DILLON CONSULTING

MGV DEVELOPMENTS (MCGREGOR) INC.

Environmental Impact Assessment

9538 County Road 11, Town of Amherstburg, Ontario

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1.0 Introduction

Dillon Consulting Limited (Dillon) was retained by 2439478 Ontario Inc. ("the client") to conduct natural environment studies and prepare an Environmental Impact Assessment (EIA) for the proposed residential subdivision development located northwest of the intersection of Middle Side Road and County Road 11 (the "Project Location") within the Town of Amherstburg, County of Essex (**Figure 1**). For the purposes of the background review, an area extending 120 m beyond the Project Location was used (the "Study Area"). The EIA will form part of an application package for submission to the Town of Amherstburg.

The Project Location is 26.02 ha in size and consists predominately of agriculture, with areas of deciduous forest, deciduous thicket, and fencerow. The purpose of the EIA is to document existing conditions of the natural environment; determine the potential limits of development; evaluate the potential for environmental impacts associated with the proposed development activities; and recommend mitigation, restoration, enhancement measures, and/or compensation measures, where necessary, to avoid impacts to the natural environment as a result of the proposed development.

The Terms of Reference (**Appendix A**) for this EIA was sent to the Town of Amherstburg on October 16, 2020, and is in keeping with the general policies of the Town of Amherstburg Official Plan (2009), the County of Essex Official Plan (2014), and the Essex Region Conservation Authority Environmental Impact Assessment Guidelines (2019).

2.0 Background and Policy Context

The following section has been prepared to identify the applicable land use planning policies related to the natural environment. Various regulatory agencies and legislative authorities have established policies with the purpose of protecting the ecological features and functions within the province of Ontario and within the County of Essex specifically. This section is not intended to constitute a complete land use planning assessment as it focuses on the relevant environmental policies and regulations. The documents referenced below can be read in their entirety for a more detailed understanding of the land use policy framework applicable to the Study Area (**Figure 1**).

2.1 Information Sources

Secondary source information was used to identify known environmental constraint areas and to map the significant natural heritage features such as watercourses, woodlands, and potential wildlife occurrences. **Table 1** lists the relevant policies and legislation applicable to the protection of natural heritage features within the Town of Amherstburg, and more specifically, the Study Area; as well as supporting guidance documents and resources consulted respective to each policy. This table also includes additional background information sources used to help identify and define natural heritage features within the province of Ontario, and Eco-region 7E specifically. Prior to formal surveys, Goodban Ecological Consulting Inc. (GEC) visited the Project Location on March 12, 2019 to document existing conditions. Information was also obtained through GEC correspondence with the Ministry of Natural Resources and Forestry (MNRF) and the Ministry of Environment, Conservation and Parks (MECP).

Table 1: Policies, Legislation, and Background Resources Searched

Source	Record Reviewed/Requested
Government of Canada	
Environment Canada	• Species at Risk Registry: Accessed to determine the at-risk status of wildlife species under Schedule 1 of the Species at Risk Act (SARA; 2002)
Fisheries and Oceans Canada	• Aquatic Species at Risk Map: Accessed to determine aquatic at-risk occurrences
Government of Ontario	
Provincial Policy Statement (2020)	• Policies within Section 2.1 related to natural heritage features • Policies within Section 2.2 related to water
Ministry of Environment, Conservation and Parks (MECP)	• Endangered Species Act (ESA; 2007) • Species at Risk in Ontario (SARO) List (O. Reg. 230/08) • Client's Guide to Preliminary Screening for Species at Risk (2019)
Ministry of Natural Resources and Forestry (MNRF)	• Natural Heritage Information Centre (NHIC) database (Squares: 17LG3667 and 17LG3767; MNRF, 2020) • MNRF Make a Map: Natural Heritage Areas (MNRF, 2020)

Source	Record Reviewed/Requested
	• Natural Heritage Reference Manual, Second Edition (NHRM; MNRF, 2010) • MNRF Significant Wildlife Habitat Technical Guide (MNRF, 2000) • Significant Wildlife Habitat Eco-region 7E Criterion Schedules (MNRF, 2015) • Technical Memo: Aylmer District MNRF Guidance on Identifying Activities/Areas not Likely to Contravene the Endangered Species Act, 2007 in the County of Essex & City of Windsor (2016)
Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)	• Agricultural Information Atlas (OMAFRA, 2020); reviewed area drains
Municipal Government(s)	
County of Essex	• Official Plan (2014)
Town of Amherstburg	• Official Plan (2009)
Wildlife Atlases & Distribution Data	
Ontario Breeding Bird Atlas (OBBA; Cadman *et al.,* 2008)	• Second Atlas (2001-2005) – data for square 17LG36 – grid based on 10 km^2 system
Christmas Bird Count (CBC; Birds Canada)	• Count circle Holiday Beach (ONHB) – Historical Records from 2005 – 2018
Rare Vascular Plants of Ontario (Fourth Edition; Oldham and Brinker, 2009)	• Distribution data for rare vascular plants
Ontario Reptile and Amphibian Atlas (Ontario Nature)	• List of reptile and amphibian species occurrences for square 17LG36
Ontario Butterfly Atlas (Toronto Entomologists Association)	• List of butterfly species occurrences for square 17LG36
Atlas of the Mammals of Ontario (Dobbyn, 1994)	• Distribution data for mammals
Bumble Bees of North America (Williams *et al.,* 2014)	• Distribution data for bumble bees
Additional Sources	
Essex Region Conservation Authority	• Environmentally Significant Areas of the Essex Region (Oldham, 1983) • Essex Region Natural Heritage System Strategy (2013) • Environmental Impact Assessment Guidelines (2019)
Bedrock Geology of Ontario, Southern Sheet	• Reviewed bedrock geology of Ontario (Ontario Geological Survey, 1991)
Physiography of Southern Ontario	• Reviewed the physiography of Ontario (Chapman and Putnam, 1984)
Soil Survey of Essex County	• Reviewed the soil classification of Essex County (Richards *et al*., 1949)
Goodban Ecological Consulting Inc.	• Email correspondence (2019)

2.1.1 Provincial Policy Statement

The Provincial Policy Statement (PPS; 2020), provides overall policy direction on matters of provincial interest related to land use planning and development in Ontario. The PPS sets forth a vision for Ontario's

land use planning system by managing and directing land use to achieve efficient development and land use patterns, wise use and management of resources, and protecting public health and safety. This report deals specifically with Policy 2.1, Natural Heritage, and Policy 2.2, Water, which provides for the protection and management of natural heritage and water resources, which include the following:

- significant wetlands;
- significant coastal wetlands;
- significant woodlands;
- significant valleylands;
- significant wildlife habitat;
- significant areas of natural and scientific interest (ANSIs);
- coastal wetlands;
- fish habitat;
- habitat of endangered species and threatened species;
- sensitive surface water features; and
- sensitive ground water features.

The PPS defines "significant" to mean:

- in regard to wetlands, coastal wetlands, and areas of natural and scientific interest, an area identified as provincially significant by the MNRF using evaluation procedures established by the province, as amended from time to time;
- in regard to woodlands, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. These are to be identified using criteria established by the Ontario Ministry of Natural Resources and Forestry; and
- in regard to other features and areas in policy in 2.1, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system.

In regard to surface and ground water features, the PPS defines "sensitive" to mean:

- areas that are particularly susceptible to impacts from activities or events, including, but not limited to, water withdrawals and additions of pollutants.

2.1.2 Endangered Species Act

In June 2008, the Endangered Species Act (ESA; 2007) came into effect in Ontario. The purpose of the ESA is to identify SAR based on the best available scientific information; to protect SAR and their habitats, to promote the recovery of SAR; and to promote stewardship activities to assist in the protection and recovery of SAR in Ontario. There are several applicable regulations under the ESA. These regulations serve to identify which species and habitat receive protection and provide direction on the current implementation of the ESA by the MECP.

In addition, preliminary screening for SAR was carried out using select sources from **Table 1**. After considering suitable habitat preferences and species ranges, our preliminary screening results show the potential for several SAR in the general area. For more information about the preliminary screening results for SAR, refer to **Section 3.2.6**.

2.1.3 County of Essex Official Plan

The purpose of the Essex County Official Plan (OP) is to establish a policy framework for managing growth, protecting resources, and providing direction on land use decisions during the planning period to 2031. This is the second generation of the OP, the first being adopted in 2002 and approved on July 19, 2005. The new OP has been developed to implement the PPS at the County level, provide a policy framework that will provide guidance and direction to local municipalities, establish a policy framework for coordination and cooperation between municipalities, both internal and external to the County, on planning, development, resources, and inter-municipal servicing issues that cross municipal boundaries (County of Essex, 2014).

The County's OP designates the Project Location as Settlement Areas (Schedule A1; **Appendix B**). Within the Project Location, Natural Environment Overlay designation exists (Schedule B2; **Appendix B**).

2.1.4 Town of Amherstburg Official Plan

The Town's OP provides guidance for the physical development of the municipality over a 20-year period while taking into consideration important social, economic, and environmental matters and goals. As such, the Town's OP provides the policy framework that will guide where new development can be located; how existing and future neighbourhoods will be strengthened; how the environment will be enhanced; what municipal services, such as roads, water mains, sewer and parks, will be provided; and how the Town will grow (Town of Amherstburg, 2009).

The Town's OP designates the Project Location as Low Density Residential, Woodlots, and General Commercial (Schedule B-5; **Appendix B**). Woodlots exist within the Project Location (Schedule C; **Appendix B**).

2.1.5 Essex Region Conservation Authority (Ontario Regulation 158/06)

In accordance with Section 28 of the *Conservation Authorities Act* (1990), ERCA is authorized to implement and enforce the Regulation of Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses (*O. Reg. 158/06*). Section 2(1) of this Regulation lists areas within ERCA's jurisdiction where development is prohibited without proper permissions from ERCA. Such areas include, but are not limited to, those adjacent or close to the shoreline of inland lakes, river or stream valleys, hazardous lands, and wetlands.

Narrow, linear portions of the Project Location, associated with area drains are within ERCA's Regulated Area (**Figure 2**).

3.0 Results of Background Review

The Project Location is located northwest of the intersection of Middle Side Road and County Road 11. The Project Location consists predominately of agriculture with areas of deciduous forest, deciduous thicket, and fencerow; with Major Knapp Drain (eastward flow) located along the northern boundary of the Project Location, John Knapp D&W Drain (southward flow) located in the western portion of the Project Location, and finally, Dufour Drain (southwestward flow) located along the southwestern boundary of the Project Location. The surrounding land uses are varied and are described as follows:

- North: agriculture;
- East: residential;
- South: residential; and
- West: agriculture.

The following sections provide a brief summary of the existing environmental conditions within the Study Area as identified through the background review. This information provides the basis upon which the biophysical inventory and overall EIA is based.

3.1 Aquatic Environment

The Study Area lies within the Detroit River watershed and the Canard River sub-watershed (Hayman *et al.,* 2005) and currently drains via overland flow pathways to Major Knapp Drain, John Knapp D&W Drain, and Dufour Drain. Large variations in annual flow within the streams and drains of this area have been recorded, dependent on rainfall, resulting in intermittent flows and dry periods during the summer months. Storm pulses in the area, have destructive powers following rain events and cause significant erosion which negatively impact fish habitat (Hayman *et al*., 2005). According to Hayman *et al*. (2005) the water quality within the sub-watershed is generally poor.

The potential for aquatic environments to be present within the Study Area is discussed further in **Section 5.1**.

3.2 Terrestrial Environment

3.2.1 Landforms, Soils, and Geology

The Study Area lies over Middle Devonian, consisting of limestone, dolostone, and shale (Ontario Geological Survey, 1991). The physiography of the area is described as Bevelled Till Plain (Chapman and Putnam, 1984). A review of the Soil Survey of Essex County (Richards *et al*., 1949) indicates that the topography in the Study Area is almost level with poor natural drainage. The Project Location itself has an even topography, with no distinguishable features.

The soils within the Study Area have been described as Brookston Clay which is poorly drained (Richards *et al*., 1949). Agricultural tile drainage is located within the western portion of the Project Location (OMAFRA, 2020).

3.2.2 Woodlands

A review of background mapping and resources did identify treed areas designated as Natural Environment Overlay and Woodlots within the Project Location, as well as larger woodland areas to the south and southwest of the Project Location.

The potential for woodlands to be present within the Study Area is discussed further in **Section 5.2.4**.

3.2.3 Wetlands

A review of background mapping and resources did not identify wetlands within the Study Area, however, there are mapped Provincially Significant Wetlands (PSW) over 300 m away to the south of the Project Location, associated with the Kentucky Coffee Tree Woods Wetland Complex (ER 35).

The potential for wetlands to be present within the Study Area is discussed further in **Section 5.2.5**.

3.2.4 Valleylands

A review of background mapping and resources did not identify valleylands within the Study Area, however, there are mapped valleylands over 300 m away to the north and south of the Project Location.

3.2.5 Areas of Natural and Scientific Interests (ANSI)

A review of background mapping and resources did not identify ANSI's within the Study Area.

3.2.6 Significant Wildlife Habitat (SWH)

Wildlife habitat is defined as an area where plants, animals and other organisms live, including areas where species concentrate at a vulnerable point in their life cycle, and areas that are important to migratory and non-migratory species (OMNR, 2000). To assist planning authorities, the MNRF developed the Significant Wildlife Habitat (SWH) Technical Guide (OMNR, 2000) that provides information on the identification, description, and prioritization of SWH in Ontario. To account for the ecological diversity across the province, MNRF developed the SWH Ecoregional Criteria Schedules to support the SWH Technical Guide. These schedules are specific to each geographic area of each eco-region. The Study Area is located in Ecoregion 7E (Lake Erie-Lake Ontario); under the Criteria Schedule for Ecoregion 7E (OMNRF, 2015), SWH has been divided into four broad categories consisting of:

Seasonal Concentration Areas of Animals

This category identifies habitat where wildlife species gather annually, at certain times of the year. This SWH category requires the presence of a given species, or several species, in specific densities based on approved survey protocol in order to meet the criteria for significance.

Rare Vegetation Communities or Specialized Habitat for Wildlife

The criterion for rare vegetation communities considers the provincial Sub-national rank (SRank) of a species or community type, and includes SRanks of S1 (extremely rare), S2 (very rare), and S3 (rare to uncommon). The criteria for specialized habitat for wildlife captures sizeable habitat requirements for listed species to carry out key life processes.

Habitat for Species of Conservation Concern

The Significant Wildlife Habitat Technical Guide (OMNR, 2000) defines Species of Conservation Concern (SCC) as species that are globally, nationally, provincially, regionally, or locally rare (SRank of S1 to S3), species that are listed as SC under the ESA, and species listed as Endangered or Threatened federally, but do not include SAR listed as Endangered or Threatened under the ESA. This category identifies habitat for wildlife species that are listed as SC, rare (SRank of S1-S3), and/or declining.

Animal Movement Corridors

Animal movement corridors identify areas that wildlife move between habitats in order to carry out their life processes. Confirmed or candidate SWH are identified by the MNRF or the planning authority.

Through background review, several SCC listed in **Table 2** have been identified with the potential to occur within the vicinity of the Study Area, and will help to determine the potential for SWH.

Table 2: Species of Conservation Concern with the potential to occur within the vicinity of the Study Area

Scientific Name	Common Name	SARA[1]	ESA[2]	SRank[3]	Info Source[4]
Birds					
Haliaeetus leucocephalus	Bald Eagle	---	SC	S2N,S4B	CBC
Hylocichla mustelina	Wood Thrush	END	SC	S4B	OBBA
Contopus virens	Eastern Wood-pewee	SC	SC	S4B	OBBA
Lepidoptera					
Danaus plexippus	Monarch	SC	SC	S2N,S4B	OBA
Reptiles					
Chelydra serpentina	Snapping Turtle	SC	SC	S3	ORAA
Plants					
Erigenia bulbosa	Harbinger-of-spring	---	---	S3?	NHIC
Arisaema dracontium	Green Dragon	---	SC	S3	NHIC
Vernonia gigantea	Giant Ironweed	---	---	S1?	NHIC

Scientific Name	Common Name	SARA[1]	ESA[2]	SRank[3]	Info Source[4]
Campsis radicans	Trumpet Creeper	---	---	S2?	NHIC
Euonymus atropurpureus	Eastern Burning Bush	---	---	S3	NHIC
Carex annectens	Yellow-fruited Sedge	---	---	S2	NHIC
Carex davisii	Davis' Sedge	---	---	S2	NHIC
Carex glaucodea	Blue Sedge	---	---	S1	NHIC
Carex hirsutella	Hairy Green Sedge	---	---	S3	NHIC
Carex muskingumensis	Muskingum Sedge	---	---	S3	NHIC
Carex squarrosa	Squarrose Sedge	---	---	S2	NHIC
Carya laciniosa	Shellbark Hickory	---	---	S3	NHIC
Scutellaria nervosa	Veined Skullcap	---	---	S1	NHIC
Fraxinus profunda	Pumpkin Ash	---	---	S2?	NHIC
Ludwigia polycarpa	Many-fruit Seedbox	---	---	S2S3	NHIC
Rosa setigera	Climbing Prairie Rose	SC	SC	S3	NHIC
Smilax ecirrata	Upright Carrionflower	---	---	S3?	NHIC
Viola striata	Striped Cream Violet	---	---	S3	NHIC

[1]Federal Species at Risk Act (END = Endangered, SC = Special Concern); [2]Ontario Endangered Species Act (SC = Special Concern); [3]SRank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5: S4 = common and apparently secure; S3 = rare to uncommon and vulnerable; S2 = very rare and imperiled; S1 = extremely rare and critically imperiled; SU or ? = uncertain due to insufficient information; B = breeding; N = non-breeding; [4]Information sources include: NHIC = MNRF Natural Heritage Information Centre, OBBA = Ontario Breeding Bird Atlas, ORAA = Ontario Reptile and Amphibian Atlas, OBA = Ontario Butterfly Atlas; CBC = Christmas Bird Count; --- denotes no information or not applicable.

