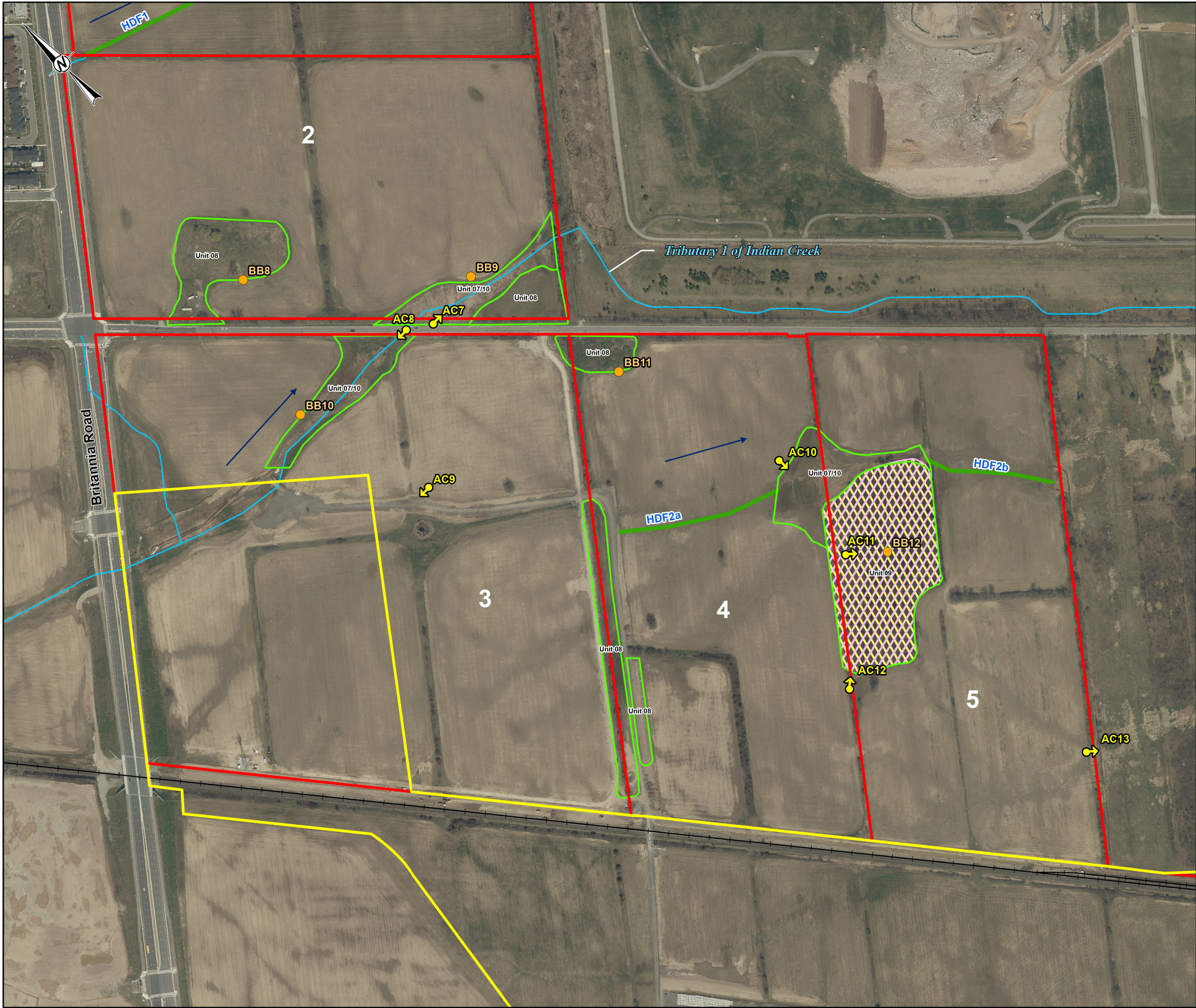
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CA0022931

CONTROL
0001

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A

FIGURE
2-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

SUBJECT LANDS

CN INTERMODAL LANDS

BREEDING BIRD POINT COUNT LOCATIONS (BBS)

AMPHIBIAN CALLING STATION (AC)

GEOSPATIAL ONTARIO

WATERCOURSE (OHN)

FLOW DIRECTION

RAILWAY

HEADWATER DRAINAGE FEATURE MANAGEMENT RECOMMENDATIONS

MITIGATION

CONFIRMED SIGNIFICANT WILDLIFE HABITAT

OTHER RARE VEGETATION COMMUNITIES

SPECIAL CONCERN AND RARE WILDLIFE SPECIES

VEGETATION COMMUNITY DESCRIPTIONS

UNIT 07/10: MAM2/MAS2-1, MINERAL MEADOW MARSH/CATTAIL MINERAL SHALLOW MARSH

UNIT 08: CUM1, MINERAL CULTURAL MEADOW

UNIT 09: FOD9-4, FRESH - MOIST SHAGBARK HICKORY DECIDUOUS FOREST

VEGETATION COMMUNITY

050100200

0

50

100

200

1:5,000

METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO

2. BASE MAP:

3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT

TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.

PROJECT

MILTON LINK - NATURAL ENVIRONMENT REPORT & ENVIRONMENTAL IMPACT ASSESSMENT

TITLE

EXISTING CONDITIONS & SURVEY LOCATIONS

CONSULTANT

YYYY-MM-DD

2026-06-01

wsp

DESIGNED

PREPARED

LT

REVIEWED

SL

APPROVED

SL

PROJECT NO.

CA0022931

CONTROL

0001

REV.

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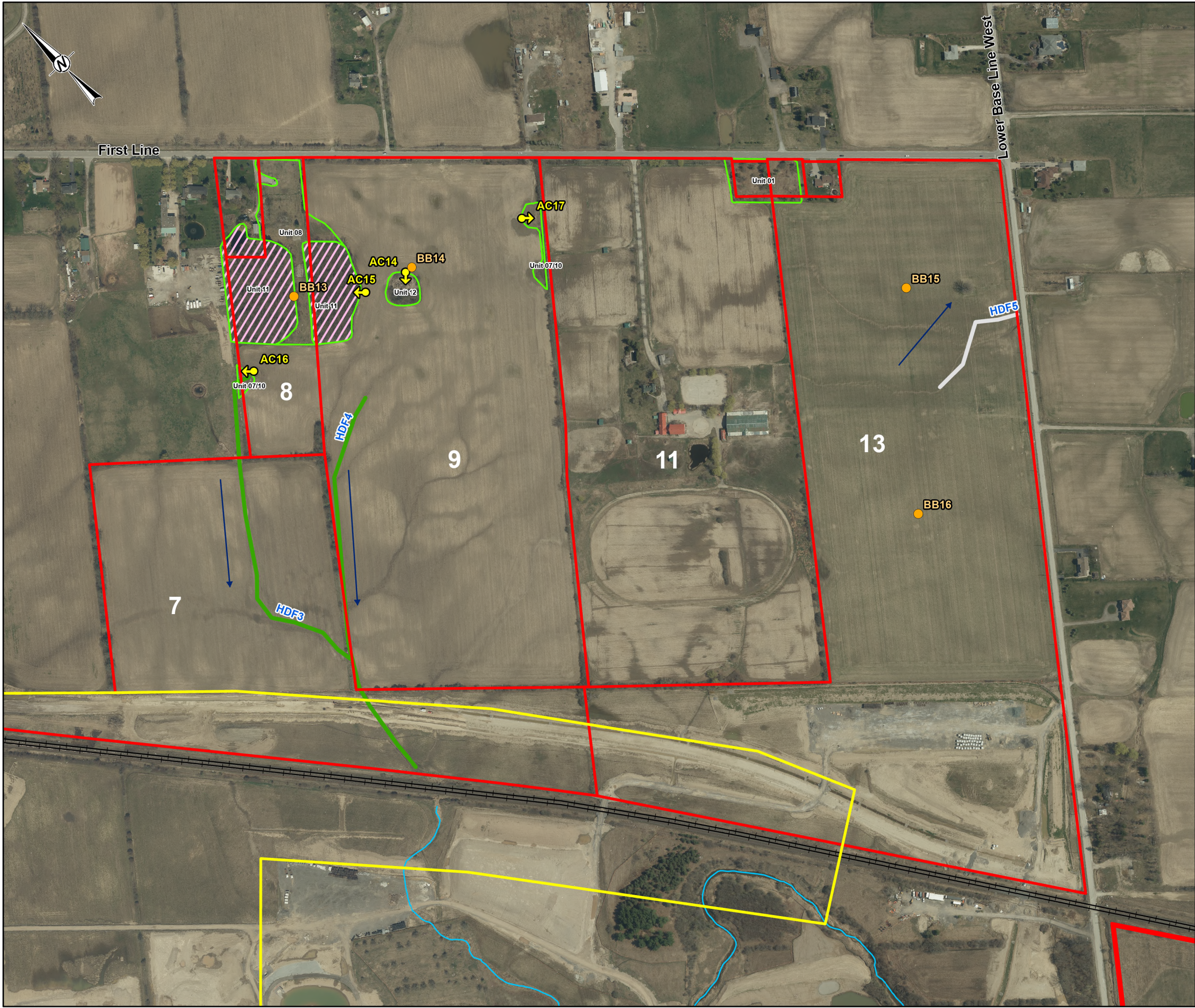
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2-2

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LEGEND

- SUBJECT LANDS
- CN INTERMODAL LANDS
- BREEDING BIRD POINT COUNT LOCATIONS (BBS)
- AMPHIBIAN CALLING STATION (AC)
- GEOSPATIAL ONTARIO**
- WATERCOURSE (OHN)
- FLOW DIRECTION
- RAILWAY
- HEADWATER DRAINAGE FEATURE MANAGEMENT RECOMMENDATIONS**
- MITIGATION
- NO MANAGEMENT REQUIRED
- CONFIRMED SIGNIFICANT WILDLIFE HABITAT**
- OTHER RARE VEGETATION COMMUNITIES
- VEGETATION COMMUNITY DESCRIPTIONS**
- UNIT 01: CUW1, MINERAL CULTURAL WOODLAND
- UNIT 07/10: MAM2/MAS2-1, MINERAL MEADOW MARSH/CATTAIL MINERAL SHALLOW MARSH
- UNIT 08: CUM1, MINERAL CULTURAL MEADOW
- UNIT 11: FOD9-4, FRESH - MOIST SHAGBARK HICKORY DECIDUOUS FOREST
- UNIT 12: MAS2-1, CATTAIL MINERAL SHALLOW MARSH
- VEGETATION COMMUNITY

0 50 100 200
1:5,000 METRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.

PROJECT
MILTON LINK - NATURAL ENVIRONMENT REPORT & ENVIRONMENTAL IMPACT ASSESSMENT

TITLE
EXISTING CONDITIONS & SURVEY LOCATIONS

CONSULTANT	YYYY-MM-DD	2026-06-01
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APPROVED	SL	

PROJECT NO.
CA0022931

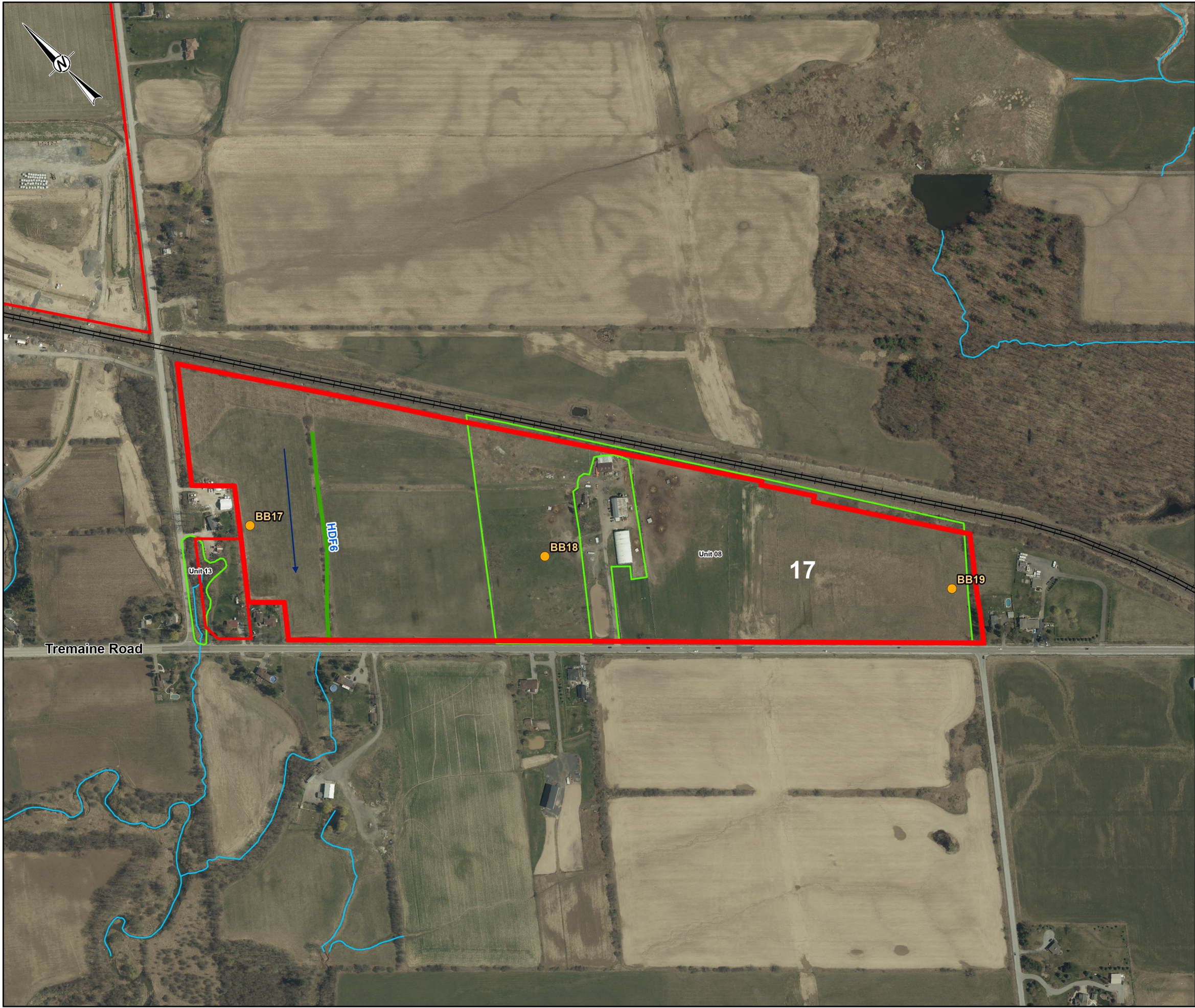
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FIGURE
2-3

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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LEGEND

- SUBJECT LANDS
- BREEDING BIRD POINT COUNT LOCATIONS (BBS)

GEOSPATIAL ONTARIO

- WATERCOURSE (OHN)
- FLOW DIRECTION
- +— RAILWAY

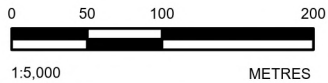
HEADWATER DRAINAGE FEATURE MANAGEMENT RECOMMENDATIONS

- MITIGATION

VEGETATION COMMUNITY DESCRIPTIONS

UNIT 08: CUM1, MINERAL CULTURAL MEADOW
UNIT 13: FOD5-1, DRY - FRESH SUGAR MAPLE DECIDUOUS FOREST

- VEGETATION COMMUNITY



NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.

PROJECT
MILTON LINK - NATURAL ENVIRONMENT REPORT &
ENVIRONMENTAL IMPACT ASSESSMENT

TITLE
EXISTING CONDITIONS & SURVEY LOCATIONS

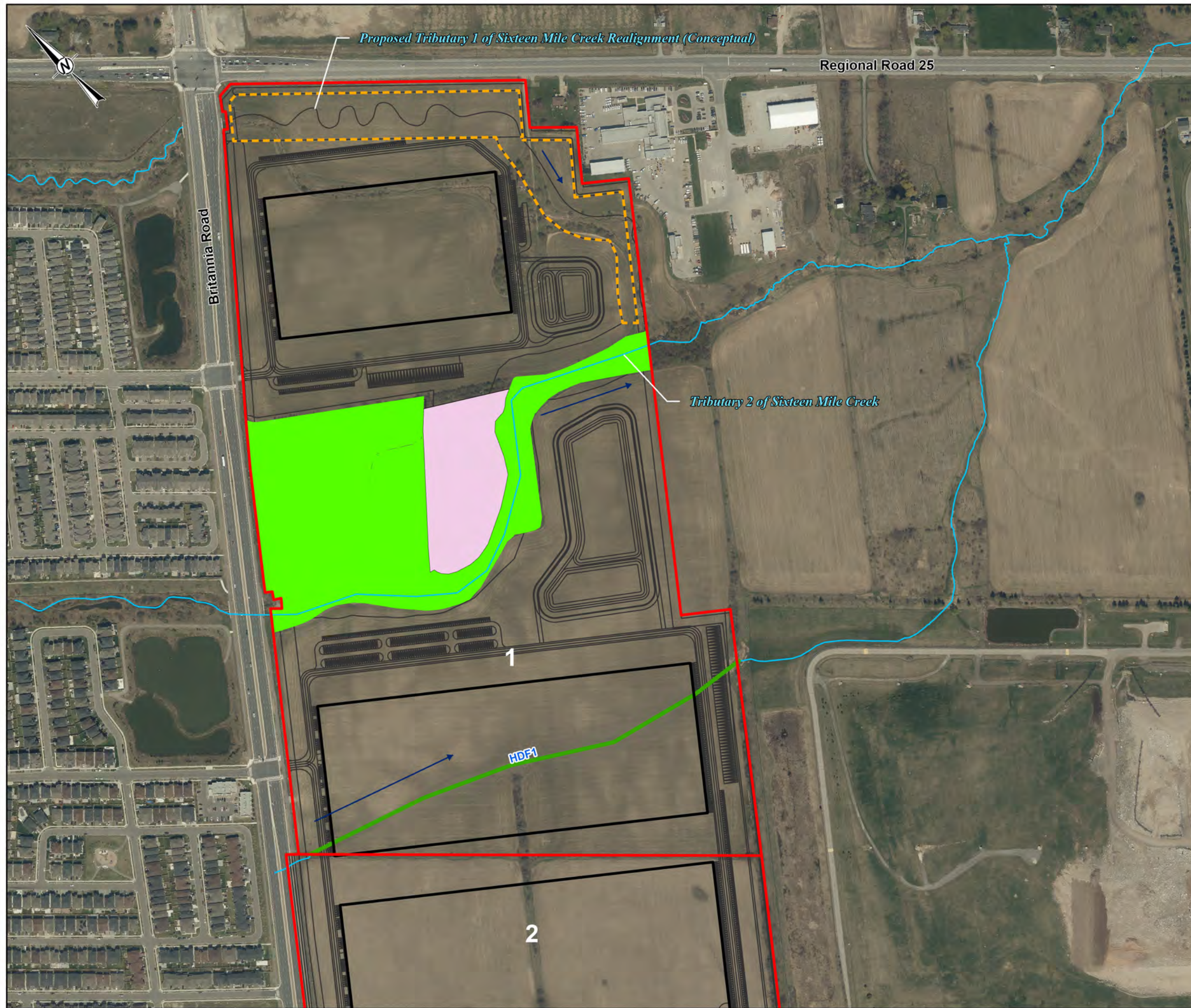
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REVIEWED	SL	
APPROVED	SL	



PROJECT NO. CA0022931	CONTROL 0001	REV. A	FIGURE 2-4
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LEGEND

SUBJECT LANDS

RECOMMENDED NATURAL HERITAGE SYSTEM

AGRICULTURAL FIELD ENHANCEMENT AREA

CHANNEL REALIGNMENT CORRIDOR (CONCEPTUAL)

CONCEPT PLAN

GEOSPATIAL ONTARIO

WATERCOURSE (OHN)

FLOW DIRECTION

HEADWATER DRAINAGE FEATURE MANAGEMENT RECOMMENDATIONS

MITIGATION

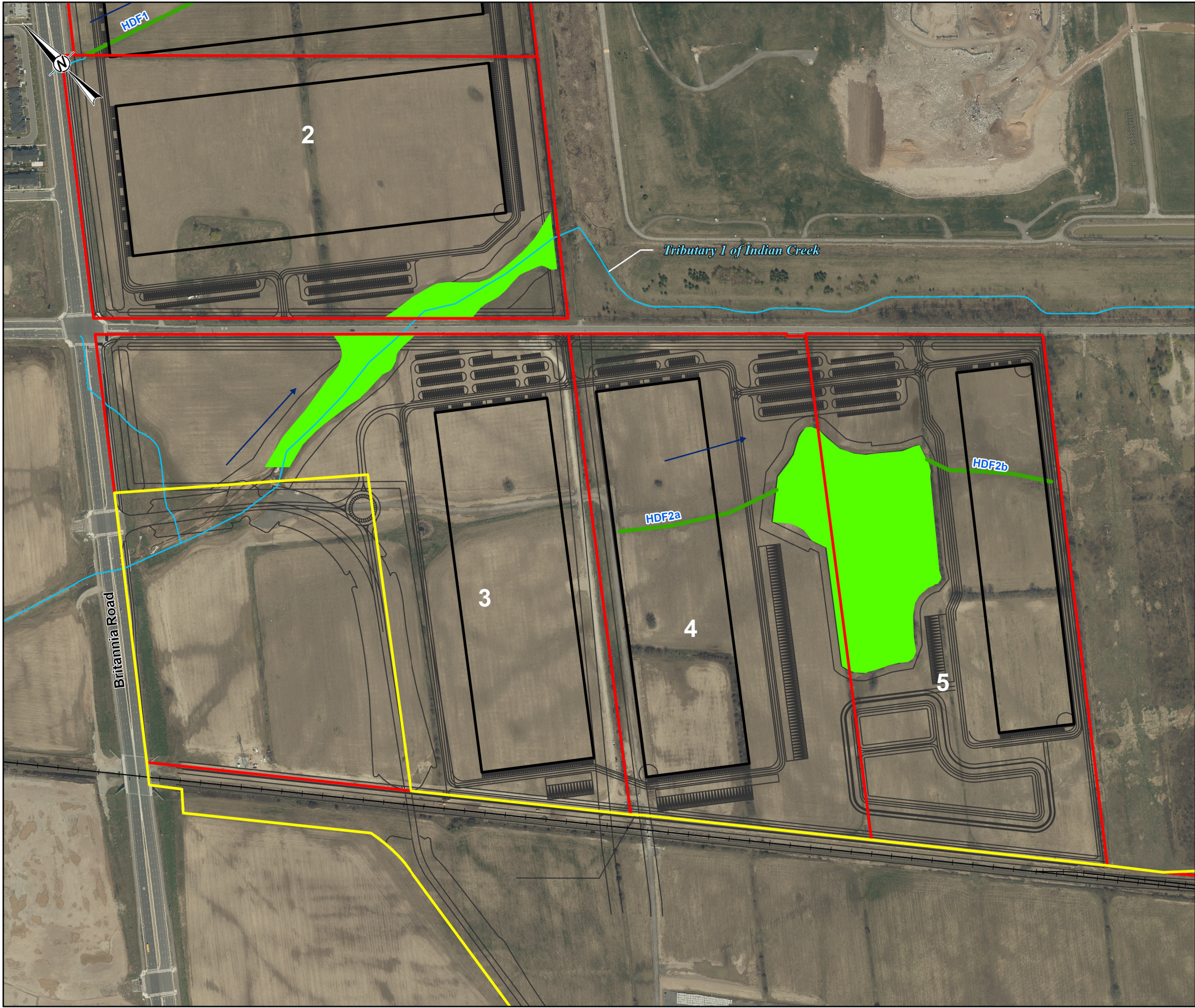
NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE**REFERENCE(S)**
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N**CLIENT**
TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.**PROJECT**
MILTON LINK - NATURAL ENVIRONMENT REPORT & ENVIRONMENTAL IMPACT ASSESSMENT**TITLE**
NATURAL HERITAGE SYSTEM & PROPOSED DEVELOPMENT

CONSULTANT	YYYY-MM-DD	2026-06-03
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	PREPARED	LT
	REVIEWED	SL
	APPROVED	SL

PROJECT NO.	CONTROL	REV.	FIGURE
CA0022931	0001	A	3-1

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- LEGEND**
- SUBJECT LANDS
 - CN INTERMODAL LANDS
 - RECOMMENDED NATURAL HERITAGE SYSTEM
 - CONCEPT PLAN
- GEOSPATIAL ONTARIO**
- WATERCOURSE (OHN)
 - FLOW DIRECTION
 - RAILWAY
- HEADWATER DRAINAGE FEATURE MANAGEMENT RECOMMENDATIONS**
- MITIGATION

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.