A review of background data suggests that several SWH types, as described in the Eco-Region 7E Criterion Schedules (MNRF, 2015) may occur in association with the treed communities within the Study Area, including, but not limited to, the following:

- Bat Maternity Colonies;
- Reptile Hibernaculum;
- Amphibian Breeding Habitat (Woodland);
- Terrestrial Crayfish; and
- Special Concern and Rare Wildlife Species.

The potential for SWH to be present within the Study Area is discussed further in **Section 5.2.6**.

3.2.7 Species at Risk

A number of SAR listed as Endangered and Threatened under the ESA have been identified with potential to occur within the vicinity of the Study Area (**Table 3**).

Table 3: Species at Risk with the potential to occur within the vicinity of the Study Area

Scientific Name	Common Name	SARA[1]	ESA[2]	SRank[3]	Info Source[4]
Birds					
Melanerpes erythrocephalus	Red-headed Woodpecker	END	END	S4B	CBC, OBBA
Reptiles					
Pantherophis gloydi pop. 2	Eastern Foxsnake (Carolinian population)	END	END	S2	ORAA, MECP Reg. Habitat
Mammals					
Myotis leibii	Eastern Small-footed Myotis	---	END	S2S3	MWH
Myotis lucifugus	Little Brown Myotis	END	END	S4	MWH
Myotis septentrionalis	Northern Myotis	END	END	S3	MWH
Pipistrellus subflavus	Tri-colored Bat	END	END	S3?	MWH
Plants					
Juglans cinerea	Butternut	END	END	S3?	NHIC
Cornus florida	Eastern Flowering Dogwood	END	END	S2?	MECP Reg. Habitat, NHIC
Gymnocladus dioicus	Kentucky Coffee-tree	THR	THR	S2	NHIC
Platanthera leucophaea	Eastern Prairie Fringed-orchid	END	END	S2	MECP Reg. Habitat
Plantago cordata	Heart-leaved Plantain	END	END	S1	NHIC

[1]Federal Species at Risk Act (END = Endangered, THR = Threatened); [2]Ontario Endangered Species Act (END = Endangered, THR = Threatened); [3]SRank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5: S4 = common and apparently secure; S3 = rare to uncommon and vulnerable; S2 = very rare and imperiled; S1 = extremely rare and critically imperiled; SU or ? = uncertain due to insufficient information; B = breeding; N = non-breeding; [4]Information sources include: NHIC = MNRF Natural Heritage Information Centre, MECP Reg. Habitat = MECP Regulated Habitat (O. Reg. 242/08), OBBA = Ontario Breeding Bird Atlas, MWH = Digital Distribution Maps of the Mammals of the Western Hemisphere, version 3.0, ORAA = Ontario Reptile and Amphibian Atlas, CBC = Christmas Bird Count; --- denotes no information or not applicable.

The potential for SAR to be present within the Study Area is discussed further in **Section 5.2.7**.

4.0 Methodology of Biophysical Inventory

Prior to Dillon's involvement with the project, GEC visited the Project Location on March 12, 2019 to document existing conditions. Field work conducted by Dillon for the EIA occurred in 2020, when weather conditions and timing were deemed suitable based on the survey protocols being implemented (**Table 4**). Fieldwork consisted of breeding bird surveys, vegetation surveys, Ecological Land Classification (ELC), and aquatic assessment. Incidental wildlife observations made during the surveys were also documented. The following sub-sections outline the survey methodologies used in the field.

Table 4: 2020 Survey Dates and Weather Conditions

Survey Date	Weather Conditions
Breeding Bird Surveys	
June 4, 2020	20°C, no precipitation, 50% cloud cover
July 3, 2020	20°C, no precipitation, 10% cloud cover
Vegetation Surveys	
June 4, 2020	18°C, no precipitation, 0% cloud cover
October 9, 2020	20°C, no precipitation, 0% cloud cover
Ecological Land Classification	
June 4, 2020	20°C, no precipitation, 50% cloud cover
Aquatic Assessment	
June 18, 2020	27°C, no precipitation, 40% cloud cover
October 9, 2020	20°C, no precipitation, 0% cloud cover

4.1 Aquatic Environment

An aquatic assessment was conducted at three locations; one along Major Knapp Drain, one along John Knapp D&W Drain, and one along Dufour Drain.

Information collected during the assessment included (where applicable): channel form, presence/absence of flow, substrate type, channel dimensions (e.g. width and depth), and riparian vegetation. This data was use, in part, to determine the overall health and sensitivity of the river. The location of the aquatic assessments are shown on **Figure 3**.

Results of the aquatic assessment is discussed in **Section 5.1**.

4.2 Terrestrial Environment

4.2.1 Breeding Bird Surveys

Diurnal breeding bird surveys conducted within the Project Location followed the methods outlined in the Ontario Breeding Bird Atlas Guide for Participants (Ontario Breeding Bird Atlas, 2001), and were completed in June and July 2020 (two surveys). Specifically, surveys consisted of point counts generally conducted between dawn and five hours after sunrise, that were used to establish quantitative estimates of bird abundance in suitable habitat types within the Project Location. During the surveys, evidence of breeding behaviour was recorded, which generally includes, but is not limited to, singing males, nest building, egg incubation, territorial defence, carrying food/fecal sacs, and feeding young. Breeding evidence for each bird species was documented using Breeding Bird Atlas Evidence Codes.

To supplement the surveys, area searches of the habitats were completed using binoculars to observe species presence and breeding activity. Area searches involved noting all individual bird species and their corresponding breeding evidence while traversing the habitat on foot. Point count locations are displayed on **Figure 3**.

Results of the breeding bird surveys are discussed in **Section 5.2.1**.

4.2.2 Vegetation Surveys

A two-season vegetation assessment was conducted; one during the spring and one during the fall. Vegetation surveys were conducted using wandering transects to determine species presence, richness, and abundance of floral species within the Project Location. Search effort was concentrated throughout the entirety of the Project Location, but due to current land uses, effort was mostly concentrated away from agriculture. Species nomenclature is based on the species lists for Ontario maintained by the NHIC which uses international standards for taxonomy and nomenclature.

Results of the vegetation surveys are discussed in **Section 5.2.2**.

4.2.3 Ecological Land Classification

During the spring vegetation survey, vegetation was characterized using the ELC System for Southern Ontario protocol (Lee *et al*., 1998) with 2008 updates (Lee, 2008) in order to classify and map ecological communities to the vegetation type level, where appropriate. The ecological community boundaries were determined through the review of aerial photography and then further refined through on-site vegetation surveys. Vegetation studies involved identifying the dominant species in each vegetation community type, based on visual estimates of species abundance and biomass. Species nomenclature is based on the species lists for Ontario maintained by the NHIC which uses international standards for taxonomy and nomenclature.

The ELC protocol recommends that a vegetation community be a minimum of 0.5 ha in size before it is defined. Based on the composition of vegetation communities within the Study Area, patches of vegetation less than 0.5 ha or disturbed/planted vegetation were described, provided they clearly fit within an ELC vegetation type.

Results of the ELC survey is discussed in **Section 5.2.3**.

5.0 Results of Biophysical Inventory

A biophysical inventory of natural features within the Study Area was completed in accordance with the methods detailed in **Section 4.0**. The analysis of data collected from secondary source information and during the field studies was used to evaluate the significance of natural heritage features within the Study Area.

5.1 Aquatic Environment

Major Knapp Drain is located along the northern boundary of the Project Location, John Knapp D&W Drain is located in the western portion of the Project Location, and finally, Dufour Drain is located along the southwestern boundary of the Project Location (**Figure 1**). Fisheries and Oceans Canada (DFO) classified Major Knapp and John Knapp D&W Drain as Class F drains (OMAFRA, 2020) indicating that the drains have intermittent or ephemeral flow, while Dufour Drain has not been rated.

At the aquatic assessment locations (**Figure 3**), field observations confirmed that the drains have intermittent/ephemeral flow (**Table 5**). The drains are predominately surrounded by agriculture.

Table 5: Drain Measurements

Date	Mean Width Wetted (m)	Mean Depth Wetted (m)	Mean Bankfull Width (m)	Mean Bankfull Depth (m)
Major Knapp Drain				
July 18, 2020	N/A	N/A	3	0.5
John Knapp D&W Drain				
October 9, 2020	N/A	N/A	0.75	0.3
Dufour Drain				
July 18, 2020	N/A	N/A	~8	~2.5

5.2 Terrestrial Environment

5.2.1 Breeding Bird Surveys

A total of 24 bird species were observed during the breeding bird surveys in 2020 (**Table 6**). Each of the observed birds is considered common and apparently secure (S4) or widespread and secure (S5) in the province of Ontario based on the provincial conservation rankings assigned by the NHIC.

Of the 24 species observed, none are listed as Endangered or Threatened under the ESA.

Table 6: Breeding Bird Survey Results

Scientific Name	Common Name	SARA[1]	ESA[2]	SRank[3]	Breeding Evidence[4]
Charadrius vociferus	Killdeer	---	---	S5B,S5N	X
Larus delawarensis	Ring-billed Gull	---	---	S5B,S4N	flyover
Zenaida macroura	Mourning Dove	---	---	S5	S
Coccyzus americanus	Yellow-billed Cuckoo	---	---	S4B	S
Colaptes auratus	Northern Flicker	---	---	S4B	S
Picoides pubescens	Downy Woodpecker	---	---	S5	X
Vireo gilvus	Warbling Vireo	---	---	S5B	S
Cyanocitta cristata	Blue Jay	---	---	S5	S
Eremophila alpestris	Horned Lark	---	---	S5B	X
Tachycineta bicolor	Tree Swallow	---	---	S4B	flyover
Poecile atricapillus	Black-capped Chickadee	---	---	S5	S
Troglodytes aedon	House Wren	---	---	S5B	S
Turdus migratorius	American Robin	---	---	S5B	S
Sturnus vulgaris	European Starling	---	---	SNA	flyover
Setophaga petechia	Yellow Warbler	---	---	S5B	S
Melospiza melodia	Song Sparrow	---	---	S5B	S
Passerculus sandwichensis	Savannah Sparrow	---	---	S4B	S
Spizella passerina	Chipping Sparrow	---	---	S5B	S
Cardinalis cardinalis	Northern Cardinal	---	---	S5	S
Agelaius phoeniceus	Red-winged Blackbird	---	---	S4	S
Icterus galbula	Baltimore Oriole	---	---	S4B	S
Molothrus ater	Brown-headed Cowbird	---	---	S4B	X
Quiscalus quiscula	Common Grackle	---	---	S5B	flyover
Passer domesticus	House Sparrow	---	---	SNA	X

[1]Federal Species at Risk Act (Source: SARA Public Registry 2007); [2]Provincial Endangered Species Act (Source: OMNR website 2007); [3]SRank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5: S5 = widespread and secure; S4 = common and apparently secure; SNA = not applicable; B = breeding; N = non-breeding; [4]Breeding Bird Codes from Breeding Bird Atlas of Ontario (Ontario Breeding Bird Atlas 2001); --- denotes no information or not applicable.

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

P Pair observed in suitable nesting habitat in nesting season

T Permanent territory presumed through registration of territorial song, or the occurrence of an adult bird, at the same place, in breeding habitat, on at least two days a week or more apart, during its breeding season.

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

V Visiting probable nest site

A Agitated behaviour or anxiety calls of an adult

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

N Nest-building or excavation of nest hole, except by a wren or a woodpecker

Confirmed

NB Nest-building or excavation of nest hole by a species other than a wren or a woodpecker

DD Distraction display or injury feigning

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

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

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

FS Adult carrying fecal sac

CF Adult carrying food for young

NE Nest containing eggs

NY Nest with young seen or heard

5.2.2 Vegetation Surveys

A total of 71 flora species were documented during the 2020 field studies. Of these 71 species, approximately 79% are listed as native species and 21% are listed as non-native species, therefore a status ranking is not applicable as the species is not a suitable target for conservation activities (SE or SNA rank).

Two species; Giant Ironweed (*Vernonia gigantea*; S1?) and Climbing Prairie Rose (*Rosa setigera*; S3) were observed within the Project Location. Climbing Prairie Rose was observed along the northern boundary of the forest community (8 stems) and also along the northern boundary of the thicket community (1 stem). Giant Ironweed was observed in two separate areas (one population of 20 stems and another population of 13 stems) along the northern boundary of the thicket community. Being a SCC, and their habitats would be considered as SWH, these species are discussed further in **Section 5.2.6**.

A list of flora species observed is provided in **Appendix C**. Floristics data including native vs. non-native species, mean coefficient of conservatism, floristic quality index, and mean coefficient of wetness, as provided in Oldham *et al.* (1995), are provided in **Appendix D**. Photographs taken during the site visits are provided in **Appendix E**. Potential impacts related to vegetation within the Project Location is included in **Section 8.1.2** and **8.2.2**.

5.2.3 Ecological Land Classification

Four ELC communities were identified within the Project Location (**Table 7**). The location, type, and boundaries of these communities are delineated on **Figure 3**. Reference photos for the plant communities observed can be found in **Appendix E**.

The Project Location consists of Annual Row Crops (OAGM1), Fencerow (TAGM5), Gray Dogwood Deciduous Thicket Type (THDM5-1), and Fresh-Moist Shagbark Hickory Deciduous Forest Type (FODM9-4). Communities within the Project Location are further described in **Table 7** and a full plant list is presented in **Appendix C**. Other communities (cultural) exist outside of the Project Location (**Figure 3**). None of the documented vegetation communities are considered rare in Ontario.

Table 7: Ecological Land Classification Communities with the Project Location

ELC Community	Description and Dominant Species
OAGM1 – Annual Row Crops (21.63 ha within the Project Location)	Located in the western, central, and eastern portions of the Project Location. The last observed crop was Soy Bean (*Glycine max*) in 2020.
TAGM5 – Fencerow (0.28 ha within the Project Location)	Located along the southern boundary of the Project Location. Dominant species include: Gray Dogwood (*Cornus racemosa*), Common Buckthorn (*Rhamnus cathartica*), European Common Reed (*Phragmites australis ssp. australis*), Manitoba Maple (*Acer negundo*), and Virginia Creeper (*Parthenocissus quinquefolia*).
THDM5-1 – Gray Dogwood Deciduous Thicket Type (0.49 ha within the Project Location)	Located in the southeast portion of the Project Location. Dominant species include: Gray Dogwood, Shore-line Sedge (*Carex hyalinolepis*), and Eastern Cottonwood (*Populus deltoides ssp. deltoides*).
FODM9-4 – Fresh-Moist Shagbark Hickory Deciduous Forest Type (3.64 ha within the Project Location)	Located in the southwest portion of the Project Location. Dominant species include: Shagbark Hickory (*Carya ovata*), American Elm (*Ulmus americana*), Gray Dogwood, and Broad-leaved Enchanter's Nightshade (*Circaea canadensis*).

5.2.4 Woodlands

The biophysical inventory results are generally consistent with the background review. The forest community is 3.64 ha in size and therefore meets significance criteria on size where all woodlands 2 ha in size or larger are present (OMNR, 2010). The thicket community (0.49 ha in size) and the fencerow community (0.28 ha in size) do not meet significance criteria on size. However, as SCC were present, these communities also meet significance criteria with the presence of SWH.

The fencerow community is approx. 10 m wide and approx. 300 m long. As such, the fencerow does not meet the suggested width criteria to be considered a linkage/corridor, which is defined as 50 m (OMNR, 2010). However, the fencerow community is contiguous with the forest and thicket communities, and has been classified appropriately. The fencerow does differ from the forest and thicket in terms of structure and composition. The fencerow community does not have the appropriate structure to be considered woodland. Furthermore, the species composition is also different. The fencerow is composed of mainly taller trees adjacent to the Cypher Systems Group Greenway that is shaded along the northern boundary, while the thicket is composed mainly of short Gray Dogwood with only a few, scattered canopy trees (mainly Eastern Cottonwood). Giant Ironweed was not observed along the fencerow and that partially speaks to the difference in both structural and compositional differences between the communities. As the fencerow is more shaded than the thicket, and therefore is not suitable for Giant Ironweed.

Potential impacts related to other vegetation communities within the Study Area are included in **Section 8.1.2** and **8.2.2**.

5.2.5 Wetlands

The biophysical inventory results are consistent with the background review. There are no wetlands within the Project Location.

5.2.6 Significant Wildlife Habitat

Based on the observations made during the site investigations, as well as the results of the ELC (**Figure 3**), the following candidate and confirmed SWH were observed within the Study Area (**Figure 4**).

Candidate Significant Wildlife Habitat

- Bat Maternity Colonies.

Confirmed Significant Wildlife Habitat

- Special Concern and Rare Wildlife Species (two SCC detailed below).

During the site investigations, the following two SCC were observed:

- Giant Ironweed (S1?; THDM5-1) and
- Climbing Prairie Rose (S3; THDM5-1 and FODM9-4).

As a result, there is confirmed SWH for Special Concern and Rare Wildlife Species for the species listed above (**Figure 4**).

The Ontario Species at Risk Observation Reporting Form (**Appendix F**) has been populated with SCC observations that occurred within the Study Area and has been submitted to the NHIC on October 16, 2020. Potential impacts to SWH are addressed in **Section 8.1.1** and **8.1.2**.

5.2.7 Species at Risk

No SAR were observed within the Project Location during the site investigations. Following the preliminary screening for SAR and knowing that SAR habitat may be present within 1 km of the Project Location, MECP was engaged to determine potential SAR habitat and usage within the area. On September 16, 2019, confirmation was received from MECP that the project is within regulated habitat for Eastern Foxsnake, but that the activities proposed will likely not contravene the ESA, provided their recommendations are implemented (**Appendix G**).

5.2.8 Incidental Wildlife

Incidental wildlife species observed within the Project Location are listed in **Table 8**. Each of the species observed are considered either, secure and common (SRank of S5), apparently secure, uncommon, but not rare (SRank of S4), or is not a suitable target for conservation activities (SRank of SNA in the province of Ontario.

Table 8: Incidental Wildlife Observations

Scientific Name	Common Name	SARA[1]	ESA [2]	SRank[3]	Evidence
Birds					
Anas platyrhynchos	Mallard	---	---	S5	Observed
Ardea herodias	Great Blue Heron	---	---	S4	Observed
Melanerpes carolinus	Red-bellied Woodpecker	---	---	S4	Observed
Picoides pubescens	Downy Woodpecker	---	---	S5	Nest with begging young
Contopus virens	Eastern Wood-pewee	SC	SC	S4B	Observed
Sitta carolinensis	White-breasted Nuthatch	---	---	S5	Observed
Thryothorus ludovicianus	Carolina Wren	---	---	S4	Observed
Dumetella carolinensis	Gray Catbird	---	---	S4B	Observed
Mammals					
Sylvilagus floridanus	Eastern Cottontail	---	---	S5	Observed
Sciurus carolinensis	Eastern Gray Squirrel	---	---	S5	Observed
Amphibians					
Anaxyrus americanus	American Toad	---	---	S5	Observed
Lepidoptera					
Papilio cresphontes	Giant Swallowtail	---	---	S4	Observed

[1]Federal Species at Risk Act (Source: SARA Public Registry 2007). Note: SC = Special Concern; [2]Provincial Endangered Species Act (Source: OMNR website 2007). Note: SC = Special Concern; [3]SRank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5: S5 = widespread and secure; S4 = common and apparently secure; B = breeding; --- denotes no information or not applicable.

Potential impacts related to wildlife within the Study Area are included in **Section 8.1.1** and **8.1.2**.

Refer to **Section 9.0** for recommended mitigation measures to prevent impacts to SCC, SAR, and/or their habitats.

6.0 Ecological Function

The Project Location was assessed based on existing characteristics (if any) to determine the presence of potential natural heritage features, SWH, SAR habitat, etc. As most of the Project Location is comprised of agriculture, ecological function is predominately restricted to the natural communities within the Project Location. Ecological function of the natural communities within the Project Location include providing habitat for SCC, regulated habitat for Eastern Foxsnake, providing ecological linkage via the area drains and Cypher Systems Group Greenway to off-site natural areas, prevention of erosion and runoff, facilitating hydrological and nutrient cycling, water retention, improving localized soil, and water and air quality.

Along the southern boundary of the Project Location, a 3.64 ha forest community, a 0.49 ha thicket community, and a 0.28 fencerow community exists. Within the forest community, one SCC (8 stems of Climbing Prairie Rose) was observed along the northern boundary. Within the thicket community, two SCC (1 Climbing Prairie Rose and 33 Giant Ironweed) were observed along the northern boundary. The western part of the thicket community will be retained and the forest community will be predominately retained, except for a 0.12 ha area that is proposed for removal. The eastern part of the thicket community is proposed to be removed (0.14 ha) and compensated for in current agricultural lands north of and contiguous with the thicket. The fencerow community will be largely retained as this community is mostly located outside of the Project Location (south of the southern boundary), and future landowners will benefit from having retained trees to provide shade and to provide a buffering effect from the adjacent Cypher Systems Group Greenway. Despite several human-made structures and numerous signs of human disturbance within the forest, the community represents a fine and sizeable, Shagbark Hickory-dominant stand, with American Elm and Northern Red Oak representing lesser associates.

After preliminary screening for SAR, MECP has been engaged to determine potential SAR habitat and usage within the area. On September 16, 2019, confirmation was received from MECP that the project is within regulated habitat for Eastern Foxsnake, but that the activities proposed will likely not contravene the ESA, provided their recommendations are implemented. Based on recent correspondence with MECP (Aylmer District), MECP is no longer extending expiry dates on Letter to Proponents, provided the proposed activities and footprints remain the same, their guidance and advice will remain valid.

In conclusion, the natural communities within the Project Location are found to be SWH with the presence of SCC individuals. Potential impacts and recommended mitigation measures to prevent impacts to SCC, SAR, their habitats, as well as significant natural features are discussed in **Section 8.0** and **Section 9.0**.

7.0 Description of the Proposed Development

The overall proposed development will generally include:

- Residential subdivision including single-detached homes with associated driveways;
- Future commercial blocks;
- Stormwater management pond;
- Parkland;
- A habitat compensation area (0.22 ha); and
- A 10 m buffer between the proposed development footprint and the retained forest and partially-retained thicket communities (**Figure 5**).

The proposed main access points to this development will be heading north from Middle Side Road and heading west from County Road 11 (**Figure 5**). Construction of the proposed development would include the removal of approximately 0.12 ha of forest, 0.14 ha of thicket, and 0.24 ha of fencerow (**Figure 6**). Landscaping may include, but is not limited to, fencing, sod, and tree plantings. The associated impacts of the development and recommended mitigation measures will be discussed in **Section 8.0** and **Section 9.0**.

8.0 Potential Impact Identification and Analysis

8.1 Potential Direct Impacts

Potential direct impacts are those that are immediately evident as a result of the development. Typically, the adverse effects of direct impacts are most evident during the site preparation and construction phase of a development. The potential direct impacts of the proposed development include the following:

- Loss of/disturbance to wildlife and wildlife habitat;
- Tree and vegetation removal;
- Diversion of surface water flows and stormwater management; and
- Erosion and sedimentation into natural features.

Each of these potential impacts are discussed in subsequent sections.

8.1.1 Loss of/Disturbance to Wildlife and Wildlife Habitat

In general, wildlife, including SWH, may be impacted due to vegetation clearing within the proposed development area (i.e. within the forest community, thicket community, and select vegetation along the margins of the agriculture). Habitat for fauna may be impacted by construction in the following ways:

- Displacement, injury, or death resulting from contact with heavy equipment during clearing and grading activities; and
- Disturbance to wildlife as a result of noise associated with construction activities, particularly during breeding periods.

More specifically, SCC (Giant Ironweed and Climbing Prairie Rose) were identified in three areas within the Project Location. Two populations of Giant Ironweed (a total of 33 stems) and two populations of Climbing Prairie Rose (a total of 9 stems; **Figure 6**).

Mitigation measures to avoid impacts to wildlife are discussed in **Section 9.3**.

8.1.2 Tree and Vegetation Removal

The proposed development plan indicates tree and ground vegetation removal limited to vegetation within the forest (0.12 ha), the thicket (0.14 ha), and the fencerow (0.24 ha; **Figure 6**), to facilitate grading and construction of the development. Tree removal will result in a reduction of tree cover, wildlife habitat loss (SWH and SAR habitat), and alteration of soil conditions. On a site level, the impacts of tree and vegetation removal may include:

- Direct loss of trees;
- Decreased floral species richness and abundance;
- Altered soil conditions and water availability;
- Alteration of microclimate;
- Loss of native seed banks; and
- Physical injury, root damage, and compaction of trees not intended for removal that may result from construction operations.

Refer to **Section 9.4** and **Section 9.5** for mitigation and enhancement opportunities.

8.1.3 Diversion of Surface Water Flows and Stormwater Management

The potential impacts of changes to land use and land cover on the health of a watershed have been well documented and can include changes to groundwater infiltration, run off, stream flow regime, water quality, stream channel erosion, and wildlife habitat. More specifically, changes may include:

- Direct "footprint" effects such as the loss of natural land cover;
- Indirect "flow related" effects such as increased frequency of high stream flows, accelerated stream channel erosion, and deterioration of water quality; and
- Cumulative effects such as changes in aquatic community composition may arise from a combination of changes affecting upstream areas.

The proposed development will increase the amount of impervious land on the property leading to increased surface runoff. Stormwater is proposed to be directed into one SWM pond (**Figure 5**) and will discharge into Dufour Drain. The proposed SWM pond provides a total active storage surface of 1.36 ha and a total active storage depth of 3.7 m at 5:1 side slopes and permanent pool depth of 1 m with 3:1 side slopes. The total depth of the pond is 4.7 m. The proposed SWM for the development will use best management practices to mitigate potential negative effects of increased discharge into receiving waters and is further discussed in **Section 9.1**. Provided these mitigation measures are followed, the potential ecological impact of stormwater discharge into Dufour Drain is expected to be minimal.

Refer to **Section 9.2** for mitigation measures related to surface flows.

8.1.4 Erosion and Sedimentation into Natural Features

Construction activity, especially operations involving the handling of earthen material, increases the availability of sediment for erosion and transport via surface drainage. Due to the anticipated reduction in infiltration rates post-development, there is the potential for natural features within the area to be impacted as a result of the development if construction best management practices are not implemented.

Potential impacts to these features may include, but are not limited to:

- Reduced water quality and degradation of nearby drains/wetlands; and
- Disturbance to or loss of additional vegetation due to the deposition of dust and/or overland mobilization of soil.

Due to the potential impacts, control measures must be selected that are appropriate for the erosion potential of the site and it is important that they be implemented and modified on a staged basis to reflect the site activities. Furthermore, their effectiveness decreases with sediment loading and therefore inspection and maintenance is required.

Refer to **Section 9.2** for mitigation measures related to erosion and sedimentation.

8.2 Potential Indirect Impacts

Potential indirect impacts are those that do not always manifest in the core development area, but in the lands adjacent to the development. Indirect impacts can begin in the construction phase; however, they can continue post-construction. Typical indirect impacts from the proposed development include increased anthropogenic disturbance and colonization of non-native and/or invasive species.

8.2.1 Anthropogenic Disturbance

Disturbance to local wildlife communities due to indirect impacts on the lands adjacent to the proposed development could result if left unmitigated. Noise, light, vibration, and human presence are potential indirect impacts that can adversely influence the population size and breeding success of local wildlife. These effects are more pronounced when new development is introduced in non-urban areas. Although lands within the Study Area are already disturbed by anthropogenic land uses, mitigation measures that further address anthropogenic disturbance have been included in **Section 9.2** and **Section 9.3**.

8.2.2 Colonization of Non-native and/or Invasive Species

Physical site disturbance may increase the likelihood that non-native and/or invasive flora species will be introduced to the surrounding vegetation communities. Non-native and invasive flora can establish in disturbed sites more efficiently than native flora and can then encroach into adjacent undisturbed areas. This type of colonization is currently occurring within the Project Location. Species including European Common Reed (*Phragmites australis* ssp. *australis*), Common Buckthorn (*Rhamnus cathartica*), and Russian Olive (*Elaeagnus angustifolia*) were identified within the Project Location. In order to maximize ecological function on adjacent lands, removal of invasive species paired with planting of native tree and shrub species is recommended.

9.0 Mitigation Measures and Opportunities for Enhancement/Compensation

Mitigation involves the avoidance or minimization of development impacts through good design, construction practices, or restoration and enhancement activities. The feasibility of mitigation options have been evaluated based on the natural features within and adjacent to the Project Location. The impact assessment highlighted four potential direct impacts, which include; loss of/disturbance to wildlife and wildlife habitat, tree and vegetation removal, diversion of surface water flows and stormwater management, and erosion and sedimentation into natural features.

A variety of mitigation techniques can be used to minimize or eliminate the potential impacts noted above. These measures may include, but are not limited to, Stormwater Management Plan, Erosion and Sediment Control (ESC) Plan, Wildlife Impact Mitigation Plan, Natural Feature Buffer, Plant Transplantation and Compensation Habitat, and Environmental Monitoring Plan. Each mitigation measure recommended for the proposed development is introduced below.

9.1 Stormwater Management Plan

The SWM pond will be located within the southwest part of the Project Location. The proposed SWM pond was designed to control post-development flows up to and including the 1:100 year event with a minimum of 300 mm of freeboard during the 1:100 year storm. To assess the resiliency of the proposed SWM pond, an additional modelling scenario was performed using the Urban Stress Test design storm event provided in the Windsor/Essex Region Stormwater Management Standards Manual.

9.2 Erosion and Sediment Control Plan

In order to mitigate the adverse environmental impacts caused by the release of sediment-laden runoff, measures for ESC are recommended for the construction site. Mitigation measures include the installation of geotextile silt fences, rock check dams, ditch checks, temporary sediment ponds, designated topsoil stockpile areas, and cut-off swales and ditches to divert surface flows to the appropriate sediment control area. Additional mitigation measures include:

- Standard duty silt fencing (OPSD 219.110) and/or other equivalent erosion and sediment controls should be installed around the perimeter of the work area to clearly demarcate the development area and prevent erosion and sedimentation into adjacent habitats. Erosion and sediment control measures should be monitored regularly to ensure they are functioning properly and if issues are identified, should be dealt with promptly;

- Stockpiling of excavated material should not occur outside the delineated work area. If stockpiling is to occur outside of this area, silt fencing should be used to contain any spoil piles to prevent sedimentation into adjacent areas. Further, stockpiling of excavated materials will not occur within 30 m of watercourses;
- A spill response plan should be developed and implemented as required;
- The use of silt socks, dewatering ponds, etc. should be implemented to avoid sedimentation and erosion into adjacent areas as required. If dewatering requires more than 50,000 L of water to be pumped per day, appropriate permits must be obtained from the MECP prior to the dewatering; and
- Use of mud mats at the construction entrance prior to commencing earthworks to minimize the tracking of mud onto municipal roads.

9.3 Wildlife Impact Mitigation Plan

Strategies to mitigate impacts to general wildlife prior to and during construction are recommended:

- Tree/vegetation removal should be conducted outside of the breeding bird season (no removal between April 1 to August 31). Should removals be required during this season, appropriate nest searches should be conducted by a qualified biologist. Bird nest searches are recommended to be completed 48 hours prior to clearing activities. If active nests are found, work within a species-specific setback from the nest should be established by a qualified biologist, until the nest fate is either successful (i.e. young have fledged and can leave the area on their own accord) or unsuccessful (i.e. the nest is no longer active). Confirmation of nest inactivity should be confirmed by a qualified biologist prior to encroachment into the buffer. If no nests are present, clearing may occur. This is in accordance with the federal *Migratory Birds Convention Act* (1994);
- Tree removal should be conducted outside of the active bat active season (no removal between April 1 to September 30). Should removals be required during this season, appropriate bat exit surveys should be conducted by a qualified biologist. Ideally, bat exit surveys should be conducted during June. Each candidate roost should be monitored on two separate evenings under appropriate weather conditions (i.e. temperature above 10 degrees Celsius, no rain, and low wind). Monitoring should take place from 30 minutes before sunset until 60 minutes after sunset;
- Visual monitoring for wildlife species and avoidance, where encountered, if possible;
- If necessary, have a qualified biologist monitor construction in the areas of potential wildlife habitat. If wildlife are found within the construction area, they should be relocated by a qualified biologist (someone who is both trained in proper snake handling and maintains a Wildlife Scientific Collector's Authorization) to an area outside of the development into an area of appropriate habitat, as necessary;
- If an injured or deceased SAR is found, the individual must be placed in a non-airtight container that is maintained at an appropriate temperature and an Authorized Wildlife Custodian

(authorized under the Fish and Wildlife Conservation Act) in the area should be contacted and the MECP notified as soon as reasonably possible; and

- General awareness training for staff prior to commencement of construction regarding typical SAR species that could potentially enter the construction site.

9.3.1 Recommendations Required by the MECP

Aside from general mitigation measures detailed above, the MECP has also indicated specific recommendations for the proposed development (**Appendix G**).

9.4 Natural Feature Buffer

The role of a buffer is to protect important natural features from the adverse effects of nearby development. A 10 m buffer is proposed between the proposed development and the retained forest and western part of the thicket communities (**Figure 5**). A permanent wildlife exclusion fence is recommended between the proposed development footprint and the forest buffer and the retained western part of the thicket community (**Figure 5**). In addition, a six-foot-tall fence is recommended at the back of the lots adjacent to the fencerow and thicket communities. The buffer, the retained forest community, the retained thicket community, and the habitat compensation will be rezoned as Environmental Protection during the approval process with the Town of Amherstburg. The forest and the buffer around the forest (Block 8) will be owned by the ERCA. The western part of the thicket and the buffer around that part of the thicket (Block 5) will be owned by the ERCA. The central part of the thicket and the buffer around that part of the thicket (Block 6), and the habitat compensation area (Block 4) will remain as private land ownership.

9.5 Plant Transplantation and Compensation Habitat

One SCC (13 stems of Giant Ironweed) is located within the footprint of the proposed development (the eastern part of the thicket community). As such, we recommend that these stems be transplanted to an appropriate location within the retained part of the thicket community.

We are proposing total habitat compensation of 0.97 ha (0.75 ha buffer and 0.22 ha thicket habitat compensation) that is greater than the 0.5 ha total of ELC units being removed (0.12 ha forest, 0.14 ha thicket, and 0.24 ha fencerow). To demonstrate no negative impact to the natural environment, we propose an increase in species diversity within the buffer and compensation areas. This will not only show an increase in floristic diversity, but will also provide a suitable habitat for the nearby SWH. We propose the following enhancement plantings:

- The buffer will be planted with seeds of locally-sourced, all-native, open-habitat grasses and forb mix from an approved supplier with a reliable local supply.

- Seeds will be planted using techniques prescribed in Planting The Seed: A Guide To Establishing Prairie And Meadow Communities In Southern Ontario (Delaney *et al.*, 2000).