PROJECT
MILTON LINK - NATURAL ENVIRONMENT REPORT & ENVIRONMENTAL IMPACT ASSESSMENT

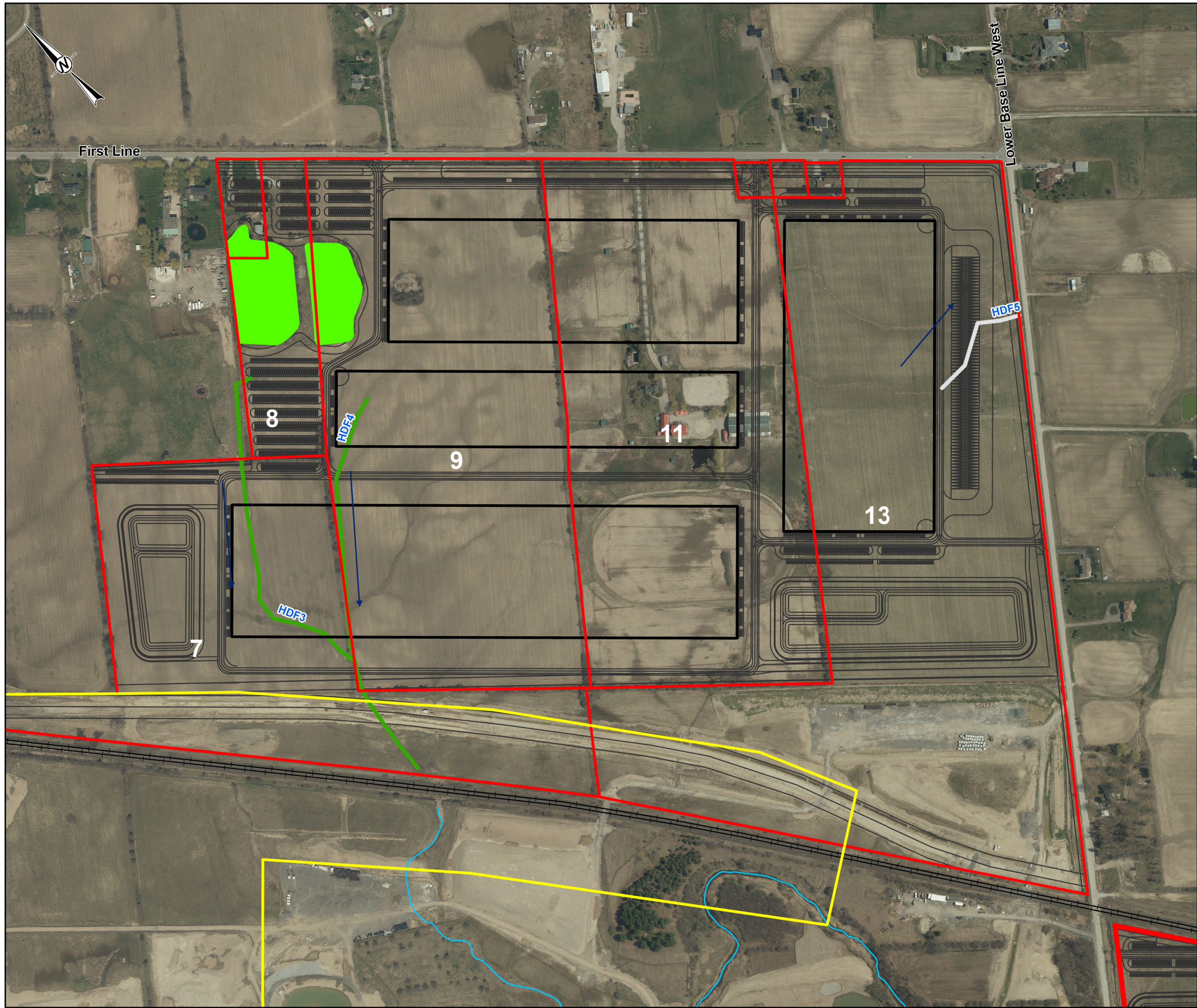
TITLE
NATURAL HERITAGE SYSTEM & PROPOSED DEVELOPMENT

	CONSULTANT	YYYY-MM-DD	2026-06-03
	DESIGNED	---	
	PREPARED	LT	
	REVIEWED	SL	
	APPROVED	SL	

PROJECT NO.	CONTROL	REV.	FIGURE
CA0022931	0001	A	3-2

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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LEGEND

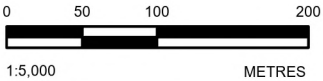
- SUBJECT LANDS
- CN INTERMODAL LANDS
- RECOMMENDED NATURAL HERITAGE SYSTEM
- CONCEPT PLAN

GEOSPATIAL ONTARIO

- WATERCOURSE (OHN)
- ➔ FLOW DIRECTION
- +—+—+ RAILWAY

HEADWATER DRAINAGE FEATURE MANAGEMENT RECOMMENDATIONS

- MITIGATION
- NO MANAGEMENT REQUIRED



NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP:
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.

PROJECT
MILTON LINK - NATURAL ENVIRONMENT REPORT & ENVIRONMENTAL IMPACT ASSESSMENT

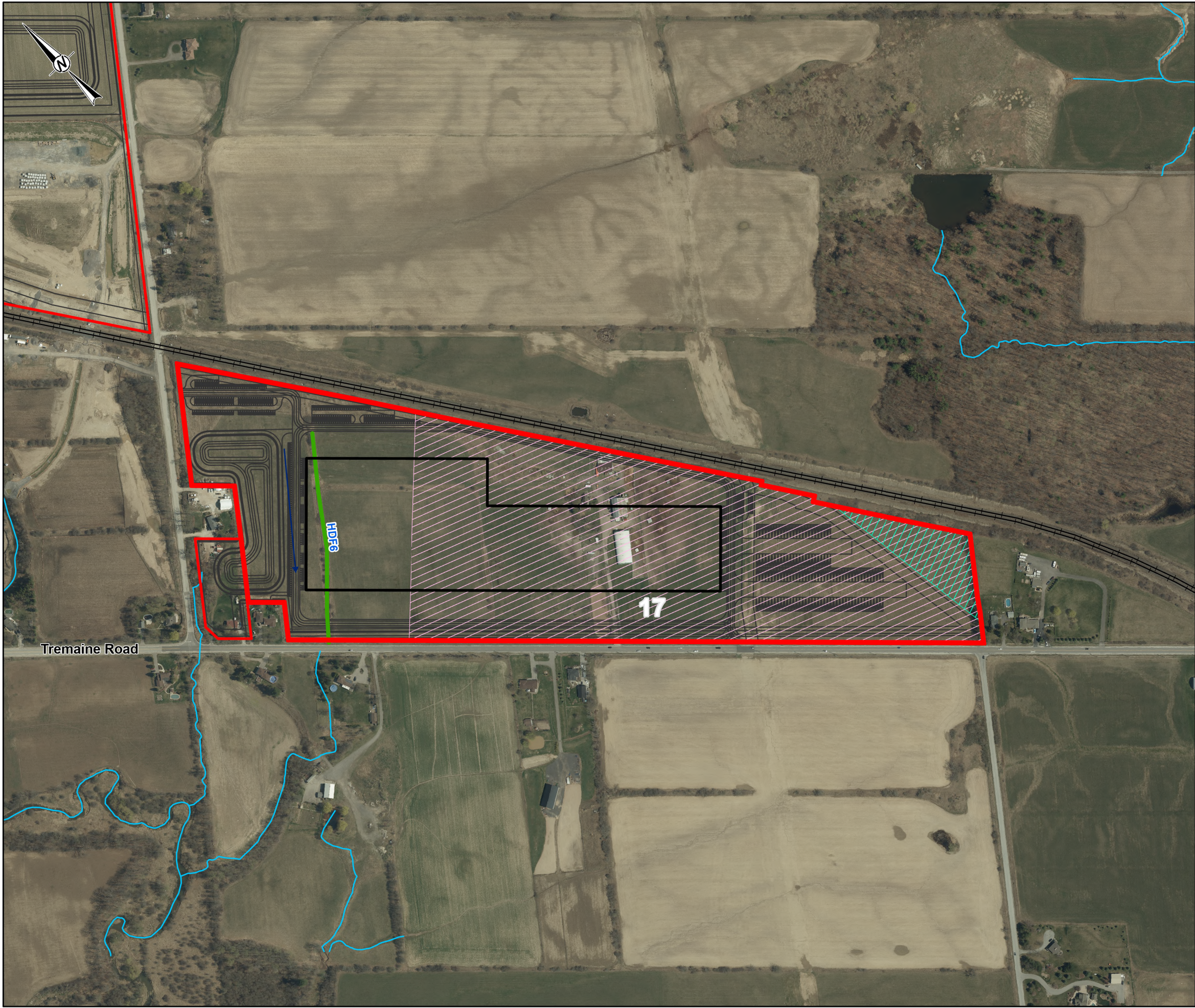
TITLE
NATURAL HERITAGE SYSTEM & PROPOSED DEVELOPMENT

	CONSULTANT	YYYY-MM-DD	2026-06-03
	DESIGNED	---	
	PREPARED	LT	
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	APPROVED	SL	

PROJECT NO. CA0022931	CONTROL 0001	REV. A	FIGURE 3-3
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25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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LEGEND

SUBJECT LANDS

CONCEPT PLAN

GEOSPATIAL ONTARIO

WATERCOURSE (OHN)

➔ FLOW DIRECTION

RAILWAY

NATURAL HERITAGE SYSTEM OF THE PROTECTED COUNTRYSIDE OF THE GREENBELT PLAN AREA

TRAFALGAR MORaine EARTH SCIENCE AREA OF NATURAL AND SCIENTIFIC INTEREST

HEADWATER DRAINAGE FEATURE MANAGEMENT RECOMMENDATIONS

MITIGATION

0 50 100 200

1:5,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO

2. BASE MAP:

3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT

TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.

PROJECT

MILTON LINK - NATURAL ENVIRONMENT REPORT & ENVIRONMENTAL IMPACT ASSESSMENT

TITLE

NATURAL HERITAGE SYSTEM & PROPOSED DEVELOPMENT

CONSULTANT	YYYY-MM-DD	2026-06-03
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	PREPARED	LT
	REVIEWED	SL
	APPROVED	SL

PROJECT NO.	CONTROL	REV.	FIGURE
CA0022931	0001	A	3-4

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

APPENDIX A

Field Survey Chronology

Appendix A – Field Survey Chronology



Date	Surveyor	Person Hours	Task	Weather Conditions ¹
April 15, 2024	ND, ML	4	Amphibian Calling Survey – Round 1	Temp: Start: 12°C, End: 12°C; Sky Code: Start: 1, End: 1; WS: Start: 2, End: 2; RH: Start: 47, End: 46; Precipitation: No
April 18, 2024	CH	10	Headwater Drainage Feature Assessment	N/A
April 19, 2024	CH	10	Headwater Drainage Feature Assessment	N/A
May 2, 2024	AM	10	Ecological Land Classification and Botanical Inventory	N/A
May 16, 2024	ND, PP	3	Amphibian Calling Survey – Round 2	Temp: Start: 18°C, End: 15°C; Sky Code: Start: 2, End: 1; WS: Start: 2, End: 1; RH: Start: 74, End: 87; Precipitation: No
May 21, 2024	ND, PP	3	Amphibian Calling Survey – Round 2	Temp: Start: 23°C, End: 22°C; Sky Code: Start: 1, End: 1; WS: Start: 2, End: 1; RH: Start: 64, End: 68; Precipitation: No
May 29, 2024	KB	2.75	Breeding Bird Survey – Round 1	Temp: Start: 14°C, End: 15°C; Sky Code: Start: 1, End: 1; WS: Start: 1, End: 2
May 30, 2024	KB	2.25	Breeding Bird Survey – Round 1	Temp: Start: 8°C, End: 12°C; Sky Code: Start: 1, End: 1; WS: Start: 2, End: 1
June 18, 2024	ND, TC	3	Amphibian Calling Survey – Round 3	Temp: Start: 26°C, End: 23°C; Sky Code: Start: 2, End: 2; WS: Start: 2, End: 0; RH: Start: 73, End: 80; Precipitation: No
June 19, 2024	ND, TC	2.5	Amphibian Calling Survey – Round 3	Temp: Start: 26°C, End: 26°C; Sky Code: Start: 2, End: 2; WS: Start: 2, End: 1; RH: Start: 71, End: 73; Precipitation: No
July 4, 2024	KB, GT	6	Breeding Bird Survey – Round 2	Temp: Start: 19°C, End: 23°C; Sky Code: Start: 1, End: 1; WS: Start: 0, End: 1
July 4, 2024	AM	10	Ecological Land Classification and Botanical Inventory	N/A
July 5, 2024	AM	10	Ecological Land Classification and Botanical Inventory	N/A
August 19, 2024	CH, RJ	14	Aquatic Habitat Assessment and Fish Community Sampling	N/A
August 19, 2024	CH, RJ	10	Aquatic Habitat Assessment and Fish Community Sampling	N/A
October 3, 2024	AM	10	Ecological Land Classification and Botanical Inventory	N/A

Appendix A – Field Survey Chronology



Date	Surveyor	Person Hours	Task	Weather Conditions ¹
March 17, 2025	CH	10	Headwater Drainage Feature Assessment	N/A
April 23, 2025	AM	2	Snake Hibernacula Habitat Assessment	Temp: Start: 13°C, End: 13°C; Sky Code: Start: 0, End: 0; WS: Start: 1, End: 3
May 12, 2025	AM	2.25	Snake Hibernacula Habitat Assessment	Temp: Start: 16°C, End: 21°C; Sky Code: Start: 1, End: 1; WS: Start: 1, End: 1
August 15, 2025	CH	10	Headwater Drainage Feature Assessment	N/A

¹ Beaufort Wind Scale

0 = calm, smoke rises vertically (0-2km / hr)
 1 = Light air movement, smoke drifts (3-5)
 2 = Slight breeze, wind felt on face; leaves rustle (6-11)
 3 = Gentle breeze, leaves & twigs in constant motion (12-19)
 4 = Moderate breeze, small branches moving, raises dust & loose paper (20-30);
 5 = Fresh breeze, small trees begin to sway (31-39)
 6 = Strong breeze, large branches in motion (40-50)

²Sky Code

0 = clear (no cloud cover)
 1 = partly cloudy (scattered or broken) or variable
 2 = cloudy or overcast
 3 = Sandstorm, duststorm or blowing snow
 4 = fog, smoke, thick dust or haze
 5 = drizzle or light rain
 6 = rain
 7 = snow or snow / rain mix showers
 8 = showers
 9 = thunderstorms