We recommend an appropriate seed mix (Native Prairie Meadow Seed Mixture 8135) from Ontario Seed Company Inc. The following species are included within this diverse mix of flowering plants and grasses:

Table 9: Species List for Compensation Habitat

Scientific Name	Common Name	SARA[1]	ESA [2]	SRank[3]
Panicum virgatum	Old Switch Panicgrass	---	---	S4
Poa palustris	Fowl Bluegrass	---	---	S5
Schizachyrium scoparium ssp. scoparium	Little Bluestem	---	---	S4
Sorghastrum nutans	Yellow Indian-grass	---	---	S4
Rudbeckia hirta var. hirta	Black-eyed Susan	---	---	SU
Solidago juncea	Early Goldenrod	---	---	S5
Symphyotrichum novae-angliae	New England Aster	---	---	S5
Desmodium canadense	Showy Tick-trefoil	---	---	S4
Monarda fistulosa var. fistulosa	Wild Bergamot	---	---	S5
Verbena urticifolia	White Vervain	---	---	S5
Penstemon digitalis	Foxglove Beardtongue	---	---	S4S5

[1]Federal Species at Risk Act (Source: SARA Public Registry 2007); [2]Provincial Endangered Species Act (Source: OMNR website 2007); [3]SRank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5: S5 = widespread and secure; S4 = common and apparently secure; SU or ? = uncertain due to insufficient information; --- denotes no information or not applicable.

9.6 Environmental Monitoring Plan

The Environmental Monitoring Plan (EMP) should be carried out through the duration of construction activities on-site to ensure that the erosion and sediment control measures operate effectively and to monitor the potential impacts, if any, upon the natural environment. The duration of construction is defined as the period of time from the beginning of earthworks until the site is stabilized. Site stabilization is defined as the point in time when the roads have been paved, buildings have been built, lawns have been sodded, identified plants have been transplanted, and the compensation habitat has been planted.

The EMP would consist of monitoring the erosion and sediment measures, the transplanted plants, and the enhancement/compensation plantings. Erosion and sediment control measures would be regularly monitored and they will require periodic cleaning (e.g. removal of accumulated silt), maintenance and/or re-construction. Inspections of all of the erosion and sediment controls on the construction site should be undertaken by a monitor who is a Canadian Certified Inspector of Sediment and Erosion Control (CAN-CISEC). If control measures are found to be compromised/impaired, they should be repaired and/or replaced as soon as reasonably possible.

The EMP will be implemented during active construction periods in the development area with the following frequency:

- On a bi-weekly basis; and/or
- After every 10 mm or greater rainfall event.

Enhancement/compensation planting and protected vegetation areas will require periodic monitoring to ensure that they are not impacted by adjacent development. Should any negative impacts be observed, necessary steps will be taken to ensure that the impacted vegetation is either restored or replaced.

The following details are recommended for a two-year maintenance and care program within the buffer area and compensation habitat area:

Year One

- Establishment of a farming limit for machinery and any pesticide/herbicide application;
- Removal of non-native vegetation (i.e. European Common Reed, Common Buckthorn, and Russian Olive), where applicable; and
- Watering and weeding of newly-planted areas, as required, for proper establishment of plantings.

Year Two

- Removal of invasive species regeneration;
- Replacement of dead material from plantings;
- Replenishment of mulch within planted areas, where required; and
- Regular watering and weeding of the planted areas throughout the growing season.

10.0 Summary

This EIA was prepared for the proposed residential development located northwest of the intersection of Middle Side Road and County Road 11, within the Town of Amherstburg. This EIA has been prepared due to the presence of natural heritage features and within the Study Area. The EIA will form part of an application package for submission to the Town of Amherstburg.

A review of background resources, including Land Information Ontario, the Town of Amherstburg Official Plan, and the County of Essex Official Plan, indicated that the land is designated as Low Density Residential and Settlement Areas respectively, with Woodlots and Natural Environment Overlay designations located within the southern part of the Project Location.

The most recent detailed field studies were conducted in 2020 to confirm the presence/absence of significant wildlife habitat, SCC, and/or SAR within the Project Location. The field study results were used to determine the potential ecological function of any natural features within the Study Area and also to determine potential impacts on any natural features as a result of the proposed development. The biophysical inventory confirmed the presence of one candidate SWH, one confirmed SWH, and two SCC. In addition, the MECP has confirmed regulated habitat for Eastern Foxsnake within the Project Location.

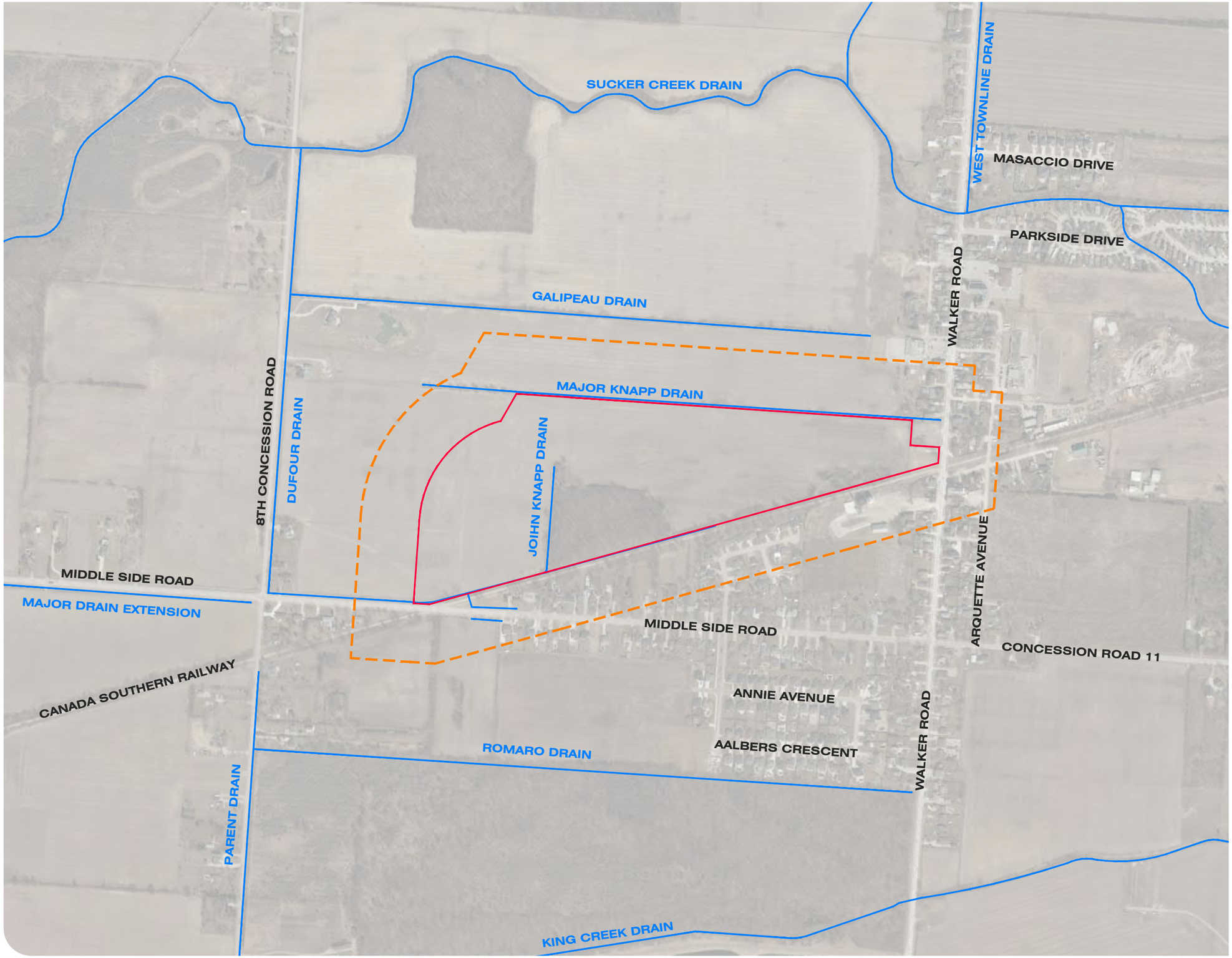
The Project Location is predominately comprised of agriculture and limited vegetated areas are proposed for removal (0.5 ha). To show no negative impact to the natural environment, a greater area of habitat compensation is proposed (0.97 ha). In addition, we propose an increase in species diversity within the buffer and compensation areas.

Furthermore, and at the recommendation of the MECP, a permanent wildlife exclusion fence is proposed between the development footprint and the buffer/habitat compensation area. A six-foot-tall fence at the back of the lots adjacent to the forest, fencerow, and thicket communities is also proposed. These measures show that the development is anticipated to have no negative impacts on natural features.

Two SCC (33 stems of Giant Ironweed and 9 stems of Climbing Prairie Rose) were observed during the site investigations. One SCC (13 stems of Giant Ironweed) is located within the proposed development footprint and are recommended to be transplanted to an appropriate, nearby area within the buffer area. The protected buffer and compensation habitat area will provide areas for a diverse array of compensation plantings.

Provided the mitigation measures, best management practices, and compensatory measures outlined in this EIA are followed, as well as advice from the MECP, the proposed development should result in no negative impacts on the natural features or their ecological function.

Figures



2439478 ONTARIO INC.
MIDDLE SIDE ROAD AND WALKER ROAD

ENVIRONMENTAL IMPACT ASSESSMENT

PROJECT LOCATION
FIGURE 1.0

PROJECT LOCATION (±26.02 ha)

STUDY AREA (120m BUFFER)

DRAIN

MAP/DRAWING INFORMATION
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.

SCALE : N.T.S.

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SOURCE: COUNTY OF ESSEX
AERIAL PHOTOGRAPHY (2019)

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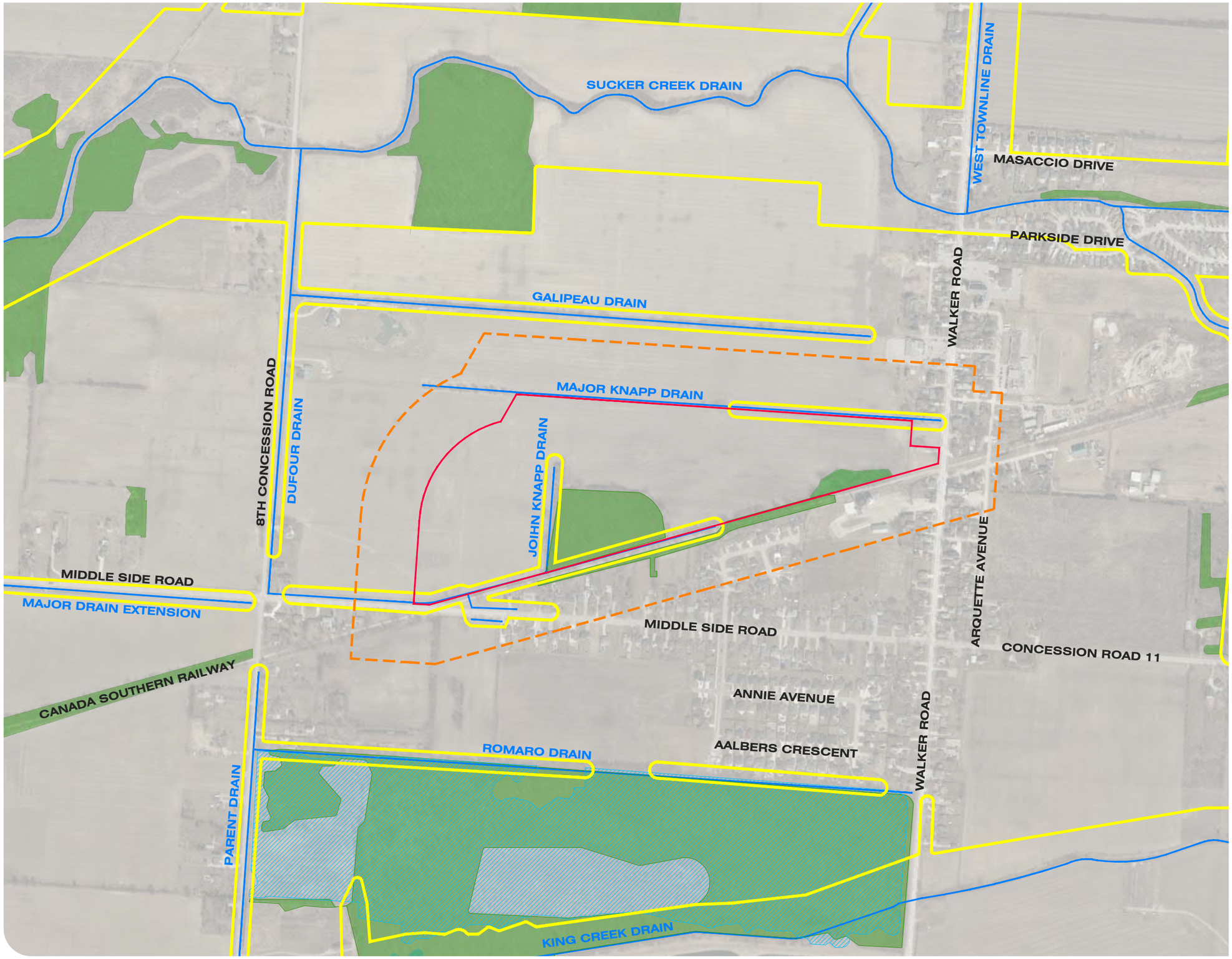
DILLON CONSULTING

PROJECT: 20-2669
STATUS: FINAL
DATE: 05/05/2023



2439478 ONTARIO INC.
MIDDLE SIDE ROAD AND WALKER ROAD

ENVIRONMENTAL IMPACT ASSESSMENT

ERCA'S REGULATED AREA
FIGURE 2.0

- PROJECT LOCATION (± 26.02 ha)
- STUDY AREA (120m BUFFER)
- DRAIN
- ERCA LIMIT OF REGULATED AREA
- MNRF WOODLAND
- MNRF WETLAND

MAP/DRAWING INFORMATION
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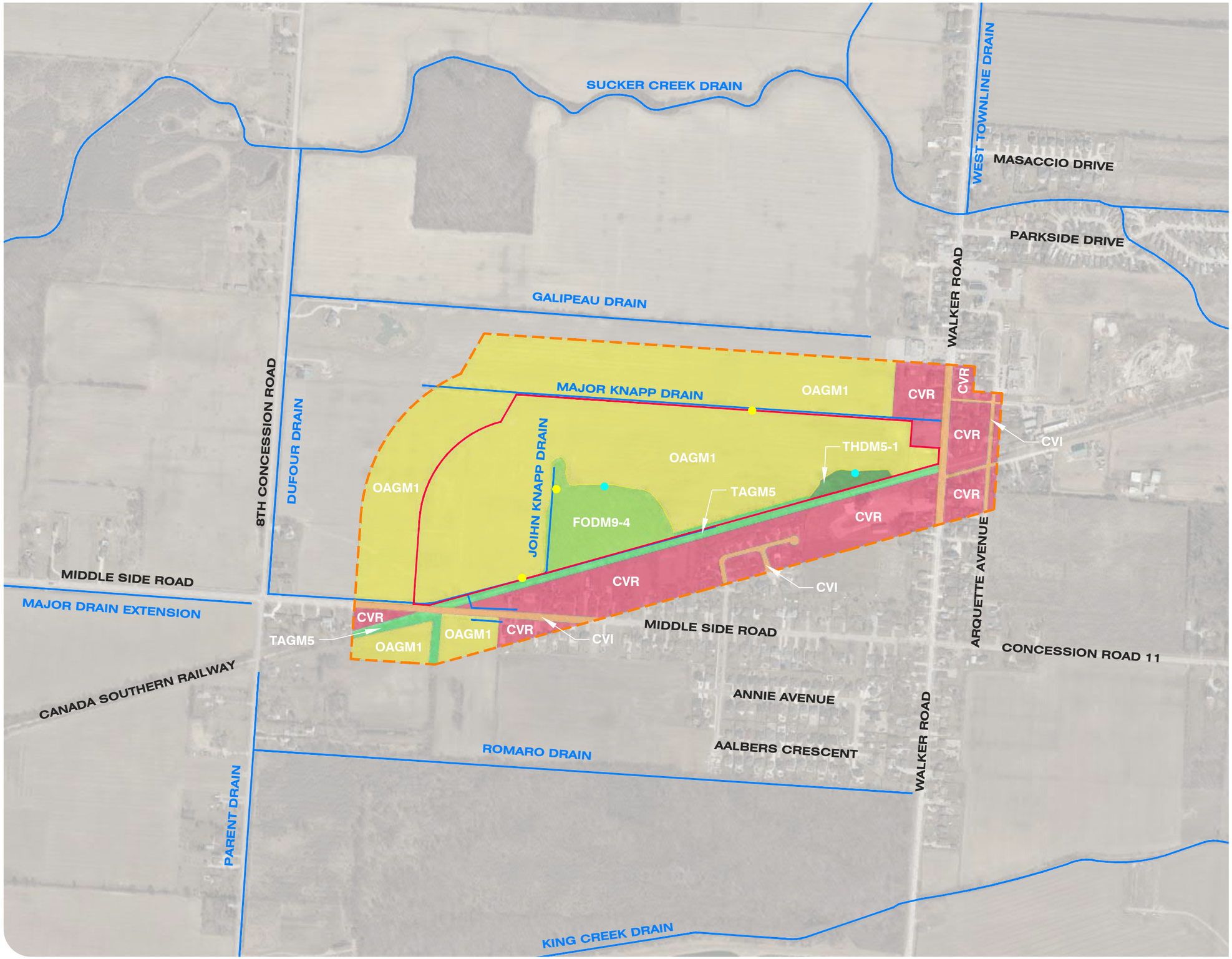
PROJECT: 20-2669
STATUS: FINAL
DATE: 05/05/2023



2439478 ONTARIO INC.
MIDDLE SIDE ROAD AND WALKER ROAD

ENVIRONMENTAL IMPACT ASSESSMENT

SURVEY LOCATIONS AND ECOLOGICAL LAND CLASSIFICATION
FIGURE 3.0

PROJECT LOCATION
(±26.02 ha)

STUDY AREA (120m BUFFER)

DRAIN

Survey Locations

Breeding Bird

Aquatic Assessment

Ecological Land Classification (ELC)

FODM9-4: Fresh-Moist Shagbark Hickory Deciduous Forest Type
(3.64 ha Within Project Location)

TAGM5: Fence Row
(0.28 ha Within Project Location)

THDM5-1: Gray Dogwood Deciduous Thicket Type
(0.49 ha Within Project Location)

OAGM1: Annual Row Crops
(21.63 ha Within Project Location)

CVR: Residential
(0.00 ha Within Project Location)

CVI: Transportation
(0.00 ha Within Project Location)

MAP/DRAWING INFORMATION
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SCALE : N.T.S.

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SOURCE: COUNTY OF ESSEX
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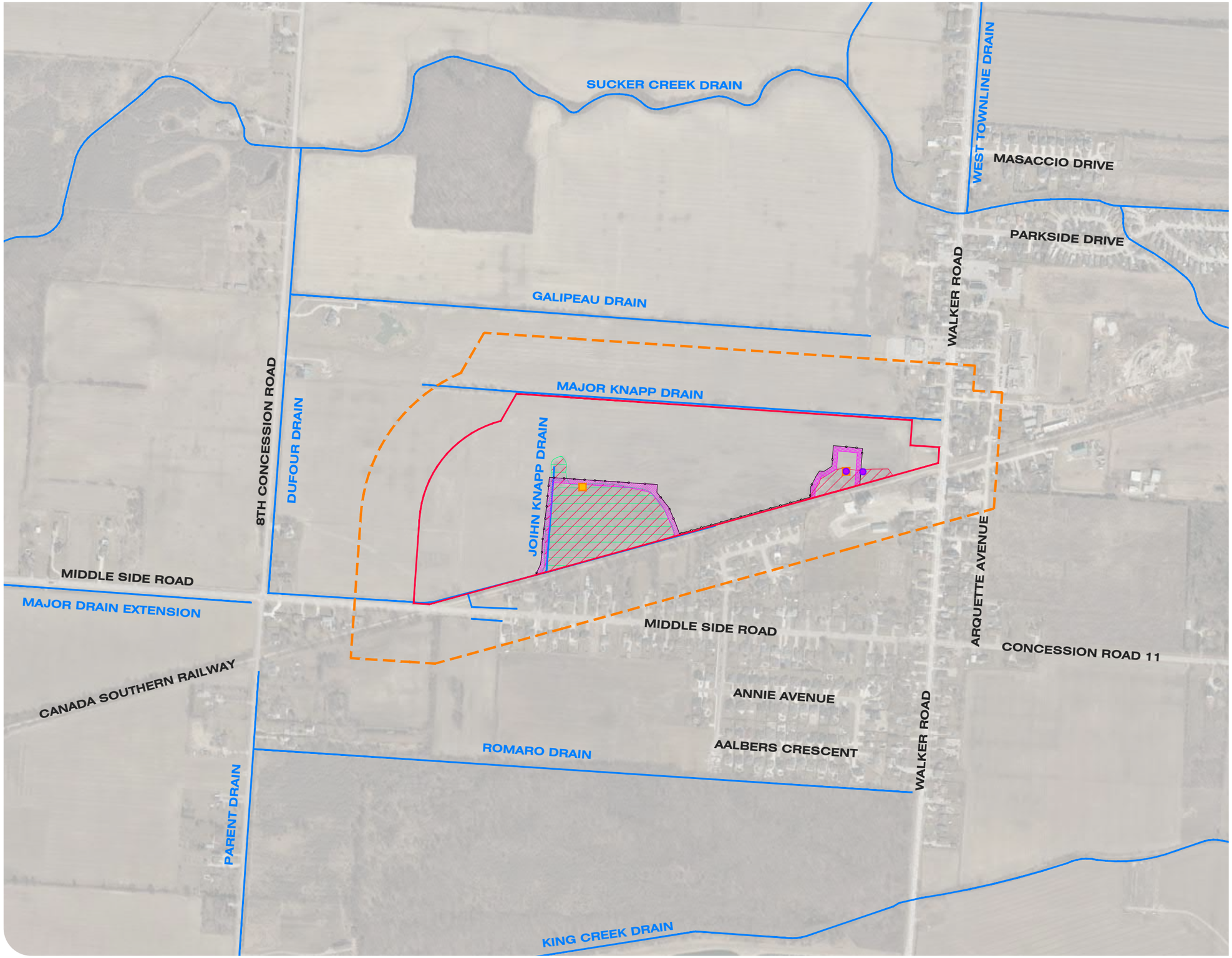
DILLON CONSULTING

PROJECT: 20-2669
STATUS: FINAL
DATE: 05/05/2023



2439478 ONTARIO INC.
MIDDLE SIDE ROAD AND WALKER ROAD

ENVIRONMENTAL IMPACT ASSESSMENT

SIGNIFICANT WILDLIFE HABITAT
FIGURE 4.0

- PROJECT LOCATION (±26.02 ha)
- STUDY AREA (120m BUFFER)
- DRAIN
- 10m WOODLOT BUFFER (±0.75ha)
- PERMANENT WILDLIFE EXCLUSION FENCE

CANDIDATE SIGNIFICANT WILDLIFE HABITAT

- Bat Maternity Colonies

CONFIRMED SIGNIFICANT WILDLIFE HABITAT

- Special Concern and Rare Wildlife Species

SPECIES OF CONSERVATION CONCERN

- Giant Ironweed
- Climbing Prairie Rose

MAP/DRAWING INFORMATION
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.

SCALE : N.T.S.

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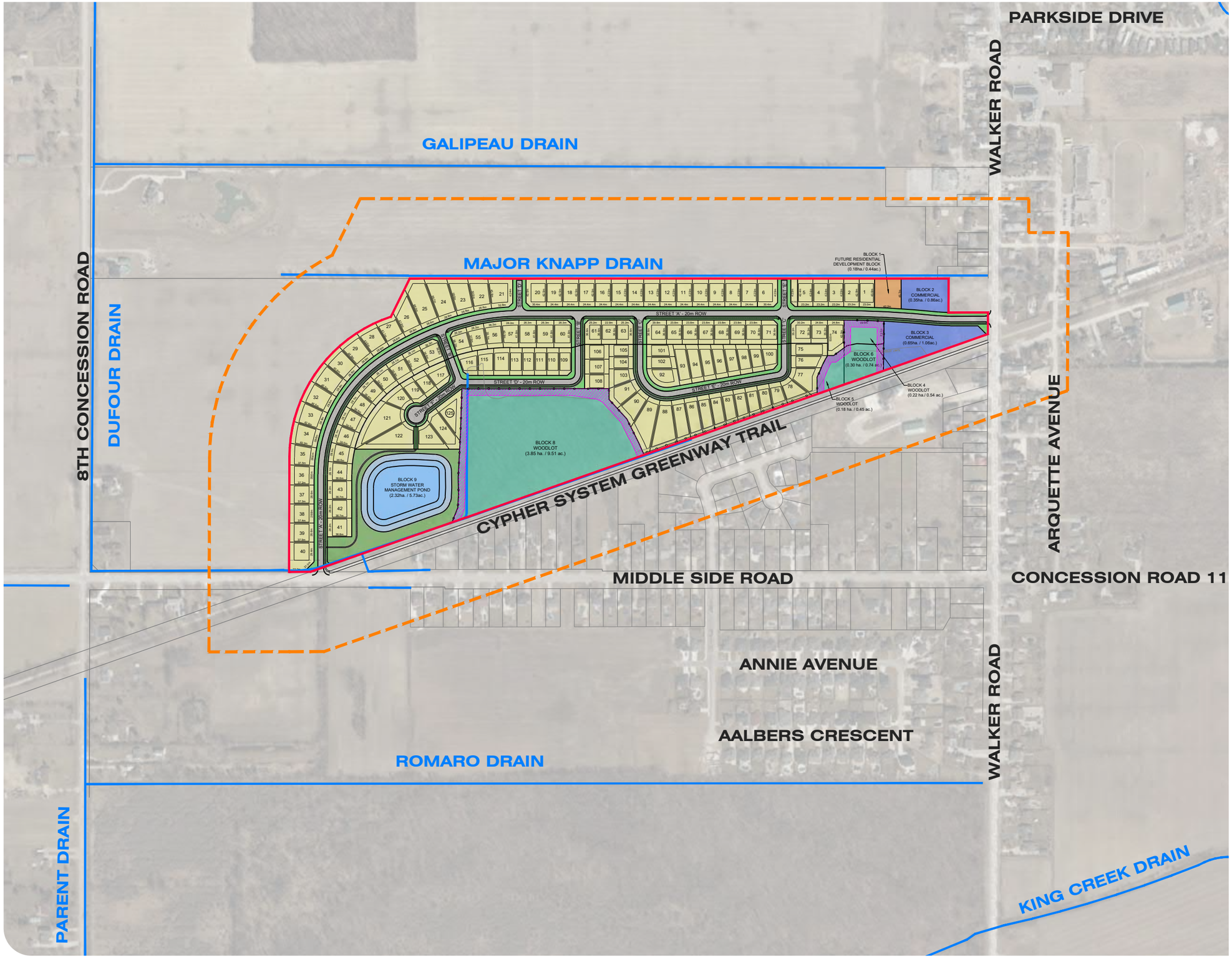
DILLON CONSULTING

PROJECT: 20-2669
STATUS: FINAL
DATE: 05/05/2023



2439478 ONTARIO INC.
MIDDLE SIDE ROAD AND WALKER ROAD

ENVIRONMENTAL IMPACT ASSESSMENT

PROPOSED DEVELOPMENT PLAN
FIGURE 5.0

- PROJECT LOCATION (±26.02 ha)
- STUDY AREA (120m BUFFER)
- DRAIN
- 10m WOODLOT BUFFER
- PERMANENT WILDLIFE EXCLUSION FENCE
- PROPOSED LOTS
- PROPOSED COMMERCIAL
- PROPOSED SIDEWALK/ MULTI USE TRAIL
- PROPOSED ROW
- PROPOSED SWM POND
- EXISTING WOODLOT
- PROPOSED PARKLAND
- PROPOSED FUTURE RESIDENTIAL

MAP/DRAWING INFORMATION
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.

SCALE : N.T.S.

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SOURCE: COUNTY OF ESSEX
AERIAL PHOTOGRAPHY (2019)

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DILLON CONSULTING

PROJECT: 20-2669
STATUS: FINAL
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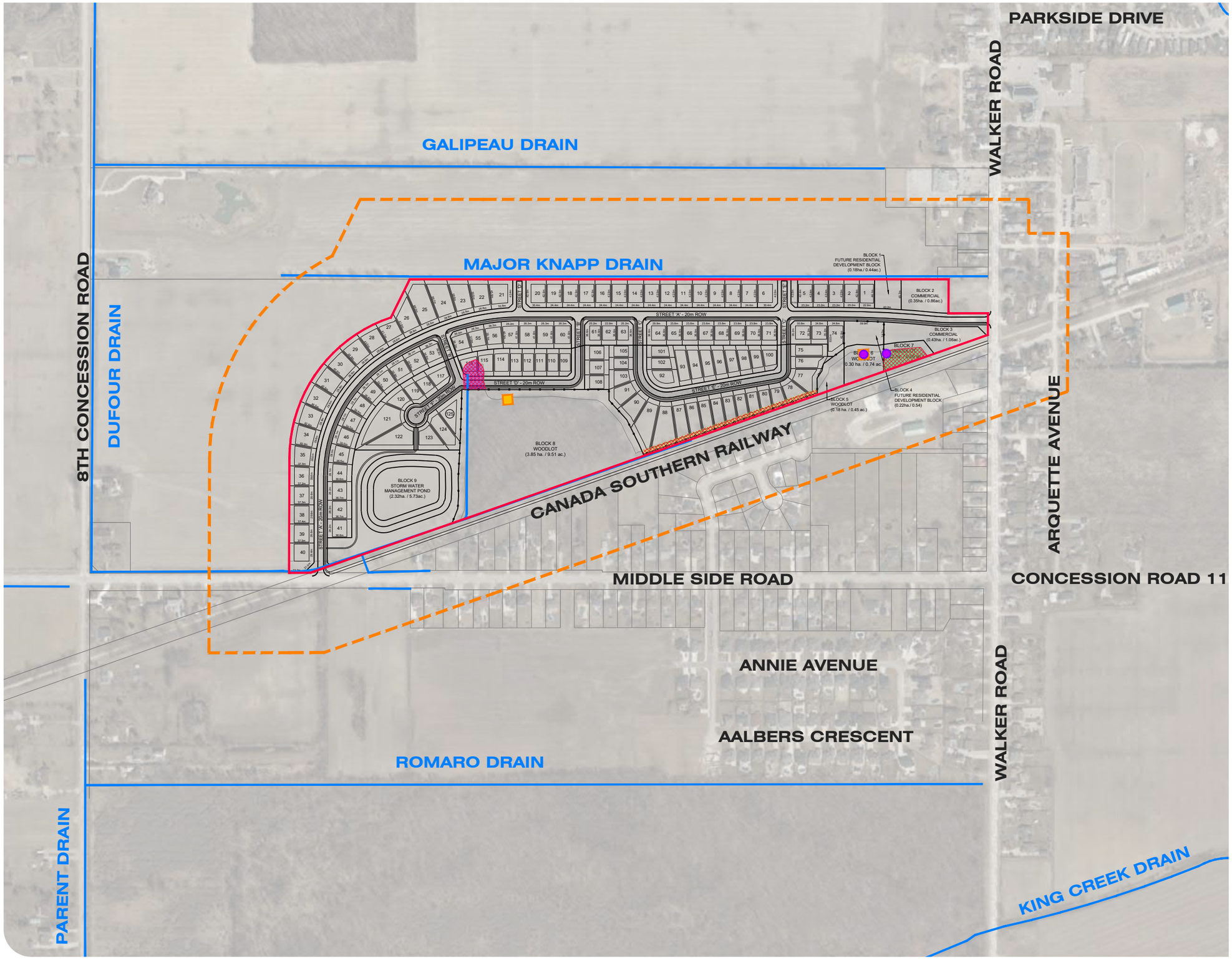

2439478 ONTARIO INC.
MIDDLE SIDE ROAD AND WALKER ROAD

ENVIRONMENTAL IMPACT ASSESSMENT

POTENTIAL IMPACTS
FIGURE 6.0

- PROJECT LOCATION (±26.02 ha)
- STUDY AREA (120m BUFFER)
- DRAIN
- SIGNIFICANT WILDLIFE HABITAT AND ELC UNITS TO BE REMOVED

ELC UNITS REMOVED

- FODM9-4: Fresh-Moist Shagbark Hickory Deciduous Forest Type (0.12 ha)
- TAGM5: FENCE ROW (0.24 ha)
- THDM5-1: GRAY DOGWOOD DECIDUOUS THICKET TYPE (0.14 ha)

SPECIES OF CONSERVATION CONCERN

- Giant Ironweed
- Climbing Prairie Rose

MAP/DRAWING INFORMATION
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SCALE : N.T.S.

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SOURCE: COUNTY OF ESSEX
AERIAL PHOTOGRAPHY (2019)

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DILLON CONSULTING

PROJECT: 20-2669
STATUS: FINAL
DATE: 05/05/2023

Appendix A

Terms of Reference

MEMO

TO:	Frank Garardo, Manager of Planning Services, Town of Amherstburg
FROM:	Brad McLeod, Biologist, Dillon Consulting Limited
CC:	Josh Hurley-Burns, Planner, Dillon Consulting Limited
DATE:	October 16, 2020
SUBJECT:	Environmental Impact Assessment Terms of Reference for the 9538 County Road 11 Property in the Town of Amherstburg, Ontario

Background

Dillon Consulting Limited (Dillon) has been retained by 2551424 Ontario Limited (the "client") to undertake environmental services for the proposed 9538 County Road 11 development, in the Town of Amherstburg. Figure 1, attached, shows the Project Location and Study Area which extends 120 metres beyond the property limits. It is important to note that surveys will be conducted within the Study Area where property access is permitted only. Dillon staff do not intend to purposefully trespass on property that does not belong to the client or where landowner approval has not been granted. In accordance with the Town's Official Plan (OP), the Project Location falls within lands designated as Low Density Residential, Woodlots, and General Commercial on Schedule B-5 (Land Use Plan) and Woodlots on Schedule C (Natural Features).

The client and Dillon are taking a proactive approach to environmental planning, by undertaking the appropriate environmental studies required to complete the Environmental Impact Assessment (EIA), and utilizing the results in the proposed development of the property. The EIA is being completed due to the land use designation of Woodlots within the Project Location, our understanding of the proposed development, and will be completed in accordance with Section 6.9 of the Town's OP (2009), Appendix 3 of the County's OP (2014), and the Essex Region Conservation Authority Environmental Impact Assessment Guidelines (ERCA; 2019).

In order to address the policies of both the Town's OP and the County's OP; as well as ERCA's EIA Guidelines; we have prepared the following Terms of Reference (ToR) for your approval. Below, we present the ToR in a check-list format to document that the required work and/or studies are known and agreed upon prior to the commencement of work, to facilitate a stream-lined and timely review process on a case-by-case basis.

MEMO

Terms of Reference

Introduction/Approach

☒ The EIA must be undertaken by a qualified professional in environmental or related sciences to the satisfaction of the Town.