APPENDIX B

Plant List

Appendix B: Plant List

SCIENTIFIC NAME	COMMON NAME	CC ¹	CW ²	S. BANK ³	SOE WIC State ⁴	SAA State ⁵	SOE SAGD State ⁶	HACTOR 100 (Common in 2007)	Unit 1 - CUW1	Unit 2 - CUM1	Unit 3 - CUW1	Unit 4 - CUT1	Unit 5a - FOD9-4	Unit 5b - FOD9-5	Unit 6 - MAS2-1	Unit 7/10 - MAM2/ MAS2-1	Unit 8 - CUM1	Unit 9 - FOD9-4	Unit 11 - FOD9-4	Unit 12 - MAS2-1	Unit 13 - FOD9-1
<i>Abutilon theophrasti</i>	Velvetleaf		3	SNA						X						X					
<i>Acalypha rhomboides</i>	Common Three-seeded Mercury	0	3	S5												X				X	
<i>Acer ginnala</i>	Amur Maple		5	SNA													X				
<i>Acer negundo</i>	Manitoba Maple	0	0	S5					X	X	X	X					X				X
<i>Acer platanoides</i>	Norway Maple		5	SNA					X	X		X									
<i>Acer rubrum</i>	Red Maple	4	0	S5									X								
<i>Acer saccharum</i>	Sugar Maple	4	3	S5									X	X							X
<i>Acer x freemanii</i>	(Acer rubrum X Acer saccharinum)		6	-5	SNA				X												
<i>Aesculus hippocastanum</i>	Horse Chestnut		5	SNA						X											
<i>Ageratina altissima</i>	White Snakeroot	5	3	S5														X			
<i>Agrimonia gryposepala</i>	Hooked Agrimony	2	3	S5														X	X		
<i>Agrostis gigantea</i>	Redtop		-3	SNA					X	X	X	X	X		X	X	X	X			
<i>Aluga reptans</i>	Creeping Bugleweed		5	SNA											X						
<i>Alisma triviale</i>	Northern Water-plantain	1	-5	S5						X					X	X	X	X			
<i>Alliaria petiolata</i>	Garlic Mustard		0	SNA						X	X						X	X			X
<i>Allium canadense</i>	Canada Garlic	8	3	S5				U													
<i>Allium</i> sp.	Onion sp.										X				X			X			
<i>Allopecurus pratensis</i>	Meadow Foxtail		-3	SNA					X	X	X				X	X	X	X			
<i>Amaranthus</i> sp.	Amaranth sp.															X					
<i>Ambrosia artemisiifolia</i>	Common Ragweed	0	3	S5						X	X					X	X				
<i>Amelanchier interior</i>	Inland Serviceberry		3	SU															X		
<i>Amelanchier</i> sp.	Serviceberry sp.											X									X
<i>Anemone quinquefolia</i>	Wood Anemone	7	0	S5									X					X			
<i>Arctium lappa</i>	Great Burdock		3	SNA					X			X					X				
<i>Arctium</i> sp.	Burdock sp.									X	X										
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	5	-3	S5									X					X	X		
<i>Artemisia biennis</i>	Biennial Wormwood		-3	SNA												X					
<i>Asclepias incarnata</i>	Swamp Milkweed	6	-5	S5											X						
<i>Asclepias syriaca</i>	Common Milkweed	0	5	S5						X	X	X					X			X	
<i>Barbarea vulgaris</i>	Bitter Wintercress		0	SNA							X	X			X				X	X	
<i>Bidens comata</i>	Purple-stemmed Beggarticks	5	-3	S47												X					
<i>Bidens frondosa</i>	Devil's Beggarticks	3	-3	S5						X	X				X	X					
<i>Bidens</i> sp.	Beggarticks sp.																X				
<i>Bidens vulgata</i>	Tall Beggarticks	5	0	S5				U		X											
<i>Bromus inermis</i>	Smooth Brome		5	SNA					X	X		X			X		X				
<i>Calyptroge sepium</i>	Hedge False Bindweed	2	0	S5						X											
<i>Cardamine concatenata</i>	Cut-leaved Toothwort	6	3	S5														X			
<i>Carex babbi</i>	Bebb's Sedge	3	-5	S5							X				X						
<i>Carex cristatella</i>	Crested Sedge	3	-3	S5						X	X							X			
<i>Carex gracillima</i>	Graceful Sedge	4	3	S5									X					X	X		
<i>Carex lacustris</i>	Lake Sedge	5	-5	S5												X					
<i>Carex lupulina</i>	Hop Sedge	6	-5	S5											X						
<i>Carex pedunculata</i>	Long-stalked Sedge	5	3	S5									X								
<i>Carex projecta</i>	Necklace Sedge	5	-3	S5				U										X	X		
<i>Carex retrosa</i>	Retrose Sedge	5	-5	S5						X	X			X							
<i>Carex rosea</i>	Rosy Sedge	2	5	S5							X		X		X			X	X		
<i>Carex</i> sp.	Sedge sp.											X									
<i>Carex sparganioides</i>	Burreed Sedge	5	3	S455									X					X			
<i>Carex spicata</i>	Spiked Sedge		3	SNA					X				X								
<i>Carex stipata</i>	Awk-fruited Sedge	3	-5	S5							X				X	X					
<i>Carex vulpinoidea</i>	Fox Sedge	3	-5	S5						X	X				X	X	X	X	X		
<i>Carex woodii</i>	Wood's Sedge	6	3	S4				U					X					X			
<i>Carpinus caroliniana</i>	Blue-beech	6	0	S5									X						X		
<i>Carya ovata</i>	Shagbark Hickory	6	3	S5									X	X				X	X		
<i>Clethrum integrum</i>	Wild Chocory		5	SNA					X	X		X				X	X				
<i>Cnicus bulbifera</i>	Bulbous Water-hemlock	5	-5	S5																	X
<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	2	3	S5							X	X	X	X				X	X	X	
<i>Cirsium arvense</i>	Canada Thistle		3	SNA					X	X					X		X				
<i>Cirsium vulgare</i>	Bull Thistle		3	SNA						X							X				
<i>Claytonia virginica</i>	Eastern Spring Beauty	5	3	S5				U					X					X	X		
<i>Convolvulus arvensis</i>	Field Bindweed		5	SNA						X							X				
<i>Cornus racemosa</i>	Grey Dogwood	2	0	S5					X	X	X	X	X	X	X	X	X	X	X	X	
<i>Cornus sericea</i>	Red-osier Dogwood	2	-3	S5								X									
<i>Crataegus</i> sp.	Hawthorn sp.									X	X	X	X		X	X	X	X	X	X	
<i>Cyperus erythrorhizos</i>	Red-rooted Flatsedge	6	-5	S4				R								X					
<i>Cyperus fuscus</i>	Brown Flatsedge		-3	SNA												X					
<i>Dactylis glomerata</i>	Orchard Grass		3	SNA					X	X							X				
<i>Daucus carota</i>	Wild Carrot		5	SNA					X	X		X				X	X				
<i>Dianthus armeria</i>	Deptford Pink		5	SNA								X									
<i>Dipsacus fullonum</i>	Common Teasel		3	SNA					X	X	X				X	X	X	X	X	X	
<i>Echinochloa crus-galli</i>	Large Barnyard Grass		-3	SNA						X					X	X	X				
<i>Echinocystis lobata</i>	Wild Cucumber	3	-3	S5						X											
<i>Eleocharis obtusa</i>	Blunt Spikerush		5	-5	S5			U							X	X					
<i>Elymus hystrix</i>	Bottlebrush Grass		5	S5									X	X							
<i>Elymus repens</i>	Quackgrass		3	SNA					X	X											
<i>Epilobium ciliatum</i>	Northern Willowherb	3	-3	S5							X				X	X	X			X	
<i>Epilobium hirsutum</i>	Hairy Willowherb		-3	SNA						X					X						
<i>Epilobium parviflorum</i>	Small-flowered Hairy Willowherb		3	SNA												X		X			
<i>Epipactis helleborine</i>	Broad-leaved Helleborine			SNA							X		X					X	X		
<i>Equisetum arvense</i>	Field Horsetail	0	0	S5						X		X						X	X		
<i>Erigeron annuus</i>	Annual Fleabane		0	3	S5					X	X					X	X				
<i>Erigeron canadensis</i>	Canada Horseweed	0	3	S5											X	X	X			X	
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	1	-3	S5									X					X	X		
<i>Erigeron strigosus</i>	Rough Fleabane	4	3	S5												X					
<i>Erythronium americanum</i>	Yellow Trout-lily	5	5	S5							X	X	X					X	X		
<i>Euonymus fortunei</i>	Climbing Euonymus		5	SNA									X								
<i>Euonymus alatus</i>	Burning Strawberry-bush		5	S4									X					X	X		
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	2	0	S5					X			X			X	X					
<i>Fagus grandifolia</i>	American Beech	6	3	S4									X								
<i>Fragaria vesca</i> ssp. <i>americana</i>	American Woodland Strawberry	4	3	S5															X		
<i>Fragaria virginiana</i>	Wild Strawberry	2	3	S5							X	X						X			
<i>Fraxinus americana</i>	White Ash	4	3	S4																X	
<i>Fraxinus excelsior</i>	European Ash		3	SNA													X				
<i>Fraxinus pennsylvanica</i>	Red Ash	3	-3	S4									X	X	X			X	X	X	

Appendix B: Plant List

SCIENTIFIC NAME	COMMON NAME	CC ¹	CW ²	S. BANK ³	COSEWIC Status ⁴	SARA Status ⁵	COSEWIC Status ⁶	HABITAT (Common or Rare?)	Unit 1 - CUW1	Unit 2 - CUM1	Unit 3 - CUW1	Unit 4 - CUT1	Unit 5a - FOD4-4	Unit 5b - FOD6-5	Unit 6 - MAS2-1	Unit 7/10 - MAM2/ MAS2-1	Unit 8 - CUM1	Unit 9 - FOD9-4	Unit 11 - FOD9-4	Unit 12 - MAS2-1	Unit 13 - FOD9-1
<i>Galium aparine</i>	Common Bedstraw	4	3	S5						X	X	X	X				X	X			
<i>Galium mollugo</i>	Smooth Bedstraw		5	SNA													X				
<i>Galium obtusum</i>	Blunt-leaved Bedstraw	6	-3	S4S5									X								
<i>Geranium maculatum</i>	Spotted Geranium	6	3	S5									X	X				X	X		
<i>Geranium robertianum</i>	Herb Robert	2	3	S5							X		X								
<i>Geum alepicum</i>	Yellow Avena	2	0	S5					X								X				
<i>Geum canadense</i>	Canada Avena	3	0	S5							X	X	X	X			X	X	X	X	
<i>Geum fragarioides</i>	Barren Strawberry	5	5	S5									X								
<i>Geum laciniatum</i>	Rough Avena	4	-3	S4						X					X						
<i>Geum urbanum</i>	Wood Avena	5	5	SNA						X	X		X						X	X	
<i>Glyceria septentrionalis</i>	Eastern Mannagrass	7	-5	S4				U										X			
<i>Glycyrrhiza striata</i>	Fowl Mannagrass	3	-5	S5							X		X		X			X	X		
<i>Glycyrrhiza max</i>	Soybean		5	SNA												X					
<i>Gnaphalium uliginosum</i>	Low Cudweed		0	SNA												X	X				
<i>Gratiola neglecta</i>	Clammy Hedge-hyssop	7	-5	S4				R										X			
<i>Heimerocallis fulva</i>	Orange Daylily		5	SNA														X			
<i>Hordeum jubatum</i>	Foxtail Barley	0	0	S57						X							X				
<i>Hydrophyllum virginianum</i>	Virginia Waterleaf	6	0	S5									X								
<i>Hypericum perforatum</i>	Common St. John's wort	5	5	SNA														X			
<i>Impatiens capensis</i>	Spotted Jewelweed	4	-3	S5						X	X	X	X		X	X	X				
<i>Insula helenium</i>	Elecampane		3	SNA															X		
<i>Juglans nigra</i>	Black Walnut	5	3	S47														X			
<i>Juncus bufonius</i>	Toad Rush	1	-3	S5																	
<i>Juncus dudleyi</i>	Dudley's Rush	1	-3	S5												X					
<i>Juncus effusus</i>	Soft Rush	4	-5	S5						X	X				X	X	X				
<i>Juncus tenuis</i>	Path Rush	0	0	S5																	
<i>Juncus torreyi</i>	Torrey's Rush	3	-3	S5				U									X	X	X		
<i>Juniperus virginiana</i>	Eastern Red Cedar	4	3	S5				U	X								X	X			
<i>Leersia sp.</i>	Rice Cutgrass sp.												X								
<i>Lemna minor</i>	Small Duckweed	5	-5	S5											X			X	X		
<i>Lemna sp.</i>	Duckweed sp.																				X
<i>Lemna trisulca</i>	Star Duckweed	6	-5	S5				U										X			
<i>Leonurus cardiaca</i>	Common Motherwort		5	SNA						X											
<i>Leucanthemum vulgare</i>	Oxeye Daisy		5	SNA							X	X					X				
<i>Ligustrum vulgare</i>	European Privet		3	SNA					X												
<i>Lilium michiganense</i>	Michigan Lily	7	-3	S4									X					X			
<i>Linaria vulgaris</i>	Butter-and-eggs		5	SNA																	
<i>Lindernia dubia</i>	Yellow-seed False Pimpernel	7	-5	S4				R	X	X							X	X			
<i>Lolium arundinaceum</i>	Tall Ryegrass		3	SNA														X			
<i>Lonicera morrowii</i>	Morrow's Honeysuckle		3	SNA								X									
<i>Lonicera sp.</i>	Honeysuckle sp.																				
<i>Lonicera tatarica</i>	Tatarian Honeysuckle		3	SNA					X				X		X		X	X			X
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil		3	SNA					X	X						X	X				
<i>Ludwigia palustris</i>	Marsh Seedbox	5	-5	S5				U													
<i>Lyopodium americanum</i>	American Water-horehound	4	-5	S5																	
<i>Lysimachia arvensis</i>	Scarlet Pimpernel		3	SNA											X						
<i>Lysimachia ciliata</i>	Fringed Yellow Loosestrife	4	-3	S5													X				
<i>Lythrum hyssopifolia</i>	Hyssopleaf Loosestrife		-5	SNA														X			
<i>Lythrum salicaria</i>	Purple Loosestrife		-5	SNA						X											
<i>Malianthemum racemosum</i>	Large False Solomon's Seal	4	3	S5									X	X							
<i>Malianthemum stellatum</i>	Star-flowered False Solomon's Seal	6	0	S5									X	X				X			
<i>Malus sp.</i>	Apple sp.								X			X									X
<i>Malva neglecta</i>	Common Mallow		5	SNA													X				
<i>Medicago lupulina</i>	Black Medick		3	SNA					X	X											
<i>Melilotus albus</i>	White Sweet-clover		3	SNA					X	X							X				
<i>Oenothera biennis</i>	Sensitive Fern	4	-3	S5									X								
<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	4	3	S5									X	X					X		
<i>Oxalis stricta</i>	Upright Yellow Wood-sorrel		3	SNA														X			
<i>Oxybasis glauca</i>	Oak-leaved Goosefoot		-3	SNA						X											
<i>Panicum capillare</i>	Common Panicgrass	0	0	S5																	
<i>Panicum dichotomiflorum</i>	Fall Panicgrass		-3	SNA																	
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	6	3	S47				F		X						X				X	
<i>Parthenocissus vitacea</i>	Thicket Creeper	4	3	S5													X	X			
<i>Penthorum sedoides</i>	Ditch Stonewort	4	-5	S5				U	X											X	
<i>Persicaria hydropiper</i>	Marshpepper Smartweed		-5	SNA					X	X							X	X			
<i>Persicaria lapathifolia</i>	Pale Smartweed	2	-3	S5				U													
<i>Persicaria maculosa</i>	Spotted Lady's-thumb		-3	SNA						X											
<i>Persicaria pennsylvanica</i>	Pennsylvania Smartweed	3	-3	S5				U									X	X			
<i>Persicaria sp.</i>	Smartweed sp.																				
<i>Persicaria virginiana</i>	Virginia Smartweed	6	0	S4				U					X	X							
<i>Phalaris arundinacea</i>	Reed Canarygrass	0	-3	S5					X	X	X	X			X	X	X	X	X		
<i>Phleum pratense</i>	Common Timothy		3	SNA						X							X	X			
<i>Phragmites australis</i> ssp. <i>australis</i>	European Reed		-3	SNA											X	X					
<i>Picea abies</i>	Norway Spruce		5	SNA																	X
<i>Picea glauca</i>	White Spruce	6	3	S5				U	X								X				
<i>Picea pungens</i>	Blue Spruce		3	SNA					X												
<i>Picris hieracioides</i>	Hawkweed Ontongue		5	SNA														X			
<i>Pinus nigra</i>	Austrian Pine		5	SNA					X												
<i>Pinus strobus</i>	Eastern White Pine	4	3	S5								X	X								
<i>Pinus sylvestris</i>	Scots Pine		3	SNA						X											
<i>Plantago major</i>	Common Plantain		3	SNA												X			X		
<i>Poa compressa</i>	Canada Bluegrass		3	SNA						X											
<i>Poa pratensis</i> ssp. <i>pratensis</i>	Kentucky Bluegrass		3	SNA					X								X	X			
<i>Podophyllum peltatum</i>	May-apple	5	3	S5									X					X	X		
<i>Polygonatum pubescens</i>	Hairy Solomon's Seal	5	5	S5									X								
<i>Populus alba</i>	White Poplar		5	SNA																	X
<i>Populus deltoides</i>	Eastern Cottonwood	4	0	S5					X									X			
<i>Populus tremuloides</i>	Trembling Aspen	2	0	S5												X	X			X	
<i>Potamogeton pusillus</i>	Small Pondweed	4	-5	S5				R													
<i>Potentilla norvegica</i>	Rough Cinquefoil	0	0	S5													X		X		
<i>Potentilla recta</i>	Sulphur Cinquefoil		5	SNA					X	X		X					X	X	X		
<i>Prunella vulgaris</i>	Common Self-heal	0	0	S5						X											
<i>Prunella vulgaris</i> ssp. <i>lanceolata</i>	Lance-leaved Self-heal	0	0	S5								X	X							X	
<i>Prunus serotina</i>	Black Cherry	3	3	S5								X	X								

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SCIENTIFIC NAME	COMMON NAME	CC ¹	CW ²	S. BANK ³	COSEWIC Status ⁴	SARA Status ⁵	COSEWIC Status ⁶	HABITAT (Common or Rare?)	Unit 1 - CUW1	Unit 2 - CUM1	Unit 3 - CUW1	Unit 4 - CUT1	Unit 5a - FOD9-4	Unit 5b - FOD6-5	Unit 6 - MASS-1	Unit 7/10 - MAM2/ MASS-1	Unit 8 - CUM1	Unit 9 - FOD9-4	Unit 11 - FOD9-4	Unit 12 - MASS-1	Unit 13 - FOD9-1
<i>Prunus virginiana</i>	Chokeberry	2	3	S5						X	X	X	X	X				X	X		
<i>Pyrus communis</i>	Common Pear		5	SNA						X		X			X			X			
<i>Quercus alba</i>	White Oak	6	3	S5								X						X			
<i>Quercus macrocarpa</i>	Bur Oak	5	3	S5							X		X		X		X	X	X		
<i>Quercus rubra</i>	Northern Red Oak	6	3	S5									X								
<i>Ranunculus abortivus</i>	Kidney-leaved Buttercup	2	0	S5							X		X					X			
<i>Ranunculus acris</i>	Common Buttercup		0	SNA														X	X		
<i>Ranunculus recurvatus</i>	Hooked Buttercup	4	-3	S5							X										
<i>Ranunculus sceleratus</i>	Cursed Buttercup	2	-5	S5												X	X				
<i>Rhamnus cathartica</i>	European Buckthorn		0	SNA					X	X	X	X	X	X	X		X	X	X	X	X
<i>Rhus typhina</i>	Staghorn Sumac	1	3	S5					X								X				
<i>Ribes cynosbati</i>	Eastern Prickly Gooseberry	4	3	S5									X	X					X		
<i>Ribes rubrum</i>	European Red Currant		5	SNA							X										
<i>Rorippa palustris</i>	Marsh Yellowcress	3	-5	S5						X						X					
<i>Rosa multiflora</i>	Multiflora Rose		3	SNA					X								X		X		
<i>Rubus idaeus</i>	Red Raspberry	2	3	S5							X	X		X	X			X		X	
<i>Rubus occidentalis</i>	Black Raspberry	2	5	S5							X						X	X		X	
<i>Rumex crispus</i>	Curled Dock		0	SNA					X						X	X	X	X			
<i>Salix alba</i>	White Willow		-3	SNA													X				
<i>Salix amygdaloides</i>	Peach-leaved Willow	6	-3	S5											X						
<i>Salix discolor</i>	Pussy Willow	3	-3	S5																	
<i>Salix petiolaris</i>	Meadow Willow	3	-3	S5													X			X	
<i>Salix sp.</i>	Willow sp.									X	X										X
<i>Salix x fragilis</i>	(<i>Salix alba</i> X <i>Salix eufratica</i>)			SNA															X		
<i>Salix x pendulina</i>	(<i>Salix babingtoniana</i> X <i>Salix eufratica</i>)			SNA													X		X		
<i>Sambucus canadensis</i>	Common Elderberry	5	-3	S5											X						
<i>Sanguinaria canadensis</i>	Bloodroot	5	3	S5									X								
<i>Schoenoplectus pungens</i>	Common Three-square Bulrush	6	-5	S5				R								X					
<i>Schoenoplectus tabernaemontani</i>	Soft-stemmed Bulrush	5	-5	S5					X							X					
<i>Scirpus atrovirens</i>	Dark-green Bulrush	3	-5	S5					X						X						
<i>Scirpus cyperinus</i>	Common Woolly Bulrush		-5	S5								X			X	X					
<i>Senecio vulgaris</i>	Common Ragwort	4	5	SNA												X					
<i>Setaria faberii</i>	Giant Foxtail		3	SNA						X						X	X				
<i>Setaria pumila</i>	Yellow Foxtail		0	SNA						X							X				
<i>Setaria viridis</i>	Green Foxtail	5	SNA														X				
<i>Solanum dulcamara</i>	Bittersweet Nightshade		0	SNA																	
<i>Solidago altissima</i>	Tall Goldenrod	1	3	S5					X	X	X	X			X	X	X	X	X	X	X
<i>Solidago canadensis</i>	Canada Goldenrod	1	3	S5								X				X					
<i>Sonchus arvensis</i>	Field Sow-thistle		3	SNA					X						X	X	X				
<i>Sonchus arvensis ssp. arvensis</i>	Glandular Sow-thistle		3	SNA						X											
<i>Sonchus asper</i>	Prickly Sow-thistle		3	SNA												X	X				
<i>Sphenopholis intermedia</i>	Slender Wedgegrass	6	0	S4S5														X			
<i>Spiraea alba</i>	White Meadowsweet	3	-3	S5															X		
<i>Sporobolus polytrichus</i>	Great Duckweed	4	-5	S5				R										X	X		
<i>Symphoricarpon ericoides</i>	White Heath Aster	4	3	S5					X												
<i>Symphyotrichum lanceolatum</i>	Panicked Aster	3	-3	S5					X		X	X	X		X	X	X	X	X	X	X
<i>Symphyotrichum lateriflorum</i>	Calico Aster	3	0	S5															X		X
<i>Symphyotrichum novae-angliae</i>	New England Aster	2	-3	S5					X	X	X	X			X	X	X	X	X	X	X
<i>Symphyotrichum pilosum</i>	Old Field Aster		3	S5					X	X		X				X	X				
<i>Taraxacum officinale</i>	Common Dandelion		3	SNA					X	X	X	X			X	X	X	X	X		
<i>Thuja occidentalis</i>	Eastern White Cedar	4	-3	S5					X	X											
<i>Tilia americana</i>	Basswood	4	3	S5						X		X	X	X			X	X	X		
<i>Torilis japonica</i>	Erect Hedge-parsley		3	SNA						X											
<i>Toxicodendron radicans var. radicans</i>	Eastern Poison Ivy	2	0	S5									X					X	X		
<i>Trifolium hybridum</i>	Alsike Clover		3	SNA						X						X	X				
<i>Trifolium pratense</i>	Red Clover		3	SNA					X							X	X				
<i>Trifolium repens</i>	White Clover		3	SNA						X							X				
<i>Trillium grandiflorum</i>	White Trillium	5	3	S5									X								
<i>Tussilago farfara</i>	Coltsfoot		3	SNA																	X
<i>Typha angustifolia</i>	Narrow-leaved Cattail		-5	SNA												X	X				
<i>Typha latifolia</i>	Broad-leaved Cattail	1	-5	S5						X										X	
<i>Typha x glauca</i>	(<i>Typha angustifolia</i> X <i>Typha latifolia</i>)		-5	SNA						X					X	X	X			X	
<i>Ulmus americana</i>	White Elm	3	-3	S5							X	X	X	X				X	X	X	
<i>Verbascum thapsus</i>	Common Mullein		5	SNA													X				
<i>Verbena hastata</i>	Blue Vervain	4	-3	S5											X	X					
<i>Veronica officinalis</i>	Common Speedwell		5	SNA							X		X						X		
<i>Veronica perigrina</i>	Purslane Speedwell	0	0	S5					X							X					
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell		0	S4																	
<i>Viburnum dentatum var. lucidum</i>	Smooth Arrowwood	7	0	S4				R			X							X			
<i>Viburnum lentago</i>	Nannyberry	4	0	S5															X		
<i>Viburnum opulus</i>	Cranberry Viburnum	5	-3	S5					X												
<i>Viburnum opulus var. opulus</i>	Cranberry Viburnum		-3	SNA							X	X							X		
<i>Viburnum rafinesquianum</i>	Downy Arrowwood	7	5	S5									X								
<i>Vicia cracca</i>	Tufted Vetch		5	SNA					X	X					X	X	X				
<i>Vicia minor</i>	Lesser Periwinkle		5	SNA															X		
<i>Viola labradorica</i>	Labrador Violet	3	0	S5														X	X		
<i>Viola pubescens</i>	Yellow Violet	5	3	S5									X								
<i>Viola sororia</i>	Woolly Blue Violet	4	0	S5				U			X	X						X	X		
<i>Vitis riparia</i>	Riverbank Grape	0	0	S5							X	X	X	X	X		X	X	X	X	
<i>Zarnichellia palustris</i>	Horned Pondweed	4	-5	S4				R			X										

PLANT LIST LEGEND

Scientific Name, Common Name and Family

Based on latest NHIC all species list (May 2026) which typically follows VASCAN, though some discrepancies exist between the sources

VASCAN: <http://data.canadensys.net/VASCAN/search>

NHIC: https://www.sdc.gov.on.ca/sites/MNRF-PublicDocs/EN/ProvincialServices/ONTARIO_SPECIES_LISTS.zip

¹ Coefficient of Conservatism, Coefficient of Wetness, Weediness, and Physiology/Habit

Oldham, M. J., W. D. Bakowsky and D. A. Sutherland. 1995. Floristic Quality Assessment System for Southern Ontario. Natural Heritage Information Centre, Ministry of Natural Resources. Peterborough, Ontario.