☒ The EIA should describe and illustrate the boundaries of the Project Location and Study Area along with existing land use and details regarding the proposed development.

Note: A figure outlining the Study Area for the purposes of completing the EIA is attached to this ToR for efficiency and review.

☒ The EIA will include the zoning and all designations of OP's pertaining to the Project Location and Study Area. This includes land use designations from other municipal planning and/or policy documents, such as Secondary Plans.

☒ Land use designations from other applicable planning documents (i.e. Town of Amherstburg and County of Essex) will be clearly described and the limits identified in the report mapping.

Biophysical Inventory

☒ The existing conditions, such as natural features and functions located within the Study Area must be clearly described and clearly mapped on the most up-to-date aerial imagery.

☒ All designated environmental features (i.e. natural hazard features or other natural heritage features identified in the OP's) must be identified in the mapping and described in the report. These features include provincial or regional Areas of Natural and Scientific Interest (ANSI's), Provincially and Locally Significant Wetlands (PSW's and LSW's), Environmentally Significant Areas (ESA's), Significant Wildlife Habitat, Significant Woodlands, Significant Valleylands, unevaluated wetlands, etc.

☒ The EIA should identify the extent of natural heritage/hazard features (should they be located within the Study Area, pending access). Boundaries of natural heritage features should be confirmed in the field and mapped on a figure in the report.

☒ A description of the soils, landforms, and surficial geology based on a review of readily-available mapping and literature must be described in the report. Available topographical information will be provided on constraints mapping and will include any staking done to date as well as the calculated hazard limits, if applicable.

☒ Hydrological and hydrogeological resources and issues, including wellhead protection areas, surface water features, recharge/discharge zones, meander belts, groundwater quality and quantity, groundwater elevations and flow directions, and connections between groundwater and surface water features will be identified in the report based on data from the consulting team, if it is available.

☒ The vegetation communities must be identified using the Ecological Land Classification (ELC) protocol to vegetation type, where possible. The communities will be identified on report mapping using the appropriate ELC codes, as well as described in the text. As a component of the ELC, a plant list, organized by vegetation community must be included. The list will indicate provincially-, regionally-, and/or locally-rare, Threatened or Endangered species. This should include information from the Natural Heritage Information Centre (NHIC).

☒ A three-season vegetation survey (spring, summer, and fall) is required. A list of vegetation species observed, will be compiled using the Southern Ontario Floral Inventory Analysis, must include plant communities based on ELC, and will indicate each species rarity and/or designations under the Endangered Species Act (ESA; 2007), where applicable. This should include information from the NHIC.

Note: A spring vegetation survey has already been conducted by Goodban Ecological Consulting Inc. and will be included within the EIA.

☒ The EIA requires a breeding bird survey. The survey must be conducted during the breeding bird season at an appropriate time of day, in appropriate weather conditions, and by a qualified professional. A minimum of two surveys are required and they must follow generally-accepted scientific protocols. A list of the breeding birds must be included. The list will indicate any provincially-, regionally-, and/or locally-rare, Threatened or Endangered species.

☐ The EIA requires a snake survey (visual encounter surveys [VES]). The survey will be completed based on our experience with requirements related to Species at Risk (SAR) in the area, where applicable, and conducted in accordance with generally-accepted protocols described within Survey Protocol for Ontario's Species at Risk Snakes (MNRF 2016).

Note: Through consultation with the Ministry of Environment, Conservation and Parks (MECP), approval under the ESA has already been granted specifically regarding Eastern Foxsnake (Pantherophis gloydi). As such, snake surveys are not required.

☐ The EIA requires an amphibian breeding survey. The survey must be conducted during the amphibian breeding season and by a qualified professional. Surveys will be conducted in accordance with generally-accepted protocols (i.e. Marsh Monitoring Protocol). If present, the list will indicate any provincially-, regionally-, and/or locally-rare, Threatened or Endangered species.

Note: A review of background information has suggested that no amphibian habitat is present within the Study Area.

☐ The EIA requires a turtle visual encounter, or basking survey. Surveys must be conducted during the active turtle season (i.e. ice-off to late October) and in accordance with generally-accepted protocols distributed by the MNRF such as the Survey Protocol for Blanding's Turtle in Ontario (2015).

Note: A review of background information has suggested that no turtle habitat is present within the Study Area.

☐ A fisheries assessment should be provided due to the presence of suitable fish habitat as identified in background documents and confirmed on-site. Existing data regarding fish species should be obtained from ERCA and/or the MNRF and used for the fisheries assessment. The assessment should include a description of watercourses or other fish habitat on and/or adjacent to the Project Location (where site access is permitted).

Note: A review of background information has suggested that no fish habitat is present within the Study Area.

☐ The fisheries assessment will include community sampling through electrofishing and/or netting during the appropriate season, under a collection permit.

Note: A review of background information has suggested that no fish habitat is present within the Study Area.

☒ All incidental wildlife observed should be reported on and included in the EIA. The list must include an analysis for the presence of federally-, or provincially-rare, Threatened, or Endangered species.

☒ All records of federally-, or provincially-rare, Threatened, or Endangered species observed during formal surveys or incidentally, will be submitted to the Natural Heritage Information Centre using the most up to date version of the Ontario Species at Risk Observation Reporting Form.

Biophysical Analysis

☒ The biophysical analysis will address current policy, technical documents, and legislation including, but not limited to, the Provincial Policy Statement (PPS; 2014), Natural Heritage Reference Manual (2010), Significant Wildlife Habitat Technical Guide (2000), Significant Wildlife Habitat Ecoregion 7E Criteria Schedules (2015), etc.

☒ The staking of significant natural features (e.g. woodlots, PSW's, etc.) may be required. Staking will generally occur between the end of May and the end of October. Any staking that occurs outside of this time may require a confirmatory visit between May and October.

Note: With the presence of MNRF-mapped Woodland to be retained within the Project Location, we anticipate that staking of the woodland will be required.

☒ The EIA will include a biophysical analysis that identifies the significance of natural features and functions.

☒ A functional assessment of the Study Area describing the ecology of the natural heritage features and functions within the Study Area should be provided. The functional assessment may include ecological function, wetland function, natural heritage features and landscapes, benefits of importance to humans, and corridors and linkages, as required.

Development Proposal Description

☒ The EIA will, at a minimum, include a preliminary site plan showing the type(s) and location(s) of the proposed development overlaid on a recent orthophoto. The site plan will clearly show

setbacks and/or buffers, including distance from proposed development areas and proposed structures to lot lines and/or to environmental features and functions designated for protection, where applicable.

☒ The EIA will describe other relevant issues (e.g. servicing, stormwater management, municipal drainage, open space dedication, hazards, etc.) from an ecological perspective, pending receipt of relevant reports from other disciplines, should they have the potential to impact the identified natural hazard/heritage features. These can be highlighted within the proposed development description, or, where applicable, under the potential impact assessment.

Potential Impact Assessment

☒ Mapping (at a minimum) shall consist of the following:

a) All mapping must have a title, figure number, north arrow, legend, and scale or scale bar.
b) A site location map that provides the regional or watershed context of the Study Area.
c) The extent of the natural heritage system and its components must be clearly demarcated on an air photo base, if applicable.
d) The locations of all watercourses and waterbodies.
e) Vegetation communities must be delineated and identified using ELC.
f) The location of any rare, Threatened, or Endangered species and/or populations may be referenced in the EIA, where appropriate.
g) The location of any important wildlife features (e.g. hibernacula, den, stick nest, etc.) may be identified pending sensitivity to public information.

☒ The potential impacts to the features and functions of natural areas should be identified and discussed.

☒ An assessment of the potential impact on significant wildlife habitat at a local, watershed, and provincial (if applicable) level should be provided using the Ecoregion 7E criteria schedules.

☒ In the case of significant natural heritage features and other significant natural features (as confirmed through field studies), the EIA must demonstrate that there is no development or site alteration within the feature with the exception of uses as specified in the OP and/or prior approvals. The EIA must determine appropriate buffers from significant natural features.

☒ The EIA should include one or more figures which overlays the proposed development on the ecological constraints of the site. The analysis should determine the area(s) and type(s) of natural features and function that may be directly and/or indirectly impacted by the proposed development. Proposed buffers which will protect natural features and functions should be clearly shown on figures. Rationale for proposed buffers will also be provided.

Mitigation Strategies

☒ Avoidance of any natural heritage feature is the preferred approach to mitigation unless otherwise specified in the OP and/or prior approvals.

☒ Determine adequate buffers through the identification of the critical function and protection zones of any identified natural areas.

☒ Where avoidance of a feature is not feasible or possible, all feasible mitigation measures/approaches should be explored and described in the report. These may include edge management plans, buffer plantings, fencing, low impact designs (LID), etc.

☒ The EIA should provide a detailed outline of mitigation measures intended to eliminate or reduce potential construction-related impacts to areas designated for protection. Recommendations for Best Management Practices during construction should be provided. This may include silt fencing, tree protection, fencing, identification of timing or seasonal constraints to construction or restoration, etc.

☒ Mitigation for negative impacts on the natural features or their ecological functions (or to achieve no net negative impact) may include, at the discretion of the planning authority, approaches to replace lost areas or functions. If acceptable, replacement shall, to the extent possible, occur within the same watershed as the proposed development or site alteration. The appropriate amount of replacement will be determined through discussions with the Town and will be agreed to by all parties in writing.

☒ If monitoring is required, the details of a monitoring program must be agreed to in writing by the pertinent planning authorities, and other parties (if required).

Conclusions

☒ The EIA will summarize the key finding of the report including the biophysical inventory and analysis, assessment of potential impacts, impact avoidance measures, mitigation measures, and opportunities for environmental enhancement. The conclusion will include a final recommendation to approve/not approve the development proposal based on the results of the study, and identify conditions of approval required to achieve no negative impact.

Species at Risk

Dillon is very familiar with SAR and the potential for SAR habitat within the Town of Amherstburg. A preliminary screening for SAR has already been completed within 1 km of the Project Location and the information will, in part, be used to guide the appropriate field studies.

SAR requirements, as outlined in the ESA, will be addressed under separate cover with MECP. The Town and/or ERCA will be informed of MECP approvals that are required, as necessary.

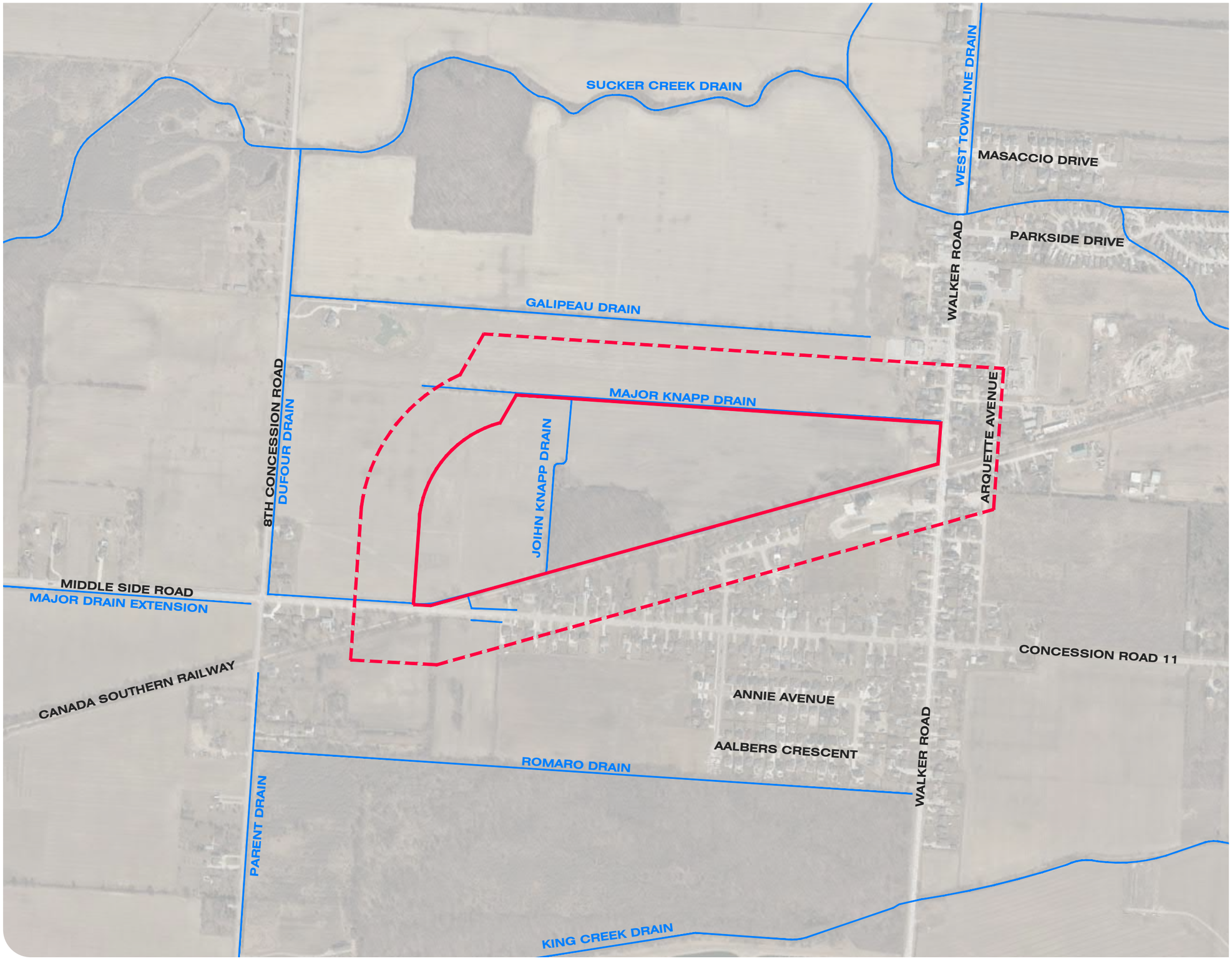
We thank you for your time in establishing these Terms of Reference with us and look forward to working together with you on this and other projects as we move forward.

Please let me know if you have any questions.

Yours Sincerely,

DILLON CONSULTING LIMITED

Brad McLeod, M.Sc.
Biologist



2551424 ONTARIO INC.
MIDDLE SIDE ROAD AND WALKER ROAD

ENVIRONMENTAL IMPACT ASSESSMENT
TERMS OF REFERENCE

PROJECT LOCATION
FIGURE 1.0

PROJECT LOCATION
(± 26.29 ha)

STUDY AREA (120m BUFFER)

MUNICIPAL DRAIN

MAP/DRAWING INFORMATION
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.

SCALE : N.T.S.

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SOURCE: COUNTY OF ESSEX
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DILLON CONSULTING

PROJECT: 20-XXXX
STATUS: FINAL
DATE: 03/23/2020

Appendix B

Background Mapping

County of Essex

Schedule A1

Land Use Plan

Legend

- Local Roads
- County Roads
- Provincial Highway
- Railway
- Essex County Municipalities
- Lot Fabric
- Settlement Areas
- Agricultural
- Natural Environment

Lake St. Clair

Peche Island

St. Clair Beach

Puce

Belle River

Stoney Point

Lighthouse Cove

CITY OF WINDSOR

St. Joachim

LAKESHORE

Comber

Ruscom

Staples

Municipality of Chatham - Kent

Fighting Island

Detroit River

Turkey Island

Oldcastle

LASALLE

TECUMSEH

Maidstone

Woodslee

Essex Centre

McGregor

Crystal Island

Boblo Island

ESSEX

Gesto

Cottam

KINGSVILLE

Blytheswood

LEAMINGTON

AMHERSTBURG

Project Location

Malden Centre

Harrow

Ruthven

Colchester

Lake Erie

Pelee Island

Point Pelee National Park

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County of Essex

Schedule B2

Natural Heritage System
Natural Environment Overlay

Legend

- Local Roads
- County Roads
- Provincial Highway
- Railway
- Essex County Municipalities
- Settlement Areas
- Lot Fabric
- Natural Environment Overlay

Lake St. Clair

Peche Island

St. Clair Beach

Puce

Belle River

Stoney Point

Lighthouse Cove

CITY OF WINDSOR

St. Joachim

LAKESHORE

Fighting Island

Detroit River

Turkey Island

LASALLE

Oldcastle

TECUMSEH

Maidstone

Woodslee

Ruscom

Comber

Staples

Municipality of Chatham - Kent

Essex Centre

McGregor

Gesto

Crystal Island

AMHERSTBURG

Boblo Island

ESSEX

Cottam

KINGSVILLE

Blytheswood

LEAMINGTON

Project Location

Malden Centre

Harrow

Ruthven

Colchester

Lake Erie

Pelee Island

Point Pelee National Park

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0 2.5 5 10 km

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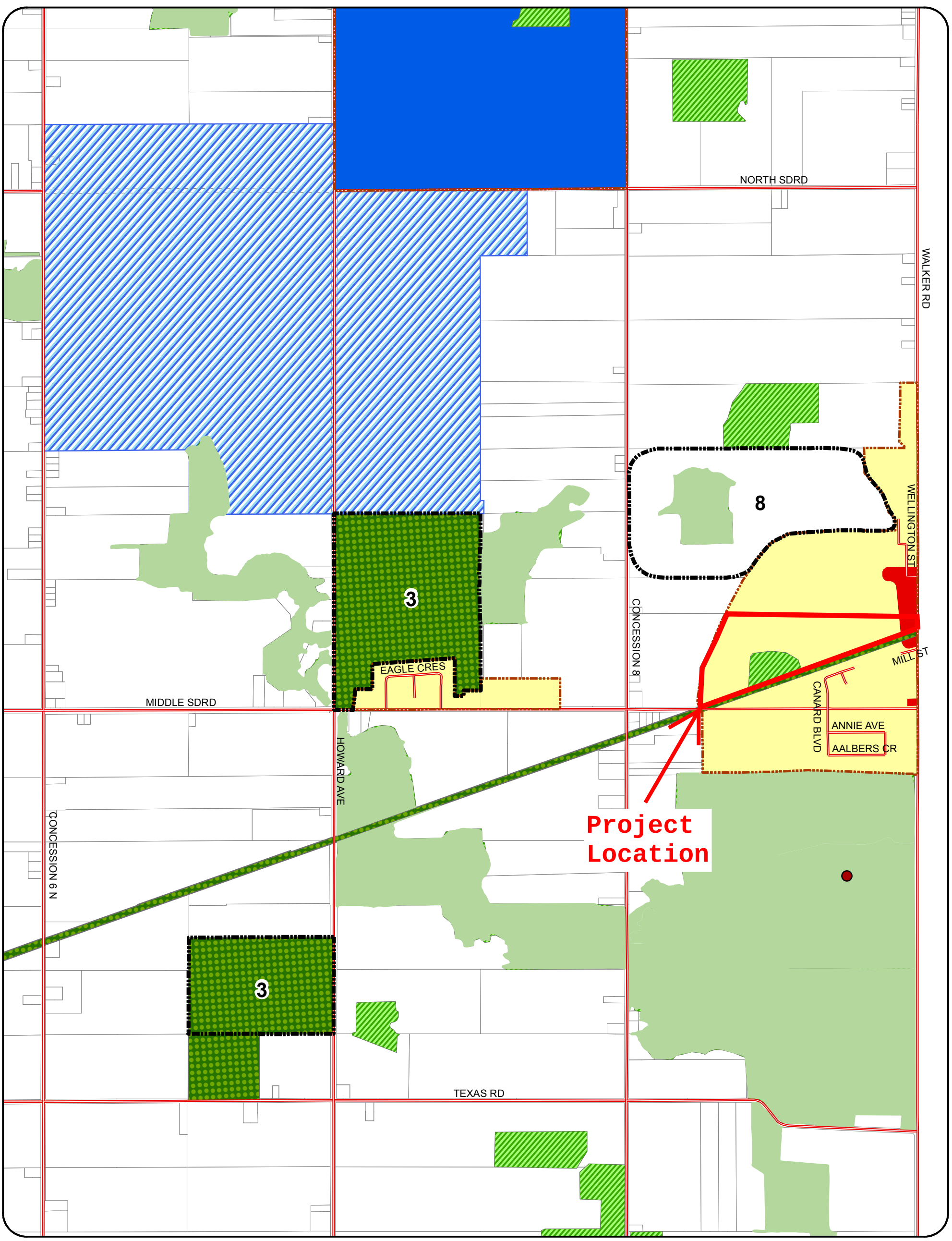


TOWN OF AMHERSTBURG

OFFICIAL PLAN

SCHEDULE "B-5"

LAND USE PLAN

0 115 230 460 690 920 Metres

Legend

- Agricultural
- Settlement Area Boundary
- Provincially Significant Wetlands
- Natural Environment
- Woodlots
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Office Residential
- Heritage Residential
- Modular Home Residential
- Neighbourhood Commercial
- General Commercial
- Special Industrial
- Light Industrial
- Heavy Industrial
- Extractive Industrial
- Institutional
- Recreational Development
- Open Space
- 1 Special Policy
- Closed Landfill Site
- Open Landfill Site
- Sewage Treatment Facility

mbpc
Monteith • Brown
planning consultants

TOWN OF AMHERSTBURG

OFFICIAL PLAN

SCHEDULE "C"

NATURAL FEATURES

Legend

- Areas of Natural and Scientific Interest (ANSI)
- Significant Valley Lands
- Environmentally Significant Areas (ESA)
- Woodlots
- Registered Fill Line / E.R.C.A. Regulated Area
- Floodplain Development Control Area
- Lake Erie/Detroit River Floodprone Area
- Drainage

*Note: Provincially Significant Wetlands and Natural Environment are shown on schedule "A" and "B"

Monteith Brown planning consultants

Appendix C

Vegetation List

Table 1: Vegetation Species identified within the Project Location

Family	Scientific Name	Common Name	SARA Status[1]	ESA Status[2]	SRank[3]	CC[4]	CW[5]	Invasive Priority for Control[6]	Noxious
Cyperaceae	*Carex gracillima*	Graceful Sedge	---	---	S5	4	3	---	---
Cyperaceae	*Carex hyalinolepis*	Shore-line Sedge	---	---	S4	4	-5	---	---
Cyperaceae	*Carex intumescens*	Bladder Sedge	---	---	S5	6	-4	---	---
Cyperaceae	*Carex lacustris*	Lake-bank Sedge	---	---	S5	5	-5	---	---
Cyperaceae	*Carex peckii*	Peck's Sedge	---	---	S5	6	5	---	---
Cyperaceae	*Carex rosea*	Rosy Sedge	---	---	S5	5	5	---	---
Poaceae	*Phragmites australis ssp. australis*	European Common Reed	---	---	SNA	---	-4	C1	---
Dioscoreaceae	*Dioscorea villosa*	Wild Yam	---	---	S4	7	1	---	---
Smilacaceae	*Smilax herbacea*	Herbaceous Carrionflower	---	---	S4	5	0	---	---
Apiaceae	*Daucus carota*	Wild Carrot	---	---	SNA	---	5	C4	---
Asteraceae	*Ambrosia artemisiifolia*	Annual Ragweed	---	---	S5	0	3	---	Y
Asteraceae	*Ambrosia trifida*	Great Ragweed	---	---	S5	0	-1	---	Y
Asteraceae	*Erigeron philadelphicus*	Philadelphia Fleabane	---	---	S5	1	-3	---	---
Asteraceae	*Euthamia graminifolia*	Grass-leaved Goldenrod	---	---	S5	2	-2	---	---
Asteraceae	*Solidago altissima ssp. altissima*	Eastern Late Goldenrod	---	---	S5	1	3	---	---
Asteraceae	*Solidago canadensis var. canadensis*	Canada Goldenrod	---	---	S5	1	3	---	---
Asteraceae	*Sonchus arvensis ssp. arvensis*	Field Sow-thistle	---	---	SNA	---	1	---	Y
Asteraceae	*Symphyotrichum ericoides var. ericoides*	White Heath Aster	---	---	S5	4	4	---	---
Asteraceae	*Symphyotrichum lanceolatum ssp. lanceolatum*	Panicled Aster	---	---	S5	3	-3	---	---
Asteraceae	*Symphyotrichum novae-angliae*	New England Aster	---	---	S5	2	-3	---	---

Family	Scientific Name	Common Name	SARA Status[1]	ESA Status[2]	SRank[3]	CC[4]	CW[5]	Invasive Priority for Control[6]	Noxious
Asteraceae	*Taraxacum officinale*	Common Dandelion	---	---	SNA	---	3	---	---
Asteraceae	*Vernonia gigantea*	Giant Ironweed	---	---	S1?	7	0	---	---
Asteraceae	*Xanthium strumarium*	Rough Cocklebur	---	---	S5	2	0	---	---
Brassicaceae	*Alliaria petiolata*	Garlic Mustard	---	---	SNA	---	0	C1	---
Brassicaceae	*Brassica rapa*	Field Mustard/Turnip	---	---	SNA	---	5	---	---
Brassicaceae	*Hesperis matronalis*	Dame's Rocket	---	---	SNA	---	5	C3	---
Celastraceae	*Euonymus obovata*	Running Strawberry Bush	---	---	S5	6	5	---	---
Cornaceae	*Cornus racemosa*	Gray Dogwood	---	---	S5	2	-2	---	---
Caprifoliaceae	*Sambucus canadensis*	Common Elderberry	---	---	S5	5	-2	---	---
Dipsacaceae	*Dipsacus fullonum*	Fuller's Teasel	---	---	SE5	---	5	C3	---
Fabaceae	*Trifolium repens*	White Clover	---	---	SNA	---	2	---	---
Betulaceae	*Carpinus caroliniana*	Blue-beech	---	---	S5	6	0	---	---
Betulaceae	*Ostrya virginiana*	Eastern Hop-hornbeam	---	---	S5	4	4	---	---
Fagaceae	*Quercus alba*	White Oak	---	---	S5	6	3	---	---
Fagaceae	*Quercus bicolor*	Swamp White Oak	---	---	S4	8	-4	---	---
Fagaceae	*Quercus macrocarpa*	Bur Oak	---	---	S5	5	1	---	---
Fagaceae	*Quercus palustris*	Pin Oak	---	---	S4	9	-3	---	---
Fagaceae	*Quercus rubra*	Northern Red Oak	---	---	S5	6	3	---	---
Asclepiadaceae	*Asclepias syriaca*	Common Milkweed	---	---	S5	0	5	---	---
Geraniaceae	*Geranium maculatum*	Spotted Geranium	---	---	S5	6	3	---	---
Juglandaceae	*Carya cordiformis*	Bitternut Hickory	---	---	S5	6	0	---	---
Juglandaceae	*Carya ovata*	Shagbark Hickory	---	---	S5	6	3	---	---

Family	Scientific Name	Common Name	SARA Status[1]	ESA Status[2]	SRank[3]	CC[4]	CW[5]	Invasive Priority for Control[6]	Noxious
Lamiaceae	*Lycopus americanus*	American Water-horehound	---	---	S5	4	-5	---	---
Malvaceae	*Abutilon theophrasti*	Velvetleaf	---	---	SNA	---	4	---	---
Tiliaceae	*Tilia americana*	American Basswood	---	---	S5	4	3	---	---
Onagraceae	*Circaea canadensis*	Broad-leaved Enchanter's Nightshade	---	---	S5	3	3	---	---
Polygonaceae	*Rumex crispus*	Curly Dock	---	---	SNA	---	-1	---	---
Primulaceae	*Lysimachia nummularia*	Creeping Jennie	---	---	SNA	---	-4	C3	---
Elaeagnaceae	*Elaeagnus angustifolia*	Russian Olive	---	---	SNA	---	4	C3	---
Rhamnaceae	*Rhamnus cathartica*	Common Buckthorn	---	---	SNA	---	3	C1	Y
Vitaceae	*Parthenocissus quinquefolia*	Virginia Creeper	---	---	S4?	6	1	---	---
Vitaceae	*Vitis riparia*	Riverbank Grape	---	---	S5	0	-2	---	---
Rosaceae	*Agrimonia parviflora*	Swamp Agrimony	---	---	S4	4	-1	---	---
Rosaceae	*Geum aleppicum*	Yellow Avens	---	---	S5	2	-1	---	---
Rosaceae	*Potentilla simplex*	Old-field Cinquefoil	---	---	S5	3	4	---	---
Rosaceae	*Prunus virginiana*	Choke Cherry	---	---	S5	2	1	---	---
Rosaceae	*Rosa multiflora*	Multiflora Rose	---	---	SNA	---	3	C2	---
Rosaceae	*Rosa setigera*	Climbing Prairie Rose	SC	SC	S3	5	2	---	---
Rosaceae	*Rubus idaeus ssp. idaeus*	Common Red Raspberry	---	---	SNA	---	5	---	---
Rubiaceae	*Galium aparine*	Cleavers	---	---	S5	4	3	---	---
Salicaceae	*Populus deltoides ssp. deltoides*	Eastern Cottonwood	---	---	S5	4	-1	---	---
Aceraceae	*Acer negundo*	Manitoba Maple	---	---	S5	0	-2	C2	---
Aceraceae	*Acer rubrum*	Red Maple	---	---	S5	4	0	---	---
Aceraceae	*Acer saccharinum*	Silver Maple	---	---	S5	5	-3	---	---

Family	Scientific Name	Common Name	SARA Status[1]	ESA Status[2]	SRank[3]	CC[4]	CW[5]	Invasive Priority for Control[6]	Noxious
Aceraceae	*Acer saccharum*	Sugar Maple	---	---	S5	4	3	---	---
Anacardiaceae	*Toxicodendron radicans*	Climbing Poison Ivy	---	---	S5	5	-1	---	Y
Rutaceae	*Zanthoxylum americanum*	Northern Prickley Ash	---	---	S5	3	5	---	---
Oleaceae	*Fraxinus americana*	White Ash	---	---	S4	4	3	---	---
Oleaceae	*Fraxinus pennsylvanica*	Green Ash	---	---	S4	3	-3	---	---
Polemoniaceae	*Phlox divaricata*	Wild Blue Phlox	---	---	S4	7	3	---	---
Ulmaceae	*Ulmus americana*	American Elm	---	---	S5	3	-2	---	---

1 – Status identified by the Committee on the Status of Endangered Wildlife in Canada under the federal Species at Risk Act, 2002;

2 – Species at Risk in Ontario List under the provincial Endangered Species Act, 2007;

3 – Ontario Conservation SRank; S5 = secure; S4= apparently secure; S3 = vulnerable; S2 = imperilled; SX = Extirpated; SH = Possibly Extirpated; SNA = non-native or exotic species to Ontario;

4 – Coefficient of Conservatism (CC) (Floristic Quality Assessment System for Southern Ontario 1995). Each native taxon is assigned a rank of 0 to 10 ("coefficient of conservatism") based on its degree of fidelity to a range of synecological parameters. Species found in a wide variety of plant communities, including disturbed sites, are assigned ranks of 0 to 3. Species that are typically associated with a specific plant community, but tolerate moderate disturbance, are assigned ranks of 4 to 6. Rankings of 7 to 8 were applied to those species associated with a plant community in an advanced successional stage that has undergone minor disturbance. Those species with high degrees of fidelity to a narrow range of synecological parameters are assigned a value of 9 to 10;

5 – Coefficient of Wetness (CW) (Floristic Quality Assessment System for Southern Ontario 1995). The wetness index gives an indication of where plant species are typically found. A wetness value (coefficient of wetness) between -5 and 5. A value of -5 was assigned to Obligate Wetland (OBL) species and a value of 5 to Obligate Upland species (UPL), with intermediate values assigned to the remaining categories. The wetland categories and their corresponding values are as follows:

OBL (-5) Obligate Wetland - Occurs almost always in wetlands under natural conditions (estimated > 99% probability).

FACW+ (-4) Facultative Wetland - Usually occurs in wetlands, but occasionally found in non-wetlands (estimated 67-99% probability).

FACW (-3)

FACW- (-2)

FAC + (-1) Facultative - Equally likely to occur in wetlands or non-wetlands (estimated 34-66% probability).

FAC 0

FAC- (1)

FACU+ (2) Facultative Upland - Occasionally occurs in wetlands, but usually occurs in non-wetlands (estimated 1-33 % probability).

FACU (3)

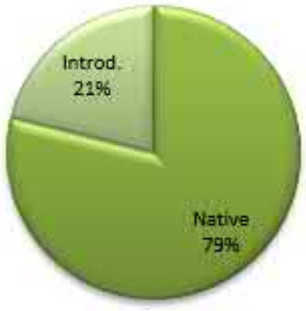
FACU- (4)

UPL (5) Obligate Upland - Occurs almost never in wetlands under natural conditions (estimated <1 % probability).

6 – Invasive Exotic Plant Species Rankings for Southern Ontario (Draft - Urban Forest Associates/MNRF 2014). Category 1 (C1) - Top Priority: Widespread invasive species that exclude most other species and dominate sites indefinitely. Some are an imminent threat to human health. They are the top priority for control but control may be difficult and some are beyond control at present. Biocontrols may be the only affective long-term control option. Plants in this category are a threat to a natural area wherever they occur because they disperse widely and benefit from human disturbances. Control where possible and do not plant.

Appendix D

Floristics Data



Mean Coefficient of Conservatism

Native Spp.	All Spp.	Scale	
		10.00	
		9.50	
		9.00	
		8.50	
		8.00	
		7.50	
		7.00	
		6.50	
		6.00	
		5.50	>4.5 remnant has natural area potential
		5.00	(relatively intact natural area with high
		4.50	floristic quality)
		4.00	>3.5 Sufficient floristic quality to be of
3.73		3.50	remnant natural quality
		3.00	
	2.94	2.50	
		2.00	
		1.50	
		1.00	
		0.50	
		0.00	

Floristic Quality Index (FQI)

Native Spp.	All Spp.	Scale	
		100.00	
		95.00	
		90.00	
		85.00	
		80.00	
		75.00	
		70.00	
		65.00	
		60.00	>50 Extremely rare and represent a
		55.00	significant component of Ontario's native
		50.00	biodiversity and natural landscapes
		45.00	>35 Possess sufficient conservatism and
		40.00	richness to be floristically important from
		35.00	a Provincial perspective
		30.00	
27.93		25.00	
	24.80	20.00	<20 Minimal significance from a natural
		15.00	quality perspective
		10.00	
		5.00	
		0.00	

Mean Coefficient of Wetness

Native Species	All Species	Scale	
		5.0	***Strong***
		4.5	
		4.0	
		3.5	
		3.0	Pedominance of upland species
		2.5	
		2.0	
		1.5	
		1.0	
0.73	0.97	0.5	*Slight*
		0.0	
		-0.5	*Slight*
		-1.0	
		-1.5	
		-2.0	
		-2.5	Predominance of wetland species
		-3.0	
		-3.5	
		-4.0	
		-4.5	
		-5.0	***Strong***

Appendix E

Site Photographs

Photograph 1 June 4, 2020 Looking east from the forest community (southwestern part of the Project Location). Note: This community is proposed to remain undeveloped, except a small, northern portion of the forest that is proposed to be removed.	
Photograph 2 June 4, 2020 Looking south from the thicket community (southeastern part of the Project Location). Note: This community is proposed to remain undeveloped.	