NHIC: [Get natural heritage information | ontario.ca](#)

CC and CW values reflect updates by NHIC, current as of March 17, 2023

CC: Coefficient of Conservatism. Rank of 0 to 10 based on plants degree of fidelity to a range of synecological parameters: (0-3) Taxa found in a variety of plant communities; (4-6) Taxa typically associated with a specific plant community but tolerate moderate disturbance; (7-8) Taxa associated with a plant community in an advanced successional stage that has undergone minor disturbance; (9-10) Taxa with a high fidelity to a narrow range of synecological parameters.

CW: Coefficient of Wetness. Value between 5 and -5. A value of -5 is assigned to Obligate Wetland (OBL) and 5 to Obligate Upland (UPL), with intermediate values assigned to the remaining categories. *NOTE*: NHIC has simplified the values, and includes only -5, -3, 0, 3 and 5.

Weediness: Weediness Score, assigned to all non-native species and range from -1 (low impact of the species on natural areas) to -3 (high impact of the species on natural areas).

Habit: Physiology/Habit. The growth form of the species (e.g. forb, shrub, tree).

² S-Ranks (Provincial)

Provincial Status from the NHIC all species list (May 2026)

NHIC: http://www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/ProvincialServices/Ontario_Vascular_Plants.xlsx

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario.

S1: Critically Imperiled – At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

S2: Imperiled – At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3: Vulnerable – At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

S4: Apparently Secure – At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

S5: Secure – At very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.

S#S#: Range Rank – A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

SX: Presumed Extirpated – Species or ecosystem is believed to be extirpated from the jurisdiction (province). Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered. [equivalent to “Regionally Extinct” in IUCN Red List terminology]

SH: Possibly extirpated (Historical) – Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in the jurisdiction, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.

SNR: Unranked – subnational conservation status not yet assessed.

SU: Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

SNA: Not Applicable – A conservation status rank is not applicable because the species is not a suitable target for conservation activities (e.g., long distance aerial and aquatic migrants, hybrids without conservation value, and non-native species).

?: Inexact or Uncertain - Denotes inexact or uncertain numeric rank.

T#: Intraspecific Taxon (trinomial) - The status of intraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species’ global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the subnational rank of a critically imperiled subspecies of an otherwise widespread and common species would be S5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species, for example, a S1T2 subrank should not occur. A vertebrate animal population may be tracked as an intraspecific taxon and given a T rank; in such cases a Q is used after the T-rank to denote the taxon’s informal taxonomic status.

³ COSEWIC (Committee on the Status of Endangered Wildlife in Canada)

The federal review process is implemented by COSEWIC (Status as of May 2026)

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is an independent advisory panel to the Minister of Environment and Climate Change Canada that meets twice a year to assess the status of wildlife species at risk of extinction.

<https://www.cosewic.ca/index.php/en-ca/>

EXT: Extinct – A species that no longer exists.

EXP: Extirpated – A species no longer existing in the wild in Canada, but occurring elsewhere.

END: Endangered – A species facing imminent extirpation or extinction.

THR: Threatened – A species likely to become endangered if limiting factors are not reversed.

SC: Special Concern – A species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

NAR: Not At Risk – A species that has been evaluated and found to be not at risk of extinction given the current circumstances.

DD: Data Deficient – Available information is insufficient (a) to resolve a species’ eligibility for assessment or (b) to permit an assessment of the species’ risk of extinction.

⁴ SARA (Species at Risk Act) Status and Schedule

Federal status from the Government of Canada’s Species at Risk Public Registry (Status as of May 2026), with updates for newer amendments to SARA Schedule 1.

<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>

The Act establishes Schedule 1, as the official list of species at risk in Canada. It classifies those species as being either Extirpated, Endangered, Threatened, or a Special Concern. Once listed, the measures to protect and recover a listed species are implemented. However, please note that while Schedule 1 lists species that are extirpated, endangered, threatened and of special concern, the prohibitions do not apply to species of special concern.

EXT:	Extinct – A species that no longer exists.
EXP:	Extirpated – A species that no longer exists in the wild in Canada, but exists elsewhere in the wild.
END:	Endangered – A species that is facing imminent extirpation or extinction.
THR:	Threatened – A species likely to become endangered if limiting factors are not reversed.
SC:	Special Concern – A species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

⁵ COSSARO (Committee on the Status of Species at Risk in Ontario)
Status from COSSARO (Status as of May 2026)

An independent committee of experts considers which plants and animals should be listed as at risk. The Committee on the Status of Species at Risk in Ontario (COSSARO) consists of up to 12 members with expertise in scientific disciplines or community knowledge or Aboriginal Traditional Knowledge.

The Endangered Species Act gives the committee legal recognition and specific responsibilities:

Maintaining criteria for assessing and classifying species

Keeping a list of species that should be assessed and classified (or reclassified) in the future

Assessing, reviewing and classifying species

Submitting reports regarding the classification of species and providing advice to the Minister of the Environment, Conservation and Parks

<http://cossaroagency.ca/species/>

EXP:	Extirpated – Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.
END:	Endangered – Lives in the wild in Ontario but is facing imminent extinction or extirpation.
THR:	Threatened – Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.
SC:	Special concern – Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.
NAR:	Not at Risk – Does not meet the criteria for any of the above categories.
DD:	Data Deficient – There is not enough information to make a decision as to its status.

⁶ Regional Status

Halton Region

The Vascular Plants of Halton Region, Ontario (Crins et al. 2006).

Crins, W.J., McIlveen, W.D., Goodban, A.G., and P.G. O'Hara. 2006. The Vascular Plants of Halton Region, Ontario. In: Halton Natural Areas Inventory. Volume 2: Species Checklists.

Codes are defined as follows:

R:	Rare
U:	Uncommon
F:	Requires further review
EX:	Extirpated

APPENDIX C

Breeding Bird Survey Results

Common Name	Scientific Name	G-rank ¹	S-rank ²	COSSARO Status ³	COSEWIC Status ⁴	SARA Status ⁵	SARA Schedule ⁶	Haitian Region (2006) ⁷	Area Sensitive Birds - Ecoregion 7E ⁸	Habitat Use ⁹	Protected Under MBCA	Phase 1		Phase 2		Phase 3		Phase 4		Overall Subject Lands		Comments
												Highest Abundance	Highest Breeding Status	Highest Abundance	Highest Breeding Status	Highest Abundance	Highest Breeding Status	Highest Abundance	Highest Breeding Status	Highest Abundance	Highest Breeding Status	
American Crow	<i>Corvus brachyrhynchos</i>	G5	S5							E		1	POSS	3	PROB	2	POSS			3	PROB	
American Goldfinch	<i>Spinus tristis</i>	G5	S5							E	✓	1	PROB	2	PROB	2	POSS	4	PROB	4	PROB	
American Robin	<i>Turdus migratorius</i>	G5	S5							E	✓	3	CONF	1	POSS	2	CONF	3	PROB	3	CONF	
Baltimore Oriole	<i>Icterus galbula</i>	G5	S4B							E	✓	1	POSS			1	POSS	1	POSS	1	POSS	
Bank Swallow	<i>Riparia riparia</i>	G5	S4B	THR	THR	THR	1				✓	3	OBS					2	OBS	3	OBS	BB5: foraging overhead; BB19: foraging overhead
Barn Swallow	<i>Hirundo rustica</i>	G5	S4B	SC	SC	THR	1				✓	3	OBS			2	OBS	4	PROB	4	PROB	BB2: flyover; BB3: likely nesting in abandoned house; BB15: foraging overhead; BB16: flyover; BB17: flyover; BB18: nesting in barn
Black-capped Chickadee	<i>Parus atricapillus</i>	G5	S5							I/E	✓	2	POSS			2	PROB			2	PROB	
Blue Jay	<i>Cyanocitta cristata</i>	G5	S5							I/E		2	POSS	1	POSS	1	POSS			2	POSS	
Bobolink	<i>Dolichonyx oryzivorus</i>	G5	S4B	THR	SC	THR	1			E	✓							3	PROB	3	PROB	BB19: in field to south of 2nd Line (outside of property)
Brown-headed Cowbird	<i>Molothrus ater</i>	G5	S5							E		3	PROB	1	POSS			1	PROB	3	PROB	
Canada Goose	<i>Branta canadensis</i>	G5	S5					I		M/F	✓	5	POSS			20	POSS			20	POSS	
Cedar Waxwing	<i>Bombycilla cedrorum</i>	G5	S5							E	✓			1	PROB			2		2	PROB	
Chipping Sparrow	<i>Spizella passerina</i>	G5	S5B,S3N							E	✓			1	POSS	1	POSS	1	POSS	1	POSS	
Common Grackle	<i>Quiscalus quiscula</i>	G5	S5							E		1	POSS	2	PROB	8	POSS	1	POSS	3	PROB	
Common Yellowthroat	<i>Geothlypis trichas</i>	G5	S5B,S3N							I/E	✓	1	PROB	2	PROB					2	PROB	
Downy Woodpecker	<i>Dryobates pubescens</i>	G5	S5							I/E	✓	1	POSS					1	POSS	1	POSS	
Eastern Meadowlark	<i>Sturnella magna</i>	G5	S4B,S3N	THR	THR	THR	1				✓							1	POSS	1	POSS	BB19: in field to south of 2nd Line (outside of property)
Eastern Phoebe	<i>Sayornis phoebe</i>	G5	S5B							I/E	✓					1	OBS			1	OBS	Recorded during the fall vegetation survey, migrant
Eastern Wood-pewee	<i>Contopus virens</i>	G5	S4B	SC	SC	SC	1			I/E	✓	1	POSS	1	POSS					1	POSS	Recorded during early July vegetation survey
European Starling	<i>Sturnus vulgaris</i>	G5	SNA					I		E		130	CONF	10	CONF	5	CONF	6	PROB	130	CONF	
Field Sparrow	<i>Spizella pusilla</i>	G5	S4B,S3N							E	✓					1	POSS	1	POSS	1	POSS	
Gray Catbird	<i>Dumetella carolinensis</i>	G5	S5B,S3N							I/E	✓	2	PROB	1	POSS	1	PROB			2	PROB	
Great Blue Heron	<i>Ardea herodias</i>	G5	S4							S/B, M/F	✓	1	OBS							1	OBS	BB4: flyover; BB15: flyover
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	G5	S5B							I/E	✓	1	POSS			1	OBS			1	POSS	
Green Heron	<i>Butorides virescens</i>	G5	S4B					U		S/B, M/F	✓	1	OBS							1	OBS	BB2: flyover
Horned Lark	<i>Eremophila alpestris</i>	G5	S4					U			✓	1	POSS			2	POSS			2	POSS	
House Finch	<i>Haemorrhous mexicanus</i>	G5	SNA					I			✓							1	POSS	1	POSS	
House Sparrow	<i>Passer domesticus</i>	G5	SNA					I		E						1	POSS	8	PROB	8	PROB	
House Wren	<i>Troglodytes aedon</i>	G5	S5B							E	✓			1	POSS	1	POSS	2	PROB	2	PROB	
Indigo Bunting	<i>Passerina cyanea</i>	G5	S5B							E	✓			1	POSS	1	POSS	1	POSS	1	POSS	
Killdeer	<i>Charadrius vociferus</i>	G5	S4B								✓	1	POSS	1	POSS	3	PROB	1	PROB	3	PROB	BB1: during second amphibian breeding survey; BB10: during first amphibian breeding survey
Mallard	<i>Anas platyrhynchos</i>	G5	S5							S/B, M/F	✓	2	POSS	3	POSS	26	POSS			26	POSS	BB1: outside of breeding season
Mourning Dove	<i>Zenaidura macroura</i>	G5	S5							E	✓	2	POSS			2	PROB	2	PROB	2	PROB	
Northern Cardinal	<i>Cardinalis cardinalis</i>	G5	S5							I/E	✓	1	PROB			1	PROB			1	PROB	
Northern Flicker	<i>Colaptes auratus</i>	G5	S5							I/E	✓	2	PROB							2	PROB	
Northern Mockingbird	<i>Mimus polyglottos</i>	G5	S4					U		E	✓					1	POSS			1	POSS	
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	G5	S4B					U		M/F	✓	1	POSS							1	POSS	
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	G5	S5					U		I/E	✓			1	POSS					1	POSS	
Red-eyed Vireo	<i>Vireo olivaceus</i>	G5	S5B							I/E	✓	1	POSS	1	POSS					1	POSS	
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S5							E		6	PROB	2	PROB	4	PROB	3	PROB	6	PROB	
Ring-billed Gull	<i>Larus delawarensis</i>	G5	S5								✓	10	OBS	10	OBS	30	OBS			30	OBS	Flyovers
Savannah Sparrow	<i>Passerculus sandwichensis</i>	G5	S5B,S3N					X			✓	2	PROB	2	POSS	2	PROB	3	PROB	3	PROB	
Song Sparrow	<i>Melospiza melodia</i>	G5	S5							E	✓	4	PROB	3	CONF	3	PROB	2	PROB	4	CONF	
Spotted Sandpiper	<i>Actitis macularia</i>	G5	S5B								✓					2	PROB			2	PROB	
Swamp Sparrow	<i>Melospiza georgiana</i>	G5	S5B,S4N							E	✓	3	PROB	1	POSS	1	POSS			3	PROB	
Tree Swallow	<i>Iridoprocne bicolor</i>	G5	S4S5B							E	✓	1	POSS			1	POSS			1	POSS	
Turkey Vulture	<i>Cathartes aura</i>	G5	S5B,S3N								✓	1	OBS							1	OBS	Flyover
Vesper Sparrow	<i>Pooecetes gramineus</i>	G5	S4B					U	X		✓	1	PROB			1	POSS			1	PROB	
Warbling Vireo	<i>Vireo gilvus</i>	G5	S5B							E	✓					1	POSS	1	POSS	1	POSS	
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	G5	S5B,S3N								✓	1	OBS							1	OBS	Recorded during the spring vegetation survey, migrant
Willow Flycatcher	<i>Empidonax traillii</i>	G5	S4B					U			✓	1	POSS							1	POSS	
Wilson's Warbler	<i>Cardellina pusilla</i>	G5	S5B								✓							1	OBS	1	OBS	BB18: migrant
Wood Thrush	<i>Hylocichla ustulata</i>	G4	S4B	SC	THR	THR	1			I/E	✓	1	POSS					1		1	POSS	
Yellow Warbler	<i>Setophaga petechia</i>	G5	S5B							E	✓	2	POSS	1	POSS	1	POSS			1	PROB	
Totals				6	6		6	11	2	40	46	39		24		34		25		54		
Total with Breeding Evidence												32		23		30		23		48		

WILDLIFE LIST LEGEND

¹ G-Rank (global)

Global ranks are assigned by a consensus of the network of Conservation Data Centres (CDCs), scientific experts, and the Nature Conservancy to designate a rarity rank based on the range-wide status of a species, subspecies, or variety.

G1 – Extremely rare - usually 5 or fewer occurrences in the overall range or very few remaining individuals; or because of some factor(s) making it especially vulnerable to Extinction.

G2 – Very rare - usually between 5 and 20 occurrences in the overall range or with many individuals in fewer occurrences; or because of some factor(s) making it vulnerable to Extinction.

G3 – Rare to uncommon - usually between 20 and 100 occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances.

G4 – Common - usually more than 100 occurrences; usually not susceptible to immediate threats.

G5 – Very common - demonstrably secure under present conditions.

² S-Rank (provincial)

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario.

S1 – Critically Imperiled - Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

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

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

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

S5 – Secure - Common, widespread, and abundant in the nation or state/province.

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

SAN – Non-breeding accidental.

SE – Exotic - not believed to be a native component of Ontario's fauna.

SZN – Non-breeding migrants/vagrants.

SZB – Breeding migrants/vagrants.

³ **COSSARO (Committee on the Status of Species at Risk in Ontario) Status**

The provincial review process is implemented by COSSARO (Status as of May 2026).

COSSARO is an independent advisory panel to the Ontario Ministry of Environment, Conservation and Parks (MECP) that assesses the status of species at risk of extinction.

<http://cossaroagency.ca/>

COSSARO Conservation Status Ranks

EXT – Extinct - A species that no longer exists anywhere in the world.

EXP – Extirpated - A species that lives somewhere in the world, lived at one time in the wild in Ontario, but no longer lives in the wild in Ontario.

END – Endangered - A species that is facing imminent Extinction or extirpation.

THR – Threatened - A species that is likely to become Endangered if steps are not taken to address factors threatening to lead to its Extinction or extirpation.

SC – Special Concern – A species that may become Threatened or Endangered because of a combination of biological characteristics and identified threats.

⁴ **COSEWIC (Committee on the Status of Endangered Wildlife in Canada) Status**

The federal review process is implemented by COSEWIC (Status as of May 2026)

COSEWIC is an independent advisory panel to the Minister of Environment and Climate Change Canada that meets twice a year to assess the status of wildlife species at risk of extinction.

<https://www.cosewic.ca/index.php/en-ca/>

COSEWIC Conservation Status Ranks

EXT – Extinct - A species that no longer exists.

EXP – Extirpated - A species no longer existing in the wild in Canada, but occurring elsewhere.

END – Endangered - A species facing imminent extirpation or Extinction.

THR – Threatened - A species likely to become Endangered if limiting factors are not reversed.

SC – Special Concern (formerly vulnerable) - A species that may become a Threatened or an Endangered species because of a combination of biological characteristics and identified threats.

NAR – Not At Risk - A species that has been evaluated and found to be not at risk of Extinction given the current circumstances.

DD – Data Deficient (formerly Indeterminate) - Available information is insufficient to resolve a species' eligibility for assessment or to permit an assessment of the species' risk of Extinction.

⁵ SARA (Species at Risk Act) Status and Schedule

Federal status from the Government of Canada's Species at Risk Public Registry (Status as of May 2026)

<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>

The Act establishes Schedule 1, as the official list of wildlife species at risk. It classifies those species as being either Extirpated, Endangered, Threatened, or a Special Concern. Once listed, the measures to protect and recover a listed wildlife species are implemented.

EXT – Extinct - A wildlife species that no longer exists.

EXP – Extirpated - A wildlife species that no longer exists in the wild in Canada, but exists elsewhere in the wild.

END – Endangered - A wildlife species that is facing imminent extirpation or Extinction.

THR – Threatened - A wildlife species that is likely to become Endangered if nothing is done to reverse the factors leading to its extirpation or Extinction.

SC – Special Concern - A wildlife species that may become a Threatened or an Endangered species because of a combination of biological characteristics and identified threats.

Schedule 1: is the official list of species that are classified as Extirpated, Endangered, Threatened and Special Concern.

Schedule 2: species listed in Schedule 2 are species that had been designated as Endangered or Threatened, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

Schedule 3: species listed in Schedule 3 are species that had been designated as Special Concern, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

The Act establishes Schedule 1 as the official list of wildlife species at risk. However, please note that while Schedule 1 lists species that are Extirpated, Endangered, Threatened and Special Concern, the prohibitions do not apply to species of Special Concern.

Species that were designated at risk by COSEWIC prior to October 1999 (Schedule 2 & 3) must be reassessed using revised criteria before they can be considered for addition to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the List of Wildlife Species at Risk.

⁶ Regional Status

Halton Region

From : Halton Natural Areas Inventory (Dwyer 2006)

Dwyer, J. K.. (Ed.) 2006. Halton Natural Areas Inventory. 2006: Volume 2 Species Checklists.

A = Abundant >125 Stations

C = Common 36-125 Stations

U = Uncommon 15-35 Stations

R= Rare < 15 Stations

E = Extirpated no longer present in Halton Region

I = Introduced an introduced species not native to Ontario

Uncertain = Uncertain if species is present in Halton Region

LS = Locally Significant

M = Migration

⁷ MNR Area Sensitive Species

Area Sensitivity is defined as species requiring large areas of suitable habitat in order to sustain population numbers

From: Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Criteria Schedules For Ecoregion 7E. January, 2015. Regional Operations Division, Southern Region Resources Section. 39pp.

⁸ Habitat Use

I=interior species, I/E=interior edge species, E=edge species (Freemark and Collins, 1989); M/F=Marsh/Fen, S/B=Treed Swamp/Bog. Interior bird species require habitat which is often found 100m from the forest edge while Interior/Edge species are found within both interior and edge habitat. Often Interior and Interior/Edge are more sensitive to urban encroachment as they require these large, relatively undisturbed forest habitats to support viable populations. The increasing urbanization of rural areas often results in increased parasitism and predation as well as disturbance from human recreational activities (e.g. illegal bike trails, dumping and pets.) (Freemark, K. and Collins, B. 1989. Landscape ecology of birds breeding in temperate forest fragments. – In: Hagan III, J. M. and Johnston, D. W. (eds), Ecology and conservation of neotropical migrant landbirds. Smithsonian Inst. Press, pp. 443–454)

Ontario Breeding Bird Atlas - Breeding Evidence Codes

OBSERVED

X – Species observed in its breeding season (no breeding evidence).

POSSIBLE

H – Species observed in its breeding season in suitable nesting habitat.

S – Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.

PROBABLE

A – Agitated behaviour or anxiety calls of an adult.

B – Brood Patch on adult female or cloacal protuberance on adult male.

D – Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulation.

M – Multiple (at least 7) individuals with S

N – Nest-building (Wren/Woodpecker)

P – Pair observed in suitable nesting habitat in nesting season.

T – Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more apart, at the same place.

V – Visiting probable nest site

CONFIRMED

AE – Adult leaving or entering nest sites in circumstances indicating occupied nest.

CF – Adult carrying food for young.

DD – Distraction display or injury feigning.

FS – Adult carrying fecal sac.

FY – Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight.

NB – Nest-building (non-Wren/Woodpecker)

NE – Nest containing eggs.

NU – Used nest or egg shells found (occupied or laid within the period of the survey).

NY – Nest with young seen or heard.

APPENDIX D

**Evaluation of Significant Wildlife
Habitat**

This evaluation is based on the Significant Wildlife Habitat Ecoregion Criteria Schedules for Ecoregion 7E (MNRF January 2015). The following text and tables are from that document, but include an additional ‘evaluation’ column, with discussion of site-specific attributes within the Milton Link Subject Lands.

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SCHEDULE 7E: IDENTIFICATION OF Significant Wildlife Habitat

This schedule is designed to provide the recommended criteria for identifying Significant Wildlife Habitat (SWH) within Ecoregion 7E ^{ccxvi}. Tables 1.1 through 1.4 within the Schedules provide guidance for SWH designation for the four categories of SWH outlined in the Significant Wildlife Habitat Technical Guide and its Appendices ^{cxlviii, cxlix}. Table 1.5 contains and provides descriptions for exceptions criteria for ecoregional SWH which will be identified at an ecodistrict scale ^{ccxvi}. Exceptions occur when criteria for a specific habitat are different within an ecodistrict compared to the remainder of an ecoregion or if a habitat only occurs within a restricted area of the ecoregion.

The schedules, including description of wildlife habitat, wildlife species, and the criteria provided for determining SWH, are based on science and expert knowledge. The ELC Ecosite codes are described using the Ecological Land Classification (ELC) for Southern Ontario ^{lxxviii}. The information within these schedules will require periodic updating to keep pace with changes to wildlife species status in the Species at Risk in Ontario (SARO) list, or as new scientific information pertaining to wildlife habitats becomes available. Therefore, MNRF will occasionally need to review and update these schedules and provide addenda. A reference document for all SWH is found after the schedules and includes citations for all ecoregional schedules. Each citation used to assist with the criteria for SWH will be indicated by a roman numeric symbol. Where no reference exists, MNRF expert opinion was used for determination of criteria, this symbol “©” represents when MNRF expert opinion was utilized to develop defining criteria.

Criteria For Significant Wildlife Habitat in Ecoregion 7E

1. 1 SEASONAL CONCENTRATION AREAS OF ANIMALS

Seasonal concentration areas are areas where wildlife species occur annually in aggregations at certain times of the year. Such areas are sometimes highly concentrated with members of a given species, or several species, within relatively small areas. In spring and autumn, migratory wildlife species will concentrate where they can rest and feed. Other wildlife species require habitats where they can survive winter. Examples of seasonal concentration areas include deer wintering areas, breeding bird colonies and hibernation sites for reptiles, amphibians and some mammals

cxlviii. Table 1.1 outlines what wildlife habitats and defining criteria that are considered for seasonal concentration areas within Ecoregion 7E.

Table 1.1 Seasonal Concentration Areas of Animals.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
1. Waterfowl Stopover and Staging Areas (Terrestrial) <u>Rationale:</u> Habitat important to migrating waterfowl.	American Black Duck American Wigeon Blue-winged Teal Gadwall Green-winged Teal Northern Pintail Northern Shoveler Tundra Swan	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites. - Fields with seasonal flooding and waste grains in the Long Point, Rondeau, Lk. St. Clair, Grand Bend and Pt. Pelee areas may be important to Tundra Swans.	Fields with sheet water during Spring (mid-March to May). - Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. - Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available cxlviii. <u>Information Sources</u> - Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. - Reports and other information available from Conservation Authorities - Sites documented through waterfowl planning processes (eg. EHJV implementation plan) - Field Naturalist Clubs - Ducks Unlimited Canada - Natural Heritage Information Centre (NHIC)Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”ccxi - Any mixed species aggregations of 100© or more individuals required. - The flooded field ecosite habitat plus a 100-300m radius, dependant on local site conditions and adjacent land use is the significant wildlife habitat . - Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). - SWH MISTIndex #7 provides development effects and mitigation measures.	No Candidate Habitat present.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
2. Waterfowl Stopover and Staging Areas (Aquatic) Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	American Black Duck American Wigeon Black Scoter Blue-winged Teal Brant Bufflehead Cackling Goose Canada Goose Canvasback Common Goldeneye Common Merganser Gadwall Greater Scaup Green-winged Teal Hooded Merganser Lesser Scaup Long-tailed Duck Northern Pintail Northern Shoveler Red-breasted Merganser Redhead Ring-necked duck Ruddy Duck Ruddy Duck Snow Goose Surf Scoter White-winged Scoter	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) <u>Information Sources</u> • Environment Canada • Naturalist clubs often are aware of staging/stopover areas. • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (eg. EHJV implementation plan) • Ducks Unlimited projects • Element occurrence specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of: • Aggregations of 100© or more of listed species for 7 days©, results in > 700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH^{cxlix} • The combined area of the ELC ecosites and a 100m radius area is the SWH^{cxlviii} • Wetland area and shorelines associated with sites identified within the SWHTG^{cxlviii} Appendix Kcxlix are significant wildlife habitat. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”^{ccxi} • 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). • SWH MIST^{cxlix} Index #7 provides development effects and mitigation measures.	No Candidate Habitat present (MAS communities within the Subject Lands are not large enough to support this type of SWH).

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
3. Shorebird Migratory Stopover Area Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	American Golden-Plover Baird's Sandpiper Black-bellied Plover Dunlin Greater Yellowlegs Hudsonian Godwit Least Sandpiper Lesser Yellowlegs Marbled Godwit Pectoral Sandpiper Purple Sandpiper Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Semipalmated Plover Semipalmated Sandpiper Short-billed Dowitcher Solitary Sandpiper Spotted Sandpiper Stilt Sandpiper White-rumped Sandpiper	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	- Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. - Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. - Sewage treatment ponds and storm water ponds do not qualify as a SWH. <u>Information Sources</u> - Western hemisphere shorebird reserve network. - Canadian Wildlife Service (CWS) Ontario Shorebird Survey. - Bird Studies Canada - Ontario Nature - Local birders and naturalist clubs - NHIC Shorebird Migratory Concentration Area	Studies confirming: - Presence of 3 or more of listed species and > 1000^I 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^I 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 ^{cxlviii} - Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"^{ccxi} - SWH MIST^{cxlix} Index #8 provides development effects and mitigation measures.	No Candidate Habitat present.
4. Raptor Wintering Area Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant	American Kestrel Northern Harrier Red-tailed Hawk Rough-legged Hawk Snowy Owl Special Concern: Bald Eagle Short-eared Owl	<u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. <u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	- The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. - Raptor wintering (hawk/owl)sites need to be > 20 ha ^{cxlviii, cxlix} with a combination of forest and upland.^{xvi, xvii, xviii, xix, xx, xxi} - Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands ^{cxlix} - Field area of the habitat is to be wind swept with limited snow depth or accumulation. - Eagle sites have open water and large trees and snags available for roosting^{cxlix} <u>Information Sources:</u> - OMNR Ecologist or Biologist - Naturalist clubs - Natural Heritage Information Centre (NHIC) Raptor Winter Concentration Area - Data from Bird Studies Canada - Results of Christmas Bird Counts - Reports and other information available from Conservation Authorities.	Studies confirm the use of these habitats by: - One or more Short-eared Owls or; One 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)^{cxlix} 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"^{ccxi} - SWH MIST^{cxlix} Index #10 and #11 provides development effects and mitigation measures.	No Candidate Habitat present.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
5. Bat Hibernacula Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	- Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. - Active mine sites should not be considered as SWH - The locations of bat hibernacula are relatively poorly known. <u>Information Sources</u> - OMNRF for possible locations and contact for local experts - Natural Heritage Information Centre (NHIC) Bat Hibernaculum - Ministry of Northern Development and Mines for location of mine shafts. - Clubs that explore caves (eg. Sierra Club) - University Biology Departments with bat experts.	- All sites with confirmed hibernating bats are SWH ⑥. - The area includes 200m radius around the entrance of the hibernaculum , , ⑥ for most development types and 1000m for wind farms^{ccv}. - 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”^{ccv}. - SWH MIST^{cxlix} Index #1 provides development effects and mitigation measures.	No Candidate Habitat present.
6. Bat Maternity Colonies Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	- Maternity colonies can be found in tree cavities, vegetation and often in buildings^{xxii, xxv, xxvi, xxvii, xxxi} (buildings are not considered to be SWH). - Maternity roosts are not found in caves and mines in Ontario^{xxii}. - Maternity colonies located in Mature deciduous or mixed forest stands^{ccix, ccx} with >10/ha large diameter (>25cm dbh) wildlife trees^{ccvii} - Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 ^{ccxiv} or class 1 or 2 ^{ccxii} . - Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred^{ccx} <u>Information Sources</u> - OMNRF for possible locations and contact for local experts - University Biology Departments with bat experts.	- Maternity Colonies with confirmed use by; >10 Big Brown Bats⑥ >5 Adult Female Silver-haired Bats⑥ - The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies⑥. - Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”^{ccv}. - SWH MIST^{cxlix} Index #12 provides development effects and mitigation measures.	Candidate Habitat present in Veg. Units 5, 9 and 11. This type of SWH has not been Confirmed, however, Candidate habitat will be retained, with the identified mitigation and protection measures confirmed as part of an updated EIA, such that impacts to Candidate SWH are not anticipated.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
7. Turtle Wintering Areas <u>Rationale:</u> Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle <u>Special Concern:</u> Northern Map Turtle Snapping Turtle	Snapping and Midland Painted turtles, ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle - Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. - Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. cix, cx, cxi, cxviii - Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. <u>Information Sources</u> - EIS studies carried out by Conservation Authorities. - Field Naturalists Clubs - OMNRF ecologist or biologist - Natural Heritage Information Centre (NHIC)	- Presence of 5 over-wintering Midland Painted Turtles is significant¹. - One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant¹. - The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. - Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May) ^{cvii}. Congregation of turtles is more common where wintering areas are limited and therefore significant ^{cix, cx, cxi, cxii}. - SWH MIST^{cxlix} Index #28 provides development effects and mitigation measures for turtle wintering habitat.	No Candidate Habitat present (wetland features with potentially sufficient water depths in the winter are too small to support this type of SWH).
8. Reptile Hibernaculum <u>Rationale:</u> Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	<u>Snakes:</u> Eastern Gartersnake Northern Brownsnake Northern Red-bellied Snake Northern Ring-necked Snake Northern Watersnake Smooth Green Snake <u>Special Concern:</u> Eastern Ribbonsnake Milksnake	For all snakes, habitat may be found in any ecosite in central Ontario other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations of congregations of snakes on sunny warm days in the spring or fall is a good indicator.	For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural locations. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line^{xliv, l, li, lii, cxii}. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. <u>Information Sources</u> - In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). - Reports and other information available from Conservation Authorities. - Field Naturalist Clubs - University herpetologists - Natural Heritage Information Centre (NHIC)	Studies confirming: - Presence of snake hibernacula used by a minimum of five individuals of a snake sp. <u>or</u>; individuals of two or more snake spp. - Congregations of a minimum of five individuals of a snake sp. <u>or</u>; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)¹. <u>Note:</u> If there are Special Concern Species present, then site is SWH <u>Note:</u> Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population [i.e. strong hibernation site fidelity.]. Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The the feature in which the hibernacula is located plus a 30 m buffer is the SWH¹ - SWH MIST^{cxlix} Index #13 provides development effects and mitigation measures for snake hibernacula.	Candidate Habitat evaluated, no Confirmed SWH present.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
9. Colonially -Nesting Bird Breeding Habitat (Bank and Cliff) Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario ^{cxcix}.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	- Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. - Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. - Does not include a licensed/permitted Mineral Aggregate Operation. <u>Information Sources</u> - Reports and other information available from Conservation Authorities. - Ontario Breeding Bird Atlas - Bird Studies Canada; NatureCounts http://www.birdscanada.org/birdmon/ - Field Naturalist Clubs.	Studies confirming: - Presence of 1 or more nesting sites with 8 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"^{ccxi} - SWH MIST^{cxlix} Index #4 provides development effects and mitigation measures	No Candidate Habitat present.
10. Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Black-crowned Night-Heron Great Blue Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	- Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. - Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> - Ontario Breeding Bird Atlas ^{ccv}, colonial nest records. - Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). - Natural Heritage Information Centre (NHIC) Mixed Wader Nesting Colony - Aerial photographs can help identify large heronries. - Reports and other information available from Conservation Authorities. - MNRF District Offices. - Field Naturalist Clubs	Studies confirming: - Presence of 2ⁱ or more active nests of Great Blue Heron. - 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 ^{cc, ccvii} - Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells - SWH MIST^{cxlix} Index #5 provides development effects and mitigation measures.	No Candidate Habitat present.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
11. Colonially - Nesting Bird Breeding Habitat (Ground) Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Brewer's Blackbird Caspian Tern Common Tern Great Black-backed Gull Herring Gull Little Gull Ring-billed Gull	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1-6; MAS1-3; CUM CUT CUS	- Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. - Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands. <u>Information Sources</u> - Ontario Breeding Bird Atlas, rare/colonial species records. - Canadian Wildlife Service. - Reports and other information available from Conservation Authorities. - Natural Heritage Information Centre (NHIC) Colonial Waterbird Nesting Area - MNRF District Offices. - Field Naturalist Clubs.	Studies confirming: - Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern[©]. - Presence of 5 or more pairs for Brewer's Blackbird[©]. - Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant[©]. - The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH ^{cc,cvii} - Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"^{ccxi} - SWH MIST^{cxlix} Index #6 provides development effects and mitigation measures.	No Candidate Habitat present.
12. Migratory Butterfly Stopover Areas Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral Special Concern: Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: <u>Field:</u> CUM CUT CUS <u>Forest:</u> FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Erie or Lake Ontario ^{cxlix}. - The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south ^{xxxii, xxxiii, xxxiv, xxxv, xxxvi}. - The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat ^{cxlviii, cxlix}. - Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes ^{xxxvii, xxxviii, xxxix, xl, xli}. <u>Information Sources</u> - MNRF District Offices - Natural Heritage Information Centre (NHIC) - Agriculture Canada in Ottawa may have list of butterfly experts. - Field Naturalist Clubs - Toronto Entomologists Association	Studies confirm: - The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct) ^{xliii}. 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 ^{xxxvii}, significant variation can occur between years and multiple years of sampling should occur ^{xl, xlii}. - MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.^l - SWHDSS ^{cxlix} Index #16 provides development effects and mitigation measures.	No Candidate Habitat present; not within 5 km of Lake Ontario.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
13. Landbird Migratory Stopover Areas Rationale: Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.on.ec.gc.ca/wildlife_e.html All migrant raptors species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	- Woodlots >5 ha^Í in size and within 5 km^{iv, v, vi, vii, viii, ix, x, xi, xii, xiii, xiv, xv} of Lake Erie and Lake Ontario. If woodlands are rare in an area of shoreline, woodland fragments 2-5ha can be considered for this habitat. - If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Erie and Lake Ontario are more significant^{cxlix}. Sites have a variety of habitats; forest, grassland and wetland complexes^{cxlix}. - The largest sites are more significant^{cxlix} - Woodlots and forest fragments are important habitats to migrating birds^{ccxviii}, these features located along the shore and located within 5km of Lake Erie and Lake Ontario are Candidate SWH^{cxlviii}. <u>Information Sources</u> - Bird Studies Canada - Ontario Nature - Local birders and field naturalist club - Ontario Important Bird Areas (IBA) Program	Studies confirm: - Use of the woodlot by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates^Í. This abundance and diversity of migrant bird species is considered above average and significant. - Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”^{ccxi} - SWH MIST^{cxlix} Index #9 provides development effects and mitigation measures.	No Candidate Habitat present; not within 5 km of Lake Ontario.
14. Deer Winter Congregation Areas Rationale: Deer movement during winter in the southern areas of Eco-region 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions ^{cxlviii} .	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	- Woodlots >100 ha in size or if large woodlots are rare in a planning area woodlots>50ha[®] - Deer movement during winter in the southern areas of Eco-region 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. - Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. - Woodlots with high densities of deer due to artificial feeding are not significant[®]. <u>Information Sources</u> - MNRF District Offices. - LIO/NRVIS	Studies confirm: - Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF^{cxlviii}. - Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF^Í. - Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques^{ccxxiv}, ground or road surveys. or a pellet count deer density survey^{ccxxv}. - SWH MIST^{cxlix} Index #2 provides development effects and mitigation measures.	No Candidate Habitat present; none mapped per available Provincial mapping.

1.2 RARE VEGETATION COMMUNITIES OR SPECIALIZED HABITAT FOR WILDLIFE

1.2.1 Rare Vegetation Communities

Rare vegetation communities often contain rare species, particularly plants and small invertebrates, which depend on such habitats for their survival and cannot readily move to or find alternative habitats. When assessing rare vegetation communities, one of the most important criteria is the current representation of the community in the planning area based on its area relative to the total landscape or the number of examples within the planning area. There are a number of criterion used to define rare vegetation communities, however the NHIC uses a system that considers the provincial rank of a species or community type as a tool to prioritize protection efforts. These ranks are not legal designations but have been assigned using the best available scientific information, and follow a systematic ranking procedure developed by The Nature Conservancy (U.S.). The ranks are based on three factors: estimated number of occurrences, estimated community aerial extent, and estimated range of the community within the province:

S1 Extremely rare - usually 5 or fewer occurrences in the province, or very few remaining hectares. **S2 Very rare** - usually between 5 and 20 occurrences in the province, or few remaining hectares. **S3 Rare to uncommon** - usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with some extensive examples remaining.

The setting of criteria for significant wildlife habitat (SWH) has incorporated this ranking system into its process of determining rare vegetation communities and as such, a rare vegetation community is defined to include areas that contain a provincially rare vegetation community and/or areas that contain a vegetation community that is rare within the planning area. SWH Table 1.2.1 contains a listing of rare vegetation communities that are considered SWH for the planning area contained within Ecoregion 7E.

Table 1.2.1 Rare Vegetation Communities.

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Evaluation
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
15. Cliffs and Talus Slopes <u>Rationale:</u> Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris	Most cliff and talus slopes occur along the Niagara Escarpment. <u>Information Sources</u> - The Niagara Escarpment Commission has detailed information on location of these habitats. - OMNRF Districts - Natural Heritage Information Centre (NHIC) has location information available on their website. - Field Naturalist Clubs - Conservation Authorities	- Confirm any ELC Vegetation Type for Cliffs or Talus Slopes lxxviii - SWH MIST^{cxlix} Index #21 provides development effects and mitigation measures.	None present.
16. Sand Barren <u>Rationale:</u> Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. They have little or no soil and the underlying rock protrudes through the surface. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but less than 60%.	A sand barren area >0.5ha in size [Ⓢ] . <u>Information Sources</u> - OMNRF Districts. - Natural Heritage Information Centre (NHIC) has location information available on their website. - Field Naturalist Clubs - Conservation Authorities	- Confirm any ELC Vegetation Type for Sand Barrens lxxviii - Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics)^l. - SWH MIST^{cxlix} Index #20 provides development effects and mitigation measures.	None present.

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Evaluation
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
17. Alvar Rationale: Alvars are extremely rare habitats in Ecos-region 7E.	ALO1 ALS1 ALT1 CUM2 CUS2 CUT2-1 CUW2 FOC1 FOC2 Five Alvar Indicator Species: 1) Carex crawei 2) Panicum philadelphicum 3) Eleocharis compressa 4) Scutellaria parvula 5) Trichostema brachiatum These indicator species are very specific to Alvars within Ecoregion 7E^{cxlix}	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover^{lxxviii}.	An Alvar site > 0.5 ha in size^{lxxv}. Alvar is particularly rare in Ecoregion 7E where the only known sites are found in the western islands of Lake Erie.^{cxci} <u>Information Sources</u> - Alvars of Ontario (2000), Federation of Ontario Naturalists . - Ontario Nature – Conserving Great Lakes Alvars. - Natural Heritage Information Centre (NHIC) has location information available on their website. - OMNRF Staff. - Field Naturalist Clubs. - Conservation Authorities.	- Field studies that identify four of the five[©] Alvar Indicator Species^{lxxv,cxlix} at a Candidate Alvar site is Significant. - Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). - The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses^{lxxv} - SWH MIST^{cxlix} Index #17 provides development effects and mitigation measures.	None present.
18. Old Growth Forest Rationale: Due to historic logging practices and land clearance for agriculture, old growth forest is rare in Ecoregion 7E.	Forest Community Series: FOC FOD FOM SWC SWD SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Woodland area is >0.5ha. <u>Information Sources</u> - OMNRF Forest Resource Inventory mapping - OMNRF Districts. - Field Naturalist Clubs - Conservation Authorities - Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. - Municipal forestry departments	Field Studies will determine: - If dominant trees species of the ecosite are >140 years old, then stand is Significant Wildlife Habitat^{cxlviii} - The stand will have experienced no recognizable forestry activities^{cxlviii} (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 forest area containing the old growth characteristics^{lxxviii} - SWH MIST^{cxlix} Index #23 provides development effects and mitigation measures.	None present.

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Evaluation
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
19. Savannah Rationale: Savannahs are extremely rare habitats in Ontario.	CUS2 TPS1 TPS2 TPW1 TPW2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. In ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).	No minimum size to site ^Í. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> - Natural Heritage Information Centre (NHIC) has location data available on their website. - OMNRF Districts. - Field Naturalists Clubs. - Conservation Authorities.	Field studies confirm one or more of the Savannah indicator species listed in ^{lxxv} Appendix N should be present ^Í. Note: Savannah plant spp. list from Ecoregion 7E should be used^{cxlviii}. - Area of the ELC Ecosite is the SWH. - Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). - SWH MIST^{cxlix} Index #18 provides development effects and mitigation measures.	None present.
20. Tallgrass Prairie Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover. In ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).	No minimum size to site ^Í. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> - OMNRF Districts. - Natural Heritage Information Centre (NHIC) has location information available on their website. - Field Naturalists Clubs. - Conservation Authorities.	Field studies confirm one or more of the Prairie indicator species listed in ^{lxxv} Appendix N should be present ^Í. Note: Prairie plant spp. list from Ecoregion 7E should be used^{cxlviii}. - Area of the ELC Ecosite is the SWH. - Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). - SWHDSS^{cxlix} Index #19 provides development effects and mitigation measures.	None present.
21. Other Rare Vegetation Communities Rationale: Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG ^{cxlviii} . Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M ^{cxlviii} The OMNRF/NHIC will have up to date listing for rare vegetation communities. <u>Information Sources</u> - Natural Heritage Information Centre (NHIC) has location information available on their website. - OMNRF Districts. - Field Naturalists Clubs. - Conservation Authorities.	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG^{cxlviii} - Area of the ELC Vegetation Type polygon is the SWH. - SWH MIST ^{cxlix} Index #37 provides development effects and mitigation measures.	Confirmed SWH Present – FOD9-4 (Shagbark Hickory Woodland) in Units Veg. Unit 5A, Veg. Unit 9 and Veg. Unit 11. Confirmed SWH will be retained, with the identified mitigation and protection measures confirmed as part of an updated EIA, such that impacts are not anticipated.

1.2.2 Specialized Habitat for Wildlife

Some wildlife species require large areas of suitable habitat for their long-term survival. Many wildlife species require substantial areas of suitable habitat for successful breeding. Their populations decline when habitat becomes fragmented and reduced in size^{cxlviii}. Specialized habitat for wildlife is a community or diversity-based category, therefore, the more wildlife species a habitat contains, the more significant the habitat becomes to the planning area. The largest and least fragmented habitats within a planning area will support the most significant populations of wildlife. The specialized habitats for wildlife that are considered as SWH are outlined in Table 1.2.2.

Table 1.2.2 Specialized Habitats of Wildlife considered SWH.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
22. Waterfowl Nesting Area Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Blue-winged Teal Gadwall Green-winged Teal Hooded Merganser Mallard Northern Pintail Northern Shoveler Wood Duck	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWT1 SWT2 Note: includes adjacency to Provincially Significant Wetlands	A waterfowl nesting area extends 120 m ^{cxlix} from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur ^{cxlix} . - Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. - Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <u>Information Sources</u> - Ducks Unlimited staff may know the locations of particularly productive nesting sites. - OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. - Reports and other information available from Conservation Authorities.	Studies confirmed: - Presence of 3 or more nesting pairs for listed species excluding Mallards^I, or; - Presence of 10 or more nesting pairs for listed species including Mallards^I. - 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"^{ccxi} - 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 ^{cxlviii} from the wetland and will provide enough habitat for waterfowl to successfully nest. - SWH MIST^{cxlix} Index #25 provides development effects and mitigation measures.	Candidate Habitat evaluated, no Confirmed SWH present.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
23. Bald Eagle and Osprey Nesting, Foraging and Perching Habitat Rationale: Nest sites are fairly uncommon in Eco-region 7E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey Special Concern: Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <u>Information Sources</u> • Natural Heritage Information Centre (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. • MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF District. • Check the Ontario Breeding Bird Atlas ^{ccv} or Rare Breeding Birds in Ontario for species documented • Reports and other information available from Conservation Authorities. • Field Naturalists clubs	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area^{cxlviii}. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH ^{ccvii}, maintaining undisturbed shorelines with large trees within this area is important ^{cxlviii}. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. ^{cvi}, ^{ccvii} Area of the habitat from 400-800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitat ^{cvi} • 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. ^{ccvii} • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”^{ccxi} • SWH MIST^{cxlix} Index #26 provides development effects and mitigation measures	No Candidate Habitat present. There are no suitable waterbodies within or adjacent to the Subject Lands.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
24. Woodland Raptor Nesting Habitat Rationale: Nests sites for these species are rarely identified; these area sensitive habitats are often used annually by these species.	Barred Owl Broad-winged Hawk Cooper's Hawk Northern Goshawk Red-shouldered Hawk Sharp-shinned Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands >30ha with >4ha of interior habitat ^{lxxxviii, lxxxix, xc, xci, xciii, xciv, xcv,xcvi, cxxxiii}. Interior habitat determined with a 200m buffer^{cxlviii} - Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. - In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <u>Information Sources</u> - OMNRF Districts. - Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. - Check data from Bird Studies Canada. - Reports and other information available from Conservation Authorities.	Studies confirm: - Presence of 1 or more active nests from species list is considered significant^{cxlviii}. - Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha of suitable habitat is the SWH ^{ccvii}. (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 ^{ccvii}. - Broad-winged Hawk and Coopers Hawk,– A 100m radius around the nest is the SWH^{ccvii}. - Sharp-Shinned Hawk – A 50m radius around the nest is the SWH^{ccvii}. - Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. - SWH MIST ^{cxlix} Index #27 provides development effects and mitigation measures.	No Candidate Habitat present. Woodlands that meet the size criteria are not present within the Subject Lands.
25. Turtle Nesting Areas Rationale: These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle Special Concern Species: Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) ^{cxlviii} or within the following ELC Ecosites: BOO1 FEO1 MAS1 MAS2 MAS3 SAF1 SAM1 SAS1	- Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. - For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. - Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <u>Information Sources</u> - Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). - Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. - Natural Heritage Information Centre (NHIC) - Field Naturalist Clubs	Studies confirm: - Presence of 5 or more nesting Midland Painted Turtles^l - One or more Northern Map Turtle or Snapping Turtle nesting is a SWH^l. - The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. ^{cxlviii} - 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. - SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	No Candidate Habitat present.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
26. Seeps and Springs Rationale: Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Ruffed Grouse Salamander spp. Spruce Grouse White-tailed Deer Wild Turkey	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system ^{cxvii, cxlix}. - Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species ^{cxix, cxx, cxxi, cxxii, cxiii, cxiv}. <u>Information Sources</u> - Topographical Map. - Thermography. - Hydrological surveys conducted by Conservation Authorities and MOE. - Field Naturalists Clubs and landowners. - Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: - Presence of a site with 2 or more¹ seeps/springs should be considered SWH. - The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat . - SWH MIST Index #30 provides development effects and mitigation measures	No Candidate Habitat present.
27. Amphibian Breeding Habitat (Woodland) Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Blue-spotted Salamander Eastern Newt Gray Treefrog Spotted Salamander Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOD FOM SWC SWD SWM Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians	- Presence of a wetland, pond or woodland pool (including vernal pools) >500m² (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size)., , , , , Some small wetlands may not be mapped and may be important breeding pools for amphibians. - Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat^{cxlviii} <u>Information Sources</u> - Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records - Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. - OMNRF Districts and wetland evaluations - Field Naturalist clubs - Canadian Wildlife Service Amphibian Road Call Survey - Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm; - Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3[®]. - A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. - The habitat is the wetland area plus a 230m radius of woodland area ^{lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx, lxxi}. 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. - SWH MIST ^{cxlix} Index #14 provides development effects and mitigation measures.	Candidate Habitat evaluated, no Confirmed SWH present.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
28. Amphibian Breeding Habitat (Wetlands) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	American Toad Blue-spotted Salamander Bullfrog Eastern Newt Four-toed Salamander Gray Treefrog Green Frog Mink Frog Northern Leopard Frog Pickerel Frog Spotted Salamander Western Chorus Frog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands	- Wetlands>500m2 (about 25m diameter) ,supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats . - Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. - Bullfrogs require permanent water bodies with abundant emergent vegetation. <u>Information Sources</u> - Ontario Herpetofaunal Summary Atlas (or other similar atlases) - Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. - OMNRF Districts and wetland evaluations. - Reports and other information available from Conservation Authorities.	Studies confirm: - Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3Ⓢ. or; Wetland with confirmed breeding Bullfrogs are significant. - The ELC ecosite wetland area and the shoreline are the SWH. - A combination of observational study and call count surveys ^{cviii} will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. - If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. - SWH MIST ^{cxlix} Index #15 provides development effects and mitigation measures.	Candidate Habitat evaluated, no Confirmed SWH present.
29. Woodland Area-Sensitive Bird Breeding Habitat Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Blackburnian Warbler Black-throated Blue Warbler Black-throated Green Warbler Blue-headed Vireo Northern Parula Ovenbird Pileated Woodpecker Red-breasted Nuthatch Veery Scarlet Tanager Winter Wren Yellow-bellied Sapsucker Special Concern: Canada Warbler Cerulean Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	- Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. ^{cv, cxxxi, cxxxii, cxxxiii, cxxxiv, cxxxv, cxxxvi, cxxxvii, cxxxviii, cxxxix, cxi, cxli, cxlii, cxliii, cxliv, cxlv, cxlvi, cli, clii, cliii, cliv, clv, clvi, clvii, clviii, clix} - Interior forest habitat is at least 200 m from forest edge habitat. ^{clxiv} <u>Information Sources</u> - Local birder clubs. - Canadian Wildlife Service (CWS) for the location of forest bird monitoring. - Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species - Reports and other information available from Conservation Authorities.	Studies confirm: - Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Ⓢ - Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH.Ⓢ - Conduct field investigations in spring and early summer when birds are singing and defending their territories. - Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” ^{ccxi} - SWH MIST ^{cxlix} Index #34 provides development effects and mitigation measures.	No Candidate Habitat present.

1.3 HABITAT FOR SPECIES OF CONSERVATION CONCERN (NOT INCLUDING ENDANGERED OR THREATENED SPECIES)

Habitats of Species of Conservation Concern include wildlife species that are listed as Special Concern or rare, that are declining, or are featured species. Habitats of Species of Conservation Concern do not include habitats of Endangered or Threatened species as identified by the Endangered Species Act 2007. Table 1.3 assists with the identification of SWH for Species of Conservation Concern.

Table 1.3. Habitats of Species of Conservation Concern considered SWH.

Wildlife	Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
30. Marsh Breeding Bird Habitat <u>Rationale:</u> Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern American Coot Common Loon Common Moorhen Green Heron Marsh Wren Pied-billed Grebe Sandhill Crane Sedge Wren Sora Trumpeter Swan Virginia Rail <u>Special Concern:</u> Black Tern Yellow Rail	BOO1 FEO1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAF1 SAM1 SAS1 For Green Heron: All SW, MA and CUM1 sites.	- Nesting occurs in wetlands. - All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present ^{cxxiv}. - For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. <u>Information Sources</u> - OMNRF District and wetland evaluations. - Field Naturalist clubs - Natural Heritage Information Centre (NHIC) Records. - Reports and other information available from Conservation Authorities. - Ontario Breeding Bird Atlas.	Studies confirm: - Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 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” - SWH MIST Index #35 provides development effects and mitigation measures	Candidate Habitat evaluated, no Confirmed SWH present.
31. Open Country Bird Breeding Habitat <u>Rationale:</u> This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Grasshopper Sparrow Northern Harrier Savannah Sparrow Upland Sandpiper Vesper Sparrow <u>Special Concern:</u> Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha ^{clx, clxi, clxii, clxiii, clxiv, clxv, clxvi, clxvii, clxviii, clxix}. Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years) [㊦]. Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. <u>Information Sources</u> - Agricultural land classification maps, Ministry of Agriculture. - Local bird clubs. - Ontario Breeding Bird Atlas - EIS Reports and other information available from Conservation Authorities.	Field Studies confirm: - Presence of nesting or breeding of 2 or more of the listed species. [㊦] - A field with 1 or more breeding Short-eared Owls is to be considered SWH. - The area of SWH is the contiguous ELC ecosite field areas. - Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. - Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”^{ccxi} - SWH MIST ^{cxlix} Index #32 provides development effects and mitigation measures	No Candidate Habitat present.

Wildlife	Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
32. Shrub/Early Successional Bird Breeding Habitat <u>Rationale:</u> This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records ^{cxix}.	<u>Indicator Spp:</u> Brown Thrasher Clay-coloured Sparrow <u>Common Spp.:</u> Black-billed Cuckoo Eastern Towhee Field Sparrow Willow Flycatcher Golden-winged Warbler <u>Special Concern:</u> Yellow-breasted Chat	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats >10ha^{clxiv} in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years) ^l. Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species ^{clxxiii}. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. <u>Information Sources</u> • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. ^l • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. ^l • 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”^{ccxi} • SWH MIST ^{cxlix} Index #33 provides development effects and mitigation measures.	No Candidate Habitat present.

Wildlife	Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
33. Terrestrial Crayfish <u>Rationale:</u> Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.^{ccii}	Chimney or Digger Crayfish; (<i>Fallicambarus fodiens</i>) Devil Crawfish or Meadow Crayfish; (<i>Cambarus Diogenes</i>)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh ecosystems can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. - Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. - Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> - Information sources from “Conservation Status of Freshwater Crayfishes” by Dr. Premek Hamr for the WWF and CNF March 1998	Studies Confirm: - Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or terrestrial sites^{cci} - Area of ELC Ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. - Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult - SWH MIST cxlix Index #36 provides development effects and mitigation measures.	Several chimneys present along the edge of Veg. Unit 9 in the agricultural field; not considered significant as they are not associated with suitable marsh, swamp or meadow habitat.

Wildlife	Species	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
34. Special Concern and Rare Wildlife Species Rationale: These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites ^{lxviii} <u>Information Sources</u> • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website “Get Information” : http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. • SWH MIST ^{cxlix} Index #37 provides development effects and mitigation measures.	Confirmed SWH present: Veg. Unit 2 Abandoned House – Barn Swallow likely nesting; ‘Possible’ breeding evidence. Parcel 17 (BB18) Barn – Barn Swallow likely nesting; ‘Possible’ breeding evidence. Veg. Unit 5 – Wood Thrush and Eastern Wood-pewee recorded with ‘Possible’ breeding evidence. Veg. Unit 9 – Eastern Wood-pewee recorded with ‘Possible’ breeding evidence. Note that while likely nesting habitat for Barn Swallow is present within the abandoned house on Parcel 1 (Phase 1) and barn on Parcel 17 (Phase 4), these are anthropogenic features not associated with a natural habitat or ELC ecosite, which are typically not considered SWH except in specific circumstances (e.g., foundations for reptile hibernaculum and abandoned mine shafts for bat hibernacula). Confirmed SWH associated with Veg. Units 5 and 9 will be retained, with the identified mitigation and protection measures confirmed as part of an updated EIA, such that impacts are not anticipated.

1.4 ANIMAL MOVEMENT CORRIDORS

Animal Movement Corridors are elongated areas used by wildlife to move from one habitat to another. They are important to ensure genetic diversity in populations, to allow seasonal migration of animals (e.g. deer moving from summer to winter range) and to allow animals to move throughout their home range from feeding areas to cover areas. Animal movement corridors function at different scales often related to the size and home range of the animal. For example, short, narrow areas of natural habitat may function as a corridor between amphibian breeding areas and their summer range, while wider, longer corridors are needed to allow deer to travel from their winter habitat to their summer habitat.

Identifying the most important corridors that provide connectivity across the landscape is challenging because of a lack of specific information on animal movements. There is also some uncertainty about the optimum width and mortality risks of corridors. Furthermore, a corridor may be beneficial for some species but detrimental to others. For example, narrow linear corridors may allow increased access for racoons, cats, and other predators. Also, narrow corridors dominated by edge habitat may encourage invasion by weedy generalist plants and opportunistic species of birds and mammals. Corridors often consist of naturally vegetated areas that run through more open or developed landscapes. However, sparsely vegetated areas can also function as corridors. For example, many species move freely through agricultural land to reach natural areas. Despite the difficulty of identifying exact movement corridors for all species, these landscape features are important to the long-term viability of certain wildlife populations.

Animal Movement Corridors should only be identified as SWH where:

Where a Confirmed or Candidate SWH has been identified by MNR or the planning authority based on documented evidence of a habitat identified within these Criterion Schedules or the Significant Wildlife Habitat Technical Guide. The identified wildlife habitats Table 1.4.1 will have distinct passageways or rely on well defined natural features for movements between habitats required by the species to complete its life cycle.

Table 1.4.1 Animal Movement Corridors

Habitat	SPECIES	CANDIDATE SWH		CONFIRMED SWH	Evaluation
		ELC Eco-sites	Habitat Criteria and Information Sources	Defining Criteria	
35. Amphibian Movement Corridors Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	American Toad Blue-spotted Salamander Bullfrog Eastern Newt Four-toed Salamander Gray Treefrog Green Frog Mink Frog Northern Leopard Frog Pickeral Frog Spotted Salamander Western Chorus Frog	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat ^{clxxiv, clxxv, clxxvi, clxxvii, clxxviii, clxxix, clxxx, clxxxi}. Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat –Wetland) of this Schedule I. <u>Information Sources</u> - MNRF District Office. - Natural Heritage Information Centre (NHIC). - Reports and other information available from Conservation Authorities. - Field Naturalist Clubs.	- Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. - Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant ^{cxlix} - Corridors should have at least 15m of vegetation on both sides of waterway ^{cxlix} or be up to 200m wide ^{cxlix} of woodland habitat and with gaps <20m ^{cxlix}. - Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat ^{cxlix}. - SWH MIST ^{cxlix} Index #40 provides development effects and mitigation measures	Not present.

1.5 EXCEPTIONS FOR ECOREGION 7E

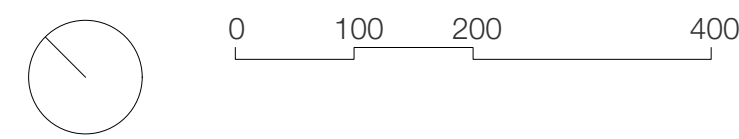
Exceptions are candidate wildlife habitats that will have different criteria than what is proposed in the above schedules for an area within the Eco-region. The Exceptions will be based on Eco-Districts and municipalities can apply the exception for the eco-district within their planning area.

Table 1.5.1 Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 7E

EcoDistrict	Wildlife Habitat and Species	Candidate SWH			Confirmed SWH	Evaluation
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
7E-2	Bat Migratory Stopover Area Rationale: Stopover areas for long distance migrant bats are important during fall migration. Eastern Red Bat Hoary Bat Silver-haired Bat	No specific ELC types.		- Long distance migratory bats typically migrate during late summer and early fall from summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migration may concentrate these species of bats at stopover areas. - This is the only known bat migratory stopover habitats based on current information. <u>Information Sources</u> - OMNRF for possible locations and contact for local experts - University of Waterloo, Biology Department	- Long Point (42°35'N, 80°30'E, to 42°33'N, 80°03'E) has been identified as a significant stop-over habitat for fall migrating Silver-haired Bats, due to significant increases in abundance, activity and feeding that was documented during fall migration ^{ccxv}. - The confirmation criteria and habitat areas for this SWH are still being determined. - SWH MIST ^{cxliix} Index #38 provides development effects and mitigation measures.	Not present.

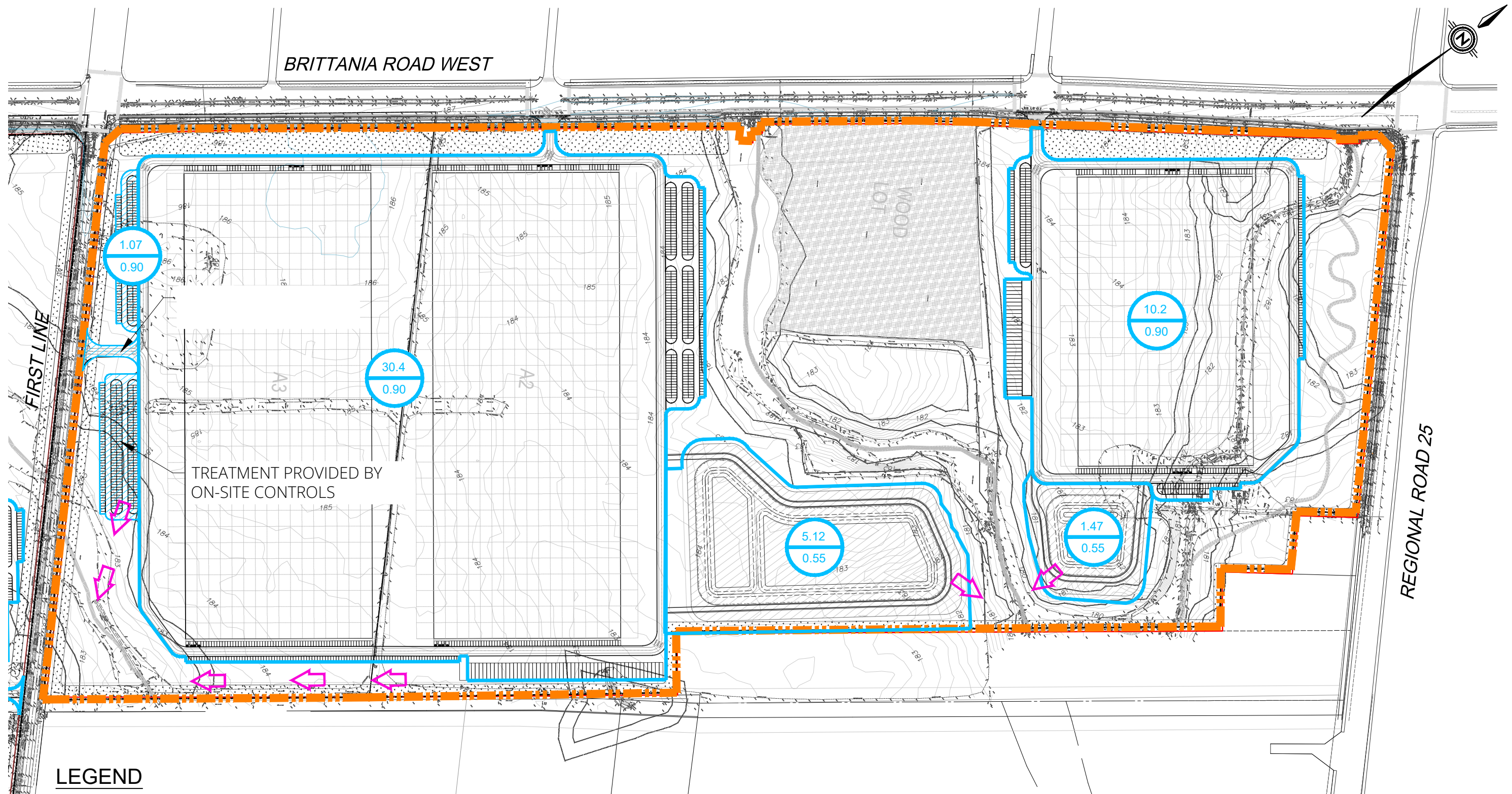
APPENDIX E

Concept Plan (June 2026)



APPENDIX F

Stormwater Management Plans



LEGEND

-  LIMIT OF PHASE
-  OVERLAND FLOW ROUTE
-  CATCHMENT AREA (ha)
RUNOFF COEFFICIENT
-  CATCHMENT BOUNDARY

CLIENT

TRIBAL DEVELOPMENT
MANAGEMENT SERVICES INC.

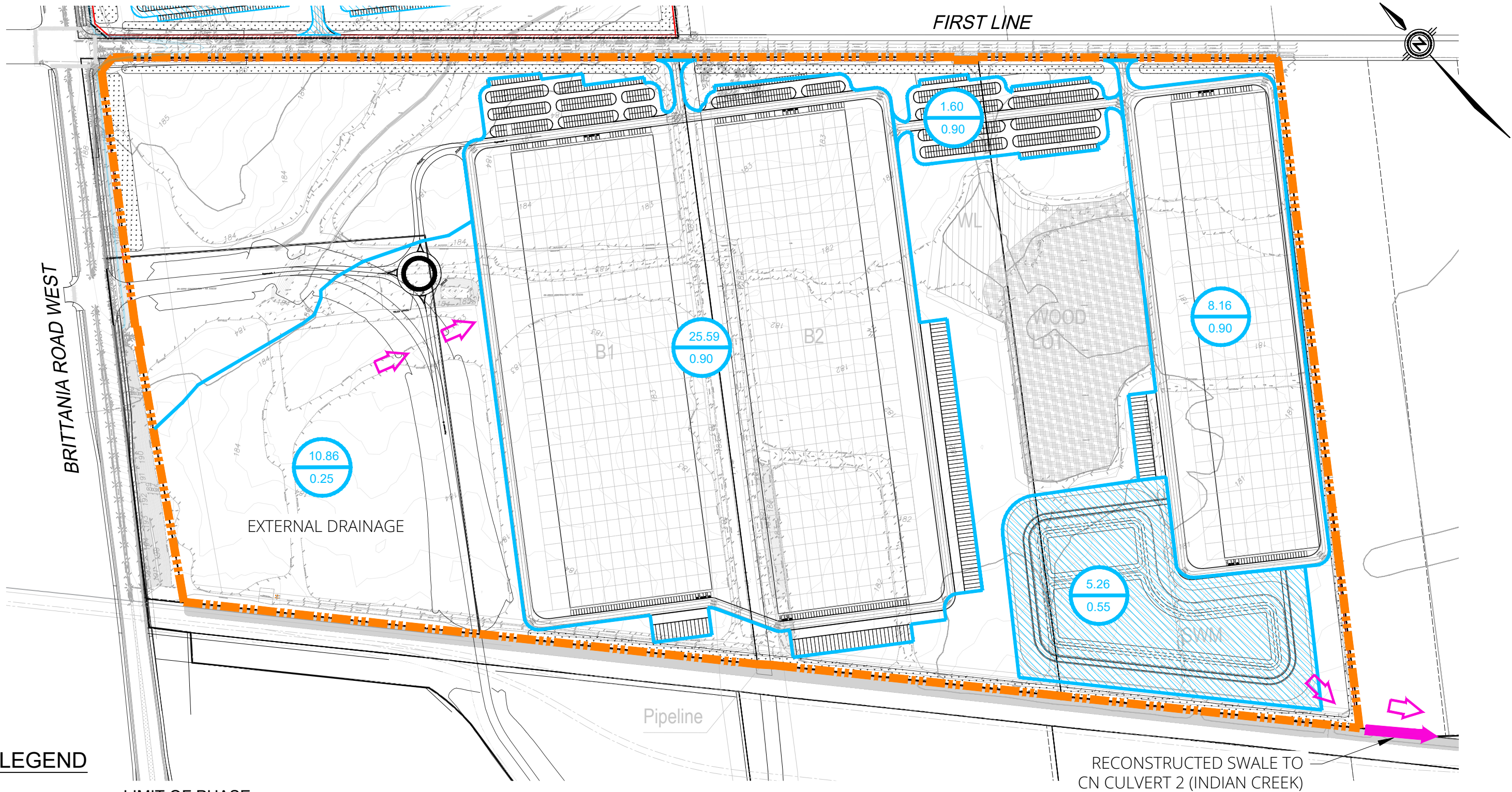
TITLE

MILTON GATEWAY
**PROPOSED CONDITIONS
PHASE 1**

ENVISION

6415 Northwest Dr. Mississauga, ON Canada L4V 1X1
Office (905) 677-0202
E-mail admin@envisionconsultants.ca

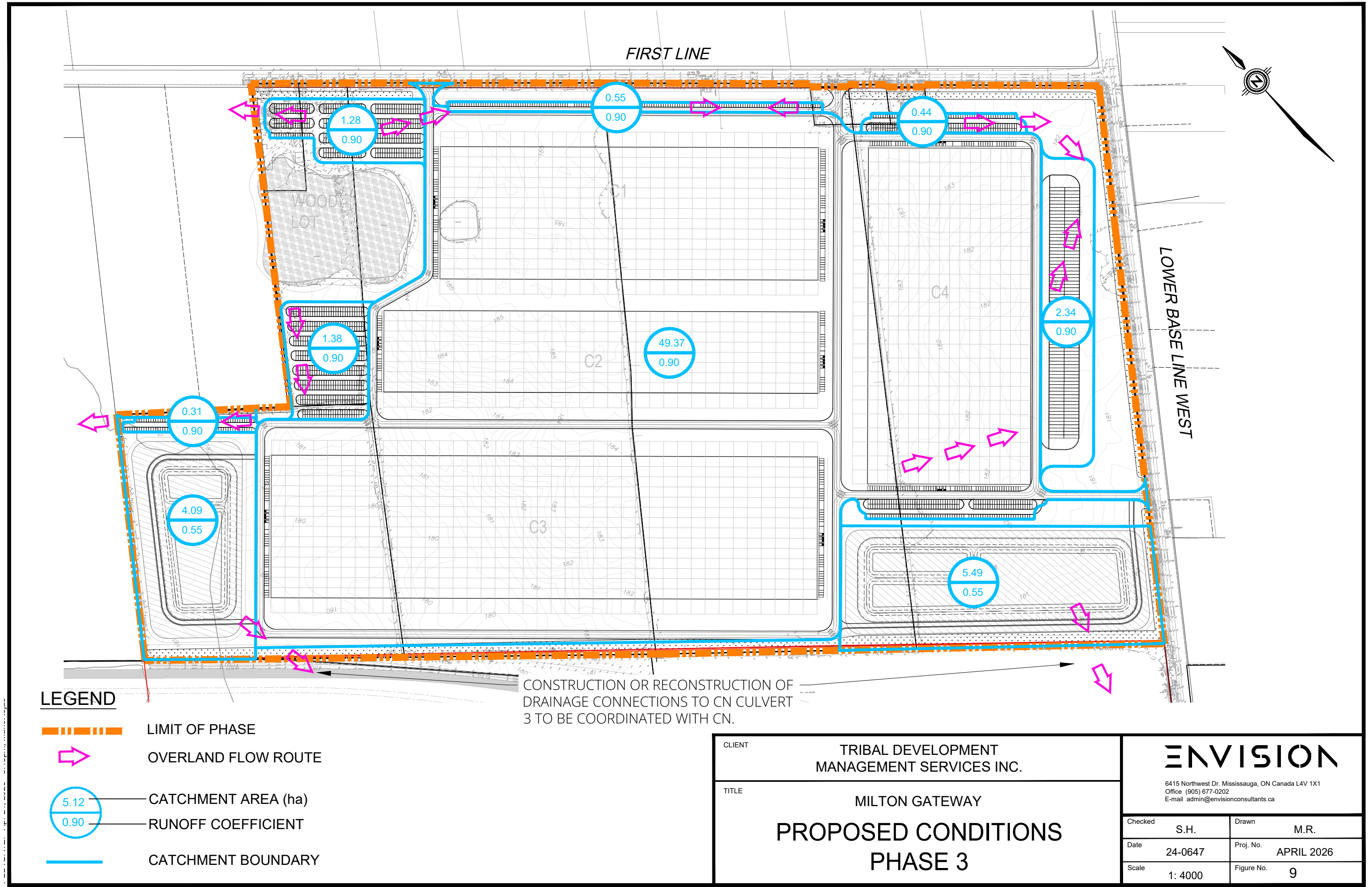
Checked	S.H.	Drawn	M.R.
Date	24-0647	Proj. No.	APRIL 2026
Scale	1: 4000	Figure No.	7



LEGEND

- LIMIT OF PHASE
- OVERLAND FLOW ROUTE
- CATCHMENT AREA (ha)
RUNOFF COEFFICIENT
- CATCHMENT BOUNDARY

CLIENT	TRIBAL DEVELOPMENT MANAGEMENT SERVICES INC.		ENVISION 6415 Northwest Dr. Mississauga, ON Canada L4V 1X1 Office (905) 677-0202 E-mail admin@envisionconsultants.ca	
TITLE	MILTON GATEWAY PROPOSED CONDITIONS PHASE 2		Checked S.H.	Drawn M.R.
			Date 24-0647	Proj. No. APRIL 2026
			Scale 1: 4000	Figure No. 8



LEGEND

- LIMIT OF PHASE
- OVERLAND FLOW ROUTE
- CATCHMENT AREA (ha)
- RUNOFF COEFFICIENT
- CATCHMENT BOUNDARY

CONSTRUCTION OR RECONSTRUCTION OF DRAINAGE CONNECTIONS TO CN CULVERT 3 TO BE COORDINATED WITH CN.

CLIENT

TRIBAL DEVELOPMENT
MANAGEMENT SERVICES INC.

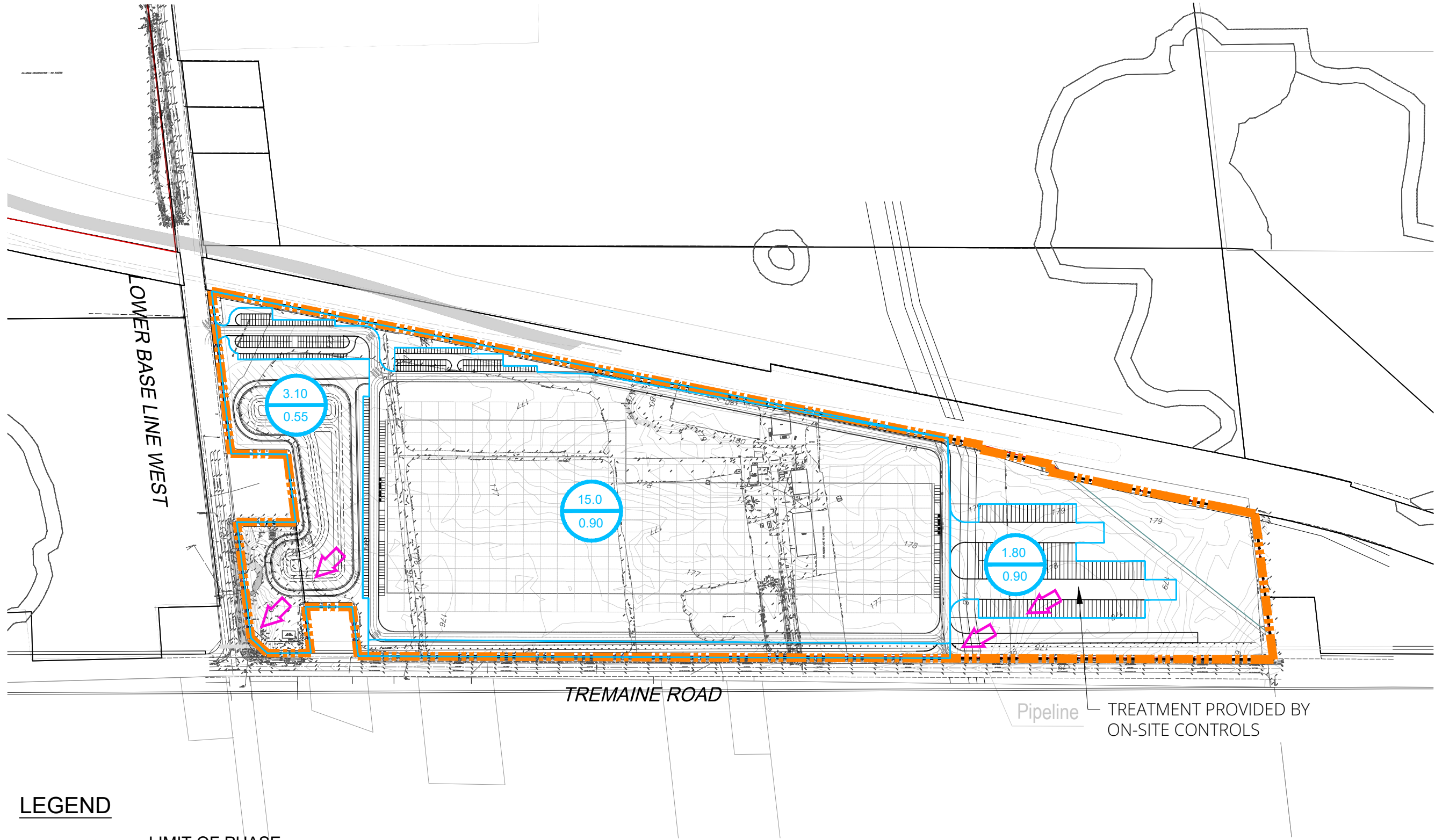
TITLE

MILTON GATEWAY
PROPOSED CONDITIONS
PHASE 3

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Checked	S.H.	Drawn	M.R.
Date	24-0647	Proj. No.	APRIL 2026
Scale	1: 4000	Figure No.	9



LEGEND

-  LIMIT OF PHASE
-  OVERLAND FLOW ROUTE
-  CATCHMENT AREA (ha)
RUNOFF COEFFICIENT
-  CATCHMENT BOUNDARY

CLIENT
TRIBAL DEVELOPMENT
MANAGEMENT SERVICES INC.

TITLE
MILTON GATEWAY
PROPOSED CONDITIONS
PHASE 4

ENVISION			
6415 Northwest Dr. Mississauga, ON Canada L4V 1X1 Office (905) 677-0202 E-mail admin@envisionconsultants.ca			
Checked	S.H.	Drawn	M.R.
Date	24-0647	Proj. No.	APRIL 2026
Scale	1: 4000	Figure No.	10

APPENDIX G

Species at Risk Habitat Evaluation



Taxon	Common Name	Scientific Name	S-rank	SCA Status	SARA Status	COSEWIC Status	COSSARO Status	Habitat Requirements	Probability to Occur within the Subject Lands	Likelihood and Magnitude of Impacts to Species and/or Habitats
Amphibians	Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	S2	END	END	END	END	In Ontario, Jefferson Salamander is found only in Southern Ontario, along southern portions of the Niagara Escarpment and western portions of the Oak Ridges Moraine. Jefferson Salamander prefers moist, well-drained deciduous and mixed forests with a closed canopy. It overwinters underground in mammal burrows and rock fissures and moves to vernal pools and ephemeral wetlands in the early spring to breed. Breeding ponds are typically located in or near to forested habitats, and contain submerged debris (i.e. sticks, vegetation) for egg attachment sites. Ephemeral breeding pools need to have water until at least mid-summer (mid to late July) (Jefferson Salamander Recovery Team 2010).	Low - Isolated woodlands on the Subject Lands may be suitable for this species and may provide vernal pool and ephemeral wetland habitat that this species requires for breeding. However, these habitats are isolated features (i.e., not contiguous with larger, undisturbed forested habitats that are most suitable for this species) and there are no known records on the Subject Lands.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Birds	Bank Swallow	<i>Riparia riparia</i>	S4B	-	THR	THR	THR	In Ontario, Bank Swallow breeds in a variety of natural and anthropogenic habitats, including lake bluffs, stream and riverbanks, sand and gravel pits, and roadcuts. Nests are generally built in a vertical or near-vertical bank. Breeding sites are typically located near open foraging sites such as rivers, lakes, grasslands, agricultural fields, wetlands and riparian woods. Forested areas are generally avoided (Garrison 1999).	Confirmed - This species was recorded as a foraging visitant during targeted breeding bird surveys. No suitable nesting habitat was observed within the Subject Lands.	None - There is no confirmed habitat for this species within the Subject Lands and there is abundant foraging habitat in the local landscape.
Birds	Barn Swallow	<i>Hirundo rustica</i>	S4B	-	THR	SC	SC	In Ontario, Barn Swallow breeds in areas that contain a suitable nesting structure, open areas for foraging, and a body of water. This species nests in human made structures including barns, buildings, sheds, bridges, and culverts. Preferred foraging habitat includes grassy fields, pastures, agricultural cropland, lake and river shorelines, cleared rights-of-way, and wetlands (COSEWIC 2011). Mud nests are fastened to vertical walls or built on a ledge underneath an overhang. Suitable nests from previous years are reused (Brown and Brown 2019).	Confirmed - This species was recorded with 'possible' breeding evidence within anthropogenic structures in Parcels 1 (Phase 1) and 17 (Phase 4). Also observed foraging over agricultural fields in other portions of the Subject Lands.	None - Appropriate SARA compliance measures will be undertaken at the time of construction to avoid impacting individuals (i.e., removal of habitat within appropriate timing windows). Abundant foraging and nesting habitat is present throughout the local landscape.
Birds	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	-	THR	SC	THR	In Ontario, Bobolink breeds in grasslands or graminoid dominated hayfields with tall vegetation (Gabhauer 2007). Bobolink prefers grassland habitat with a forb component and a moderate litter layer. They have low tolerance for presence of woody vegetation and are sensitive to frequent mowing within the breeding season. They are most abundant in established, but regularly maintained, hayfields, but also breed in lightly grazed pastures, old or fallow fields, cultural meadows and newly planted hayfields. Their nest is woven from grasses and forbs. It is built on the ground, in dense vegetation, usually under the cover of one or more forbs (Renfrew et al. 2015).	High - This species was recorded with 'probable' breeding evidence on adjacent lands, south of Parcel 17 (Phase 4). Suitable habitat for this species is present within the pasture on Parcel 17 (Phase 4), and more habitat may become suitable depending on future farm uses (e.g., use of agricultural fields as pasture or hayfields).	None - No confirmed habitat is present. If confirmed habitat is identified as part of future studies, appropriate SARA compliance measures will be undertaken.
Birds	Canada Warbler	<i>Cardellina canadensis</i>	S5B	-	THR	SC	SC	In Ontario, breeding habitat for Canada Warbler consists of moist mixed forests with a well-developed shrubby understory. This includes low-lying areas such as cedar and alder swamps, and riparian thickets (McLaren 2007). It is also found in densely vegetated regenerating forest openings. Suitable habitat often contains a developed moss layer and an uneven forest floor. Nests are well concealed on or near the ground in dense shrub or fern cover, often in stumps, fallen logs, overhanging stream banks or mossy hummocks (Reitsma et al. 2010).	Low - While forest habitat is present within the Subject Lands, these are relatively small, isolated features that are not the preferred community composition for this species (i.e., not low-lying swamps or riparian thickets).	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys. Potentially suitable habitats will be retained and protected (e.g., Veg Units 5, 9 and 11). No impacts are anticipated with the implementation of recommended mitigation / protection measures.
Birds	Chimney Swift	<i>Chaetura pelagica</i>	S3B	-	THR	THR	THR	In Ontario, Chimney Swift breeding habitat is varied and includes urban, suburban, rural and wooded sites. They are most commonly associated with towns and cities with large concentrations of chimneys. Preferred nesting sites are dark, sheltered spots with a vertical surface to which the bird can grip. Unused chimneys are the primary nesting and roosting structure, but other anthropogenic structures and large diameter cavity trees are also used (COSEWIC 2007).	Low - No preferred suitable nesting habitat was observed within the Subject Lands (anthropogenic chimneys). While suitable cavity trees may be present in the woodlands and hedgerows, this habitat is less commonly used by this species. May occur as a foraging visitant.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.



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Birds	Eastern Meadowlark	<i>Sturnella magna</i>	S4B,S3N	-	THR	THR	THR	In Ontario, Eastern Meadowlark breeds in pastures, hayfields, meadows and old fields. Eastern Meadowlark prefers moderately tall grasslands with abundant litter cover, high grass proportion, and a forb component (Hull 2019). They prefer well drained sites or slopes, and sites with different cover layers (Roseberry and Klimstra 1970).	Confirmed - This species was recorded with 'possible' breeding evidence on Parcel 17 (Phase 4) as well as on adjacent lands south of Parcel 17 (Phase 4). Suitable habitat for this species is present within the pasture on Parcel 17, and more habitat may become suitable depending on future farm uses (e.g., use of agricultural fields as pasture or hayfields).	None - Appropriate SARA compliance measures will be undertaken at the time of construction to avoid impacting individuals (i.e., removal of habitat within appropriate timing windows).
Birds	Eastern Wood-pewee	<i>Contopus virens</i>	S4B	-	SC	SC	SC	In Ontario, Eastern Wood-pewee inhabits a wide variety of wooded upland and lowland habitats, including deciduous, coniferous, or mixed forests. It occurs most frequently in forests with some degree of openness. Intermediate-aged forests with a relatively sparse midstory are preferred. In younger forests with a relatively dense midstory, it tends to inhabit the edges. Also occurs in anthropogenic habitats providing an open forested aspect such as parks and suburban neighborhoods. Nest is constructed atop a horizontal branch, 1-2 m above the ground, in a wide variety of deciduous and coniferous trees (COSEWIC 2012).	Confirmed - This species was recorded with 'possible' breeding evidence in Veg. Units 5 and 9.	None - Suitable habitat for this species is present within the woodlands that have been identified as part of the Natural Heritage System (Significant Woodland or Confirmed SWH). Suitable habitat will be retained and protected (e.g., Veg Units 5, 9 and 11). No impacts are anticipated with the implementation of recommended mitigation / protection measures.
Birds	Grasshopper Sparrow	<i>Ammodramus savannarum</i>	S4B	-	SC	SC	SC	In Ontario, Grasshopper Sparrow is found in medium to large grasslands with low herbaceous cover and few shrubs. It also uses a wide variety of agricultural fields, including cereal crops and pastures. Close-grazed pastures and limestone plains (e.g. Carden and Napanee Plains) support highest density of this bird in the province (COSEWIC 2013).	Moderate - While not recorded during targeted breeding bird surveys in 2024, suitable habitat for this species is present in Parcel 17 (Phase 4), and suitable habitat may develop in other portions of the Subject Lands depending on future uses (i.e., hayfields, pasture).	None - No confirmed habitat is present. If confirmed habitat is identified as part of future studies, appropriate SARA compliance measures will be undertaken.
Birds	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	S3	-	END	END	END	In Ontario, Red-headed Woodpecker breeds in open, deciduous woodlands or woodland edges and are often found in parks, cemeteries, golf courses, orchards and savannahs (Woodliffe 2007). They may also breed in forest clearings or open agricultural areas provided that large trees are available for nesting. They prefer forests with little or no understory vegetation. They are often associated with beech or oak forests, beaver ponds and swamp forests where snags are numerous. Nests are excavated in the trunks of large dead trees (Frei et al. 2017).	Low - Woodlands across the Subject Lands as well as isolated trees and hedgerows may provide suitable habitat for this species, however none was recorded during field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Birds	Wood Thrush	<i>Hylocichla mustelina</i>	S4B	-	THR	THR	SC	In Ontario, Wood Thrush breeds in moist, deciduous hardwood or mixed stands that are often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches. This species selects nesting sites with the following characteristics: lower elevations with trees less than 16 m in height, a closed canopy cover (>70 %), a high variety of deciduous tree species, moderate subcanopy and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter (COSEWIC 2012).	Confirmed - This species was recorded with 'possible' breeding evidence in Veg. Unit 5.	None - Suitable habitat for this species is present within the woodlands that have been identified as part of the Natural Heritage System (Significant Woodland or Confirmed SWH). Suitable habitat will be retained and protected (e.g., Veg Units 5, 9 and 11). No impacts are anticipated with the implementation of recommended mitigation / protection measures.
Fish	Redside Dace	<i>Clinostomus elongatus</i>	S1	-	END	END	END	In Ontario, Redside Dace, a small cool water species common in the USA but less so in Canada, is found in tributaries of western Lake Ontario, Lake Erie, Lake Huron and Lake Simcoe. They are found in pools and slow-moving areas of small headwater streams with clear to turbid water. Overhanging grasses, shrubs, and undercut banks, are an important part of their habitat, as are instream boulders and large woody debris. Preferred substrates are variable and include silt, sand, gravel and boulders. Spawning occurs in shallow riffle areas (Redside Dace Recovery Team 2010).	Low - Potentially suitable habitat for this species is present in Tributaries 1 and 2 of Sixteen Mile Creek, however, there are no records of this species within these watercourses, neither watercourse is considered habitat for this species based on DFO Aquatic SAR mapping and none were captured during fish community sampling.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.



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Fish	Silver Shiner	<i>Notropis photogenis</i>	S2S3	-	THR	THR		In Ontario, Silver Shiner is found in the Thames and Grand Rivers, and it has been recently reported in Bronte Creek and Sixteen Mile Creek which flow into Lake Ontario. They prefer moderately-flowing sections of larger streams with clear water and moderate currents. Usual substrates include gravel, rubble, boulder, and sand. Aquatic vegetation may be present or absent. Silver shiner most frequently occurs in deep, swift riffles and faster currents of pools below riffles. Spawning habitat is suggested to occur in relatively deep riffles (COSEWIC 2011).	None - No suitable habitat for this species is present within the Subject Lands and none were captured during fish community sampling.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Insects	Monarch	<i>Danaus plexippus</i>	S2N,S4B	-	END	END	SC	In Ontario, Monarch is found throughout the northern and southern regions of the province. This butterfly is found wherever there is milkweed (<i>Asclepias</i> spp.) plants for its caterpillars and wildflowers that supply a nectar source for adults. It is often found on abandoned farmland, meadows, open wetlands, prairies and roadsides, but also in city gardens and parks. Important staging areas during migration occur along the north shores of the Great Lakes (COSEWIC 2010).	Confirmed - This species was observed as a foraging visitant during field surveys, however, no substantive concentrations of milkweed or other pollinator species are present.	None - There are no substantive concentrations of milkweed or other pollinator species present, and the removal of a small amount of potential foraging / migration habitat is not expected to negatively impact this species as abundant, similar quality habitat is present throughout the local landscape.
Mammals	American Badger (Southwestern Ontario population)	<i>Taxidea taxus jacksoni</i>	S1	END	END	END	END	In Ontario, American Badger's preferred habitats include undisturbed grasslands, shrubby areas and open woodlands, but the species will also use old fields, pastures, edges of agricultural fields and roadsides. The key factor for habitat suitability for this species is presence of prey, comprised mainly of Woodchuck and Eastern Cottontail, and Franklin's Ground Squirrel in northwestern Ontario (Ontario American Badger Recovery Team 2010).	Low - Potentially suitable habitat (woodland edges, agricultural fields and pasture) is present within the Subject Lands, however, this species was not observed during field surveys and no potential burrows were observed.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Mammals	Eastern Red Bat	<i>Lasiurus borealis</i>	S2S3	END		END	END	Eastern Red Bats occupy a wide diversity of habitats across their geographic range. They use both deciduous and coniferous forests, of any age class. Trees used as maternity roosts tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. They typically roost among the foliage of trees and occasionally shrubs. Male Eastern Red Bats in particular have been observed to use saplings as roosts, which is rarely reported for reproductive females. They forage in both forested and non-forested habitats. Heavily disturbed habitats are generally avoided. Eastern Red Bats migrate to overwintering areas in the southern United States but their migration routes are not known.	Low - Suitable habitat for this species may be present in woodland communities (i.e., Veg. Units 5, 9, 11 and 13) and to a lesser extent in isolated trees and hedgerows across the Subject Lands. This species is less likely to be present within the Subject Lands as the land surrounding potentially suitable roosting habitat is heavily disturbed.	Low - Suitability of treed habitat that is proposed for removal as part of the proposed development will be assessed as part of future studies, with appropriate SCA compliance measures undertaken, as required.
Mammals	Eastern Small-footed Myotis	<i>Myotis leibii</i>	S2S3	END			END	In Ontario, Eastern Small-footed Myotis is not known to roost in trees, but there is very little known about its roosting habits. The species generally roosts on the ground under rocks, in rock crevices, talus slopes and rock piles, but it occasionally inhabits buildings. Entrances of caves or abandoned mines where humidity is low, and temperatures are cool and sometimes subfreezing may be used as hibernacula (Humphrey 2017).	Low - While there are some potential roosting opportunities in buildings that are present within the Subject Lands, this species preferred habitat (rock crevices, talus slopes or rock piles) is not present.	Low - Habitat suitability of buildings within the Subject Lands will be assessed as part of future studies, with appropriate SCA compliance measures undertaken, as required.
Mammals	Hoary Bat	<i>Lasiurus cinereus</i>	S2S3	END		END	END	Hoary Bats occupy a wide diversity of habitats across their geographic range. They use both deciduous and coniferous forests, of any age class. Trees used as maternity roosts tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. They typically roost among the foliage of trees and occasionally shrubs. They forage in the open, and suitable habitats may include wetlands, grasslands and open fields with patchily distributed trees. Heavily disturbed habitats are generally avoided. Hoary Bats migrate to overwintering areas in the southern United States but their migration routes are not known.	Low - Suitable habitat for this species may be present in woodland communities (i.e., Veg. Units 5, 9, 11 and 13) and to a lesser extent in isolated trees and hedgerows across the Subject Lands. This species is less likely to be present within the Subject Lands as the land surrounding potentially suitable roosting habitat is heavily disturbed.	Low - Suitability of treed habitat that is proposed for removal as part of the proposed development will be assessed as part of future studies, with appropriate SCA compliance measures undertaken, as required.



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Mammals	Little Brown Myotis	<i>Myotis lucifugus</i>	S3	END	END	END	END	In Ontario, this species' range is extensive and covers much of the province. It will roost in both natural and man-made structures. Roosting colonies require a number of large dead trees, in specific stages of decay and that project above the canopy in relatively open areas. May form nursery colonies in the attics of buildings within 1 km of water. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Moderate - Suitable habitat for this species is present in woodland communities (i.e., Veg. Units 5, 9, 11 and 13) and to a lesser extent in isolated trees and hedgerows across the Subject Lands.	Low - Suitability of treed habitat and buildings within the Subject Lands proposed for removal will be assessed as part of future studies, with appropriate SCA compliance measures undertaken, as required.
Mammals	Northern Myotis	<i>Myotis septentrionalis</i>	S3	END	END	END	END	In Ontario, this species' range is extensive and covers much of the province. It will usually roost in hollows, crevices, and under loose bark of mature trees. Roosts may be established in the main trunk or a large branch of either living or dead trees. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Moderate - Suitable habitat for this species is present in woodland communities (i.e., Veg. Units 5, 9, 11 and 13) and to a lesser extent in isolated trees and hedgerows across the Subject Lands.	Low - Suitability of treed habitat that is proposed for removal as part of the proposed development will be assessed as part of future studies, with appropriate SCA compliance measures undertaken, as required.
Mammals	Silver-haired Bat	<i>Lasionycteris noctivagans</i>	S2S3	END		END	END	Silver-haired Bats occupy a wide diversity of habitats across their geographic range. They roost in a variety of large diameter coniferous and deciduous trees. Roosting occurs primarily under bark and in the cavities of trees, and occasionally buildings. They forage in young and old forest, as well as forest openings (canopy gaps), but are concentrated along forest edges and intact forest. Silver-haired Bats overwinter in the United States, southeastern British Columbia and sometimes the Great Lakes region. In British Columbia, they have been documented hibernating in mines, rock crevices, trees, and snags. Little else is known about their winter ecology.	Moderate - Suitable habitat for this species is present in woodland communities (i.e., Veg. Units 5, 9, 11 and 13) and to a lesser extent in isolated trees and hedgerows across the Subject Lands. There are also buildings within the Subject Lands that may provide suitable roosting habitat for this species.	Low - Suitability of treed habitat and buildings within the Subject Lands proposed for removal will be assessed as part of future studies, with appropriate SCA compliance measures undertaken, as required.
Mammals	Tricolored Bat	<i>Perimyotis subflavus</i>	S3?	END	END	END	END	In Ontario, Tri-colored Bat may roost in foliage, in clumps of old leaves, hanging moss or squirrel nests. They are occasionally found in buildings although there are no records of this in Canada. They typically feed over aquatic areas with an affinity to large-bodied water and will likely roost in close proximity to these. Hibernation sites are found deep within caves or mines in areas of relatively warm temperatures. These bats have strong roost fidelity to their winter hibernation sites and may choose the exact same spot in a cave or mine from year to year (ECCC 2018).	Moderate - Suitable habitat for this species is present in woodland communities (i.e., Veg. Units 5, 9, 11 and 13) and to a lesser extent in isolated trees and hedgerows across the Subject Lands.	Low - Suitability of treed habitat that is proposed for removal as part of the proposed development will be assessed as part of future studies, with appropriate SCA compliance measures undertaken, as required.
Reptiles	Blanding's Turtle	<i>Emydoidea blandingii</i>	S3	THR	END	END	THR	In Ontario, Blanding's Turtle will use a range of aquatic habitats, but favor those with shallow, standing or slow-moving water, rich nutrient levels, organic substrates and abundant aquatic vegetation. They will use rivers but prefer slow-moving currents and are likely only transients in this type of habitat. This species is known to travel great distances over land in the spring in order to reach nesting sites, which can include dry conifer or mixed forests, partially vegetated fields, and roadsides. Suitable nesting substrates include organic soils, sands, gravel and cobble. They hibernate underwater and infrequently under debris close to water bodies (COSEWIC 2016).	Low - Potentially suitable habitat is present in wetlands and watercourses across the Subject Lands, though this species was not recorded during field surveys and there are no recent records on the Subject Lands.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Reptiles	Eastern Milksnake	<i>Lampropeltis triangulum</i>	S4		SC	SC		In Ontario, Eastern Milksnake uses a wide range of habitats including prairies, pastures, hayfields, wetlands and various forest types, and is well-known in rural areas where it frequents older buildings. Proximity to water and cover enhances habitat suitability. Hibernation takes place in mammal burrows, hollow logs, gravel or soil banks, and old foundations (COSEWIC 2014).	Low - As this species is a habitat generalist, there is potential that it could use habitat within the Subject Lands, however, none was recorded during field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Reptiles	Snapping Turtle	<i>Chelydra serpentina</i>	S4	-	SC	SC		In Ontario, Snapping Turtle uses a wide range of waterbodies, but shows preference for areas with shallow, slow-moving water, soft substrates and dense aquatic vegetation. Hibernation takes place in soft substrates under water. Nesting sites consist of sand or gravel banks along waterways or roadways (COSEWIC 2008).	Low - Potentially suitable habitat is present in wetlands and watercourses across the Subject Lands, though this species was not recorded during field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.



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Vascular Plants	American Columbo	<i>Frasera caroliniensis</i>	S2	END	END	END	END	In Ontario, American Columbo is most commonly associated with open deciduous forested slopes, but it can also be found in thickets, swamps and clearings. It is often associated with oak, hickory and sassafras trees. American Columbo grows on a wide variety of soils, particularly dry mesic to mesic clay and clay loam soils (Environment Canada 2019).	None - While woodland and thicket communities are present within the Subject Lands, they were found to have dense canopies with minimal openings and are not considered ideal habitat for this species. Additionally, the Subject Lands are located outside of the current known range for the species which is limited to the southern tip of Halton Region according to MNR mapping. This species was not recorded during in-season botanical field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	American Ginseng	<i>Panax quinquefolius</i>	S2	THR	END	END	THR	In Ontario, American Ginseng is found in moist, undisturbed and relatively mature deciduous woods often dominated by Sugar Maple. It is commonly found on well-drained, south-facing slopes. American Ginseng grows under closed canopies in well-drained soils of glacier origin that have a neutral pH (ECCC 2018).	None - Sugar Maple communities which may provide suitable habitat are present within the Subject Lands (FOD5-1 and FOD6-5); however, this species was not recorded during in-season botanical field surveys. While surveys were completed by roadside at the FOD5-1 community, this community is considered highly disturbed by the surrounding anthropogenic influences (road, agricultural fields, and residential properties).	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	American Hart's-tongue Fern	<i>Asplenium scolopendrium</i> var. <i>americanum</i>	S3	-	SC	SC	SC	In Ontario, American Hart's-tongue Fern grows on thin calcareous soils on or near dolomitic limestone of the Niagara Escarpment, and occasionally on open talus/scree slopes. Most populations are found on steep, moderately moist slopes that face north to northeast and are under a hardwood canopy cover (Environment Canada 2013).	None - Dolomitic limestone habitats are not present within or adjacent to the Subject Lands. Not recorded during in-season botanical field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	Black Ash	<i>Fraxinus nigra</i>	S4	END		THR	END	Found throughout Ontario in moist ecosystems; commonly found in northern swampy woodlands (MNR 2018). This species typically grows on mucky or peaty soils and is considered a facultative wetland species (Reznicek et al. 2011).	Low - There are no swamp communities present within the Subject Lands. While lowland communities may provide limited habitat for this species it was not recorded during in-season botanical field surveys.	None - This species has not been recorded on the Subject Lands. Targeted surveys for SAR tree and shrub species are recommended to be completed in locations that removal of woody vegetation is proposed, including hedgerows, as part of future studies. If present, appropriate SCA compliance measures will be undertaken, as required.
Vascular Plants	Broad Beech Fern	<i>Phegopteris hexagonoptera</i>	S3	-		SC	SC	In Ontario, Broad Beech Fern inhabits rich, undisturbed mature deciduous forest dominated by beech and maple. It typically grows in moist to wet, sandy soils of lower valley slopes and occasionally swamps (van Overbeeke et al. 2013).	None - Dry, open woodland habitats were not observed within the Subject Lands. This species was not recorded during in-season botanical field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	Butternut	<i>Juglans cinerea</i>	S2?	END	END	END	END	In Ontario, Butternut is found along stream banks, on wooded valley slopes, and in deciduous and mixed forests. It is commonly associated with Beech, Maple, Oak and Hickory (Voss and Reznicek 2012). Butternut prefers moist, fertile, well-drained soils, but can also be found in rocky limestone soils. This species is shade intolerant (Farrar 1995).	Moderate - This species was not recorded during in-season botanical field surveys in the woodland habitat observed within the Subject Lands. However, scattered individuals could occur within the hedgerows that intersect the various agricultural properties within the Subject Lands.	None - This species has not been recorded on the Subject Lands. Targeted surveys for SAR tree and shrub species are recommended to be completed in locations that removal of woody vegetation is proposed, including hedgerows, as part of future studies. If present, appropriate SCA compliance measures will be undertaken, as required.

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Vascular Plants	Dense Blazing-star	<i>Liatris spicata</i>	S2	THR	THR	THR	THR	In Ontario, Dense Blazing-star is found mainly in moist tall-grass prairies, oak savannas, wet meadows and along roadsides in full sun in open areas (COSEWIC 2010). It grows in moist to wet, sandy calcareous soils (WDNR 2019). It is primarily restricted to southwestern Ontario.	None - While wet meadow communities are present within the Subject Lands, this species was not recorded during in-season botanical field surveys. Additionally, the Subject Lands are located outside of the current known range for the species which is southeast of the Subject Lands according to MNR mapping.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	Downy Yellow False Foxglove	<i>Aureolaria virginica</i>	S1	END	END	END	END	In Ontario, Downy Yellow False Foxglove grows in dry open woods and savannas (Oldham and Brinker 2009).	None - Dry, open savannas and woodlands were not observed within the Subject Lands. This species was not recorded during in-season botanical field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	Eastern Flowering Dogwood	<i>Cornus florida</i>	S2?	END	END	END	END	In Ontario, Eastern Flowering Dogwood grows in the understory of dry to rich deciduous forests, especially on hillsides and riverbanks. It prefers sandy acidic soils but occasionally is found in loams, clays and organic soils (Waldron 2003). This species is restricted to the Carolinian Zone of Southern Ontario.	Moderate - This species was not recorded during in-season botanical field surveys. However, scattered individuals could occur within the hedgerows that intersect the various agricultural properties across the Subject Lands.	None - This species has not been recorded on the Subject Lands. Targeted surveys for SAR tree and shrub species are recommended to be completed in locations that removal of woody vegetation is proposed, including hedgerows, as part of future studies. If present, appropriate SCA compliance measures will be undertaken, as required.
Vascular Plants	Fern-leaved Yellow False Foxglove	<i>Aureolaria pedicularia</i>	S2?	THR	THR	THR	THR	In Ontario, Fern-leaved Yellow False Foxglove grows in dry open woods and thickets, often on sand, as well as in savannas (Oldham and Brinker 2009).	None - Dry, open savannas, thickets, and woodlands were not observed within the Subject Lands. This species was not recorded during in-season botanical field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	Hoary Mountain-mint	<i>Pycnanthemum incanum</i>	S1	END	END	END	END	In Ontario, Hoary Mountain-mint is found in open, dry, sandy-clay habitats in open-canopied deciduous woods of dry Black Oak and White Oak, on relatively warm slopes (Hoary Mountain-mint Recovery Team 2011).	None - Dry, open woodland habitats were not observed within the Subject Lands. This species was not recorded during in-season botanical field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	Red Mulberry	<i>Morus rubra</i>	S2	END	END	END	END	In Ontario, Red Mulberry occurs in moist forested habitats including floodplains, bottomlands, the slopes and ravines along the southern portion of the Niagara Escarpment and in swales on some western Lake Erie sand spits. This species is moderately shade tolerant but grows best in forest openings (Parks Canada Agency 2011). This species is restricted to the Carolinian Zone of Southwestern Ontario.	None - While wooded communities were present within the Subject Lands, this species was not recorded during in-season botanical field surveys. Additionally, the Subject Lands are located outside of the current known range for the species which is limited in the region to areas in and around the City of Burlington and the City of Hamilton according to MNR mapping.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.
Vascular Plants	Smooth Yellow False Foxglove	<i>Aureolaria flava</i>	S2?	THR	THR	THR	THR	Smooth Yellow False Foxglove is generally found in dry, open upland oak savannas and woodlands (Arkansas Native Plant Society 2019; Canada 2019).	None - Dry, open savannas and woodlands were not observed within the Subject Lands. This species was not recorded during in-season botanical field surveys.	None - There is no confirmed habitat for this species within the Subject Lands and this species was not recorded during field surveys.