Photograph 3 October 9, 2020 Climbing Prairie Rose (*Rosa setigera*) present on the northern edge of the forest community. This area does not occur within the proposed development footprint.	
Photograph 4 October 9, 2020 Looking west from the northern edge of the forest community. Note: This small, northern extension of the forest is proposed to be removed.	

Photograph 5 October 9, 2020 Looking south from north of the forest community. Note: This small, northern extension of the forest is proposed to be removed.	
Photograph 6 October 9, 2020 Looking southeast from north of the forest community. Note: Annual Row Crop (foreground) and Fresh-Moist Shagbark Hickory Deciduous Forest Type (background).	

Photograph 7 October 9, 2020 Looking west from the northern boundary of the Project Location.	
Photograph 8 October 9, 2020 Looking southwest from the eastern part of the Project Location. Note: Annual Row Crop (foreground), Gray Dogwood Deciduous Thickter Type (left background), and Fresh-Moist Shagbark Hickory Deciduous Forest Type (right background).	

Photograph 9 October 9, 2020 Looking west from the eastern part of the Project Location. Note: Annual Row Crop (foreground) and Gray Dogwood Deciduous Thickter Type (left).	
Photograph 10 July 18, 2020 Looking east from the northern boundary of the Project Location. Note: Major Knapp Drain which is dry and has extensive patches of European Common Reed (*Phragmites australis ssp. australis*).	

Photograph 11 October 9, 2020 Looking north from west of the forest community. Note: John Knapp D&W Drain which is dry.	
Photograph 12 July 18, 2020 Looking west from the southwestern part of the Project Location. Note: Dufour Drain which has extensive patches of European Common Reed.	

Appendix F

SAR Observation Reporting Form

index	**SCIENTIFIC NAME** Scientific Name of the observed species.	**COMMON NAME** Common Name of the observed species.	**OBSERVATION DATE (YYYY-MM-DD)** Date the species was observed, enter as YYYY-MM-DD. Zeros can be used if you don't know the month or day.	**OBSERVER** The name of the person(s) who made the observation (or their agency name or "private citizen")	**OBSERVER EMAIL** Contact Information for the observer. The NHIC may wish to contact the observer for more information about the observation.
1	*Contopus virens*	Eastern Wood-pewee	2020-06-04	Brad McLeod	bmcleod@dillon.ca
2	*Vernonia gigantea*	Giant Ironweed	2020-10-09	Brad McLeod	bmcleod@dillon.ca
3	*Vernonia gigantea*	Giant Ironweed	2020-10-09	Brad McLeod	bmcleod@dillon.ca
4	*Rosa setigera*	Climbing Prairie Rose	2020-06-04	Brad McLeod	bmcleod@dillon.ca
5	*Rosa setigera*	Climbing Prairie Rose	2020-06-04	Brad McLeod	bmcleod@dillon.ca

OBSERVATION DETAILS Description of the observation. For example, number of individuals observed, gender of species observed, life stage of species	LOCATION A descriptive name for the location where the observation was made. This is used to confirm the coordinates.	EASTING UTM, NAD 83, Zone 17 T	NORTHING UTM, NAD 83, Zone 17 T	UNCERTAINTY DISTANCE (meters) Uncertainty distance shows how close the coordinates are to the species observed. For example, GPS reading from a road but species was	COORDINATE SOURCE What was used to determine the coordinates? That is GPS, Google Maps, National Topographic Map, Ontario Base Map
1 singing individual	Essex County, Town of Amherstburg, NW of the intersection of Middle Side Road and Walker Road	N/A	N/A	N/A	Other
13 stems	Essex County, Town of Amherstburg, NW of the intersection of Middle Side Road and Walker Road	337055	4667492	3	GPS
20 stems	Essex County, Town of Amherstburg, NW of the intersection of Middle Side Road and Walker Road	337030	4667492	3	GPS
1 stem	Essex County, Town of Amherstburg, NW of the intersection of Middle Side Road and Walker Road	337030	4667492	3	GPS
8 stems	Essex County, Town of Amherstburg, NW of the intersection of Middle Side Road and Walker Road	336485	4667460	3	GPS

HOW IDENTIFIED	PHOTO?	PHOTO LOCATION	SPECIMEN?	SPECIMEN COMMENTS	ADDITIONAL REMARKS
Explanation of how you identified it as this species, which similar species you considered and how you eliminated them.	Did you take a photo(s) of the species? Yes/No. Please attach all relevant photos.	Where is the photo(s)? For example a url if it is posted publicly somewhere. If photos are submitted enter photo	Was a specimen collected? Yes/No.	Comments about the specimen(s) collected For example the name of the person who verified the identity of the specimen, where the	Additional comments about the observation.
	No	N/A	No	N/A	N/A
	No	N/A	No	N/A	N/A
	No	N/A	No	N/A	N/A
	No	N/A	No	N/A	N/A
		Email attachment	No	N/A	N/A

Appendix G

MECP Letter of Advice

From: Species at Risk (MECP) [mailto:SAROntario@ontario.ca]
Sent: September 16, 2019 4:12 PM
To: mike@lakeland-homes.ca
Cc: 'RC Spencer - Rick Spencer'; Anthony Goodban
Subject: RE: Species at Risk Stage 1 (Information Request) Screening - Woodland Trails Subdivision, Town of Amherstburg

Hello Mr. McMahon,

The Ministry of Environment, Conservation and Parks (MECP) has reviewed the information on the Woodland Trails subdivision to assess potential impacts of the proposal on endangered or threatened species and their habitats. From the information provided, it is our understanding that the proposed project falls within these parameters:

a. The project is located at 9538 Walker Road, in the Town of Amherstburg, Essex County.

b. The project involves a residential development, consisting of 100 single family units and 37 semi-detached units. Commercial blocks are proposed near the intersection of Walker Road. A 3.1 hectare woodlot will be maintained on the property. Approximately 22 hectares of the property is active agriculture.

c. The proposed project will begin following receipt of all necessary approvals.

d. MECP has reviewed species at risk (SAR) occurrence information on file and determined that there are known occurrences of the following species in the general area of the project:

- Eastern Foxsnake – Carolinian population (endangered) – receives species and regulated habitat protection. **The project is within regulated habitat for this species.**
- SAR bats (endangered) – receives species and general habitat protection.
- Bank Swallow (threatened) – receives species and general habitat protection.
- Kentucky Coffee-tree (threatened) – receives species and general habitat protection.

Based on a review of the above information, MECP has determined that the activities associated with the project, as currently proposed, **will likely not contravene** section 9 (species protection) and/or section 10 (habitat protection) of the *Endangered Species Act, 2007* (ESA 2007) for the species at risk listed above **provided the following recommendations are implemented:**

1. Surveys for Kentucky Coffee-tree will be completed in Feature A prior to any proposed vegetation removal.
2. Permanent fencing should be installed on all lots that back on to Feature B (the 3.1 hectare woodlot to remain) and the rail corridor to reduce encroachment into the features and potential impacts to species at risk snakes that may use those features.
3. Prior to project commencement, temporary snake barrier fencing should be installed along the limits of the construction footprint, or along the southern property boundary at a minimum (i.e. along rail corridor and Feature B), following the Technical Note on Reptile and Amphibian Exclusion Fencing.
4. All on-site personnel must be made aware of the potential presence of Eastern Foxsnake in the area, its habitat in the area and the protection afforded under the ESA 2007 prior to conducting any work on the site.
5. Any species listed as endangered or threatened on the Species at Risk in Ontario (SARO) List that is encountered at the project location must be protected from all harm and harassment.
6. Any SAR individual (presumed to be unharmed) that is incidentally encountered in the project location must be allowed to leave on its own accord. Activities within 30 metres must cease until the individual disperses. Construction machinery/equipment must maintain a minimum operating distance of 30 metres from the individual until it disperses from the project area on its own accord.
7. If an injured or deceased SAR is found, the specimen must be placed in a non-airtight container that is maintained at an appropriate temperature and a Wildlife Custodian (authorized under the Fish and Wildlife Conservation Act) should be contacted. A list of authorized Wildlife Custodians, their locations and their specialties (e.g. reptiles) is available at https://www.ontario.ca/page/find-wildlife-rehabilitator. MECP (contact information below) must be contacted immediately after the occurrence.
8. Any SAR individual that is present at the project site should be reported to the MECP staff (contact information below) within 48 hours of the observation or the next working day, whichever comes first.

9. The use of mesh or netting type stabilization material **must** not be used for erosion control measures. To prevent the entanglement of SAR snakes, an alternative product such as Curlex Net-free® blanket or the use of riprap over geotextile fabric is recommended.
10. During the active season for snake species, individuals may find and occupy materials and equipment stored on site; therefore, a clean, debris-free work site should be maintained (e.g. storage of flat materials like plywood and rubber mats in open areas should be avoided).
11. Care should be taken to limit the creation and duration of debris stockpiles (i.e. soil, lumber, topsoil, bricks, other construction materials, etc.) with the development footprint to ensure that no potential SAR snake habitat is created during the construction period.
12. Specific features such as rotting logs or stumps, piles of organic material (such as compost, sawdust, or woodchips), rock piles, brush piles, brick or rubble piles, old foundations, tree root masses, ditch or drainage features, culverts, and dump sites of old agricultural debris/equipment are likely to provide habitat functions for SAR snakes in the project area. If these features exist in the proposed construction footprint, they should be carefully moved to a location on the property that is outside of the disturbance area, provided the features are not currently being used by a SAR snake. If a feature is in use (e.g. leaf pile being used for nesting) and is within the development footprint, MECP must be contacted for guidance.
13. Construction and vegetation clearing equipment that is left idle for over one (1) hour or is parked overnight on the property should be surveyed for the presence of SAR snakes before (re)ignition. This visual examination should include all lower components of the machinery, including operational extensions and running gear. During the active season for snake species (March 15th to November 30th), individuals may find and occupy materials and equipment stored on site; therefore, a clean, debris-free work site should be maintained (e.g. storage of flat materials like plywood and rubber mats in open areas should be avoided).
14. Material generated from trees / vegetation removed during site clearing should be chipped or piled (after being cut into smaller sections, if necessary) and left to remain on the property in the undisturbed vegetated areas.
15. Bank Swallow nests in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits such as stockpiled sand/silt material and excavated trenches. Construction activities should avoid the creation of vertical faces and stockpiles or excavated areas. The Best Management Practices for the Protection, Creation and Maintenance of Bank Swallow Habitat in Ontario should be followed throughout the project.

This guidance is valid until December 31st, 2020. MECP should be contacted for a new review if the project activities have not been completed by this date, or if land ownership has changed.

Should any of the project parameters change, please notify the Permissions and Compliance Section immediately to obtain guidance on whether additional actions will need to be taken to remain in compliance with the ESA 2007. Also, if any SAR species and/or habitats are observed in the project area, please contact the Permissions and Compliance Section as soon as possible.

Please visit https://www.ontario.ca/page/species-risk for more information on SAR species and habitat.

It is important to note that changes may occur in both species and habitat protection which could affect whether proposed projects may have adverse effects on SAR. The ESA 2007 applies to endangered and threatened species listed on the Species at Risk in Ontario (SARO) List (http://www.ontario.ca/environment-and-energy/species-risk-ontario-list). The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List. As a result, species designations may change, which could in turn change the level of protection they receive under the ESA 2007. Also, habitat protection provisions for a species may change if a species-specific habitat regulation comes into effect.

Please be advised that it is your responsibility to comply with all other relevant provincial or federal legislation, municipal by-laws or required approvals from other agencies.

If you have any concerns or questions regarding this letter, please contact me by email at SAROntario@ontario.ca.

Regards,

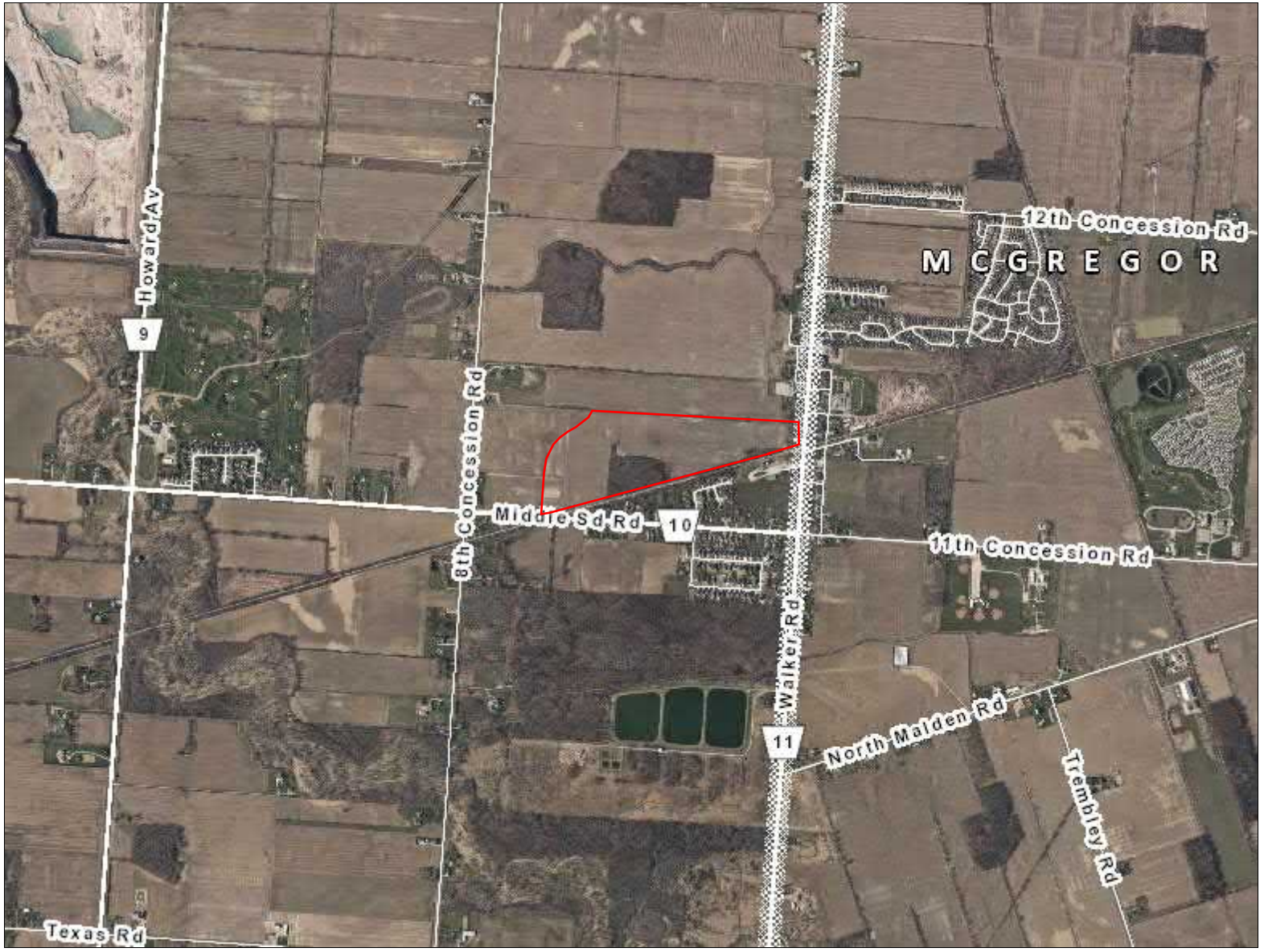
Kathryn Markham

Management Biologist

Permissions and Compliance Section, Species at Risk Branch

Ministry of Environment, Conservation and Parks

Figure 1 - Landscape View - Woodland Trails Subdivision



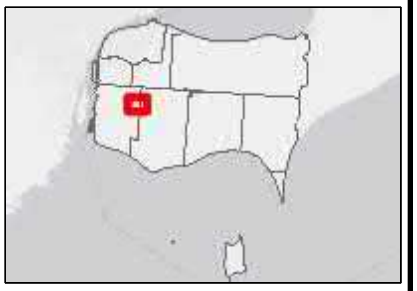
Essex Region Conservation Authority

Public Interactive Mapping

Legend

Subject Property

Location



Notes

Goodban Ecological Consulting Inc. (GEC)

February 22, 2019

0 555.63 1,111.3

Meters

1: 25,000

2/22/2019

Figure 2 - Site View - Woodland Trails Subdivision

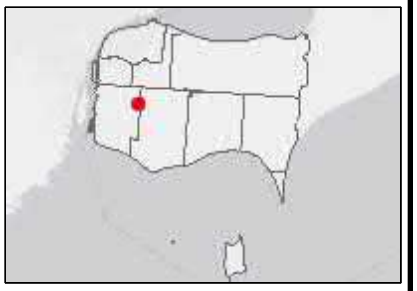
Essex Region Conservation Authority

Public Interactive Mapping

Legend

- Parcel Fabric
- Subject Property

Location



Notes

Goodban Ecological Consulting Inc. (GEC)

February 22, 2019

0 166.69 333.4

Meters

1: 7,500

2/22/2019

Figure 3 - Photo Locations - Woodland Trails Subdivision

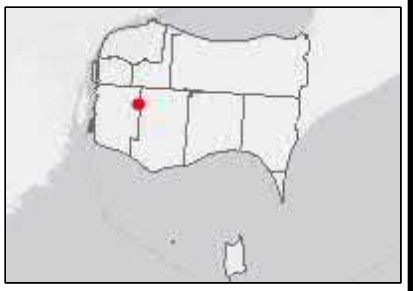
Essex Region Conservation Authority

Public Interactive Mapping

Legend

- Parcel Fabric
- Subject Property
- ← # Photo Location & Direction

Location



ERCA Geomatics

THIS MAP HAS BEEN PRODUCED BY THE GENERAL PUBLIC AND NOT BY QUALIFIED ERCA STAFF.

Notes

Goodban Ecological Consulting Inc. (GEC)

April 1, 2019.

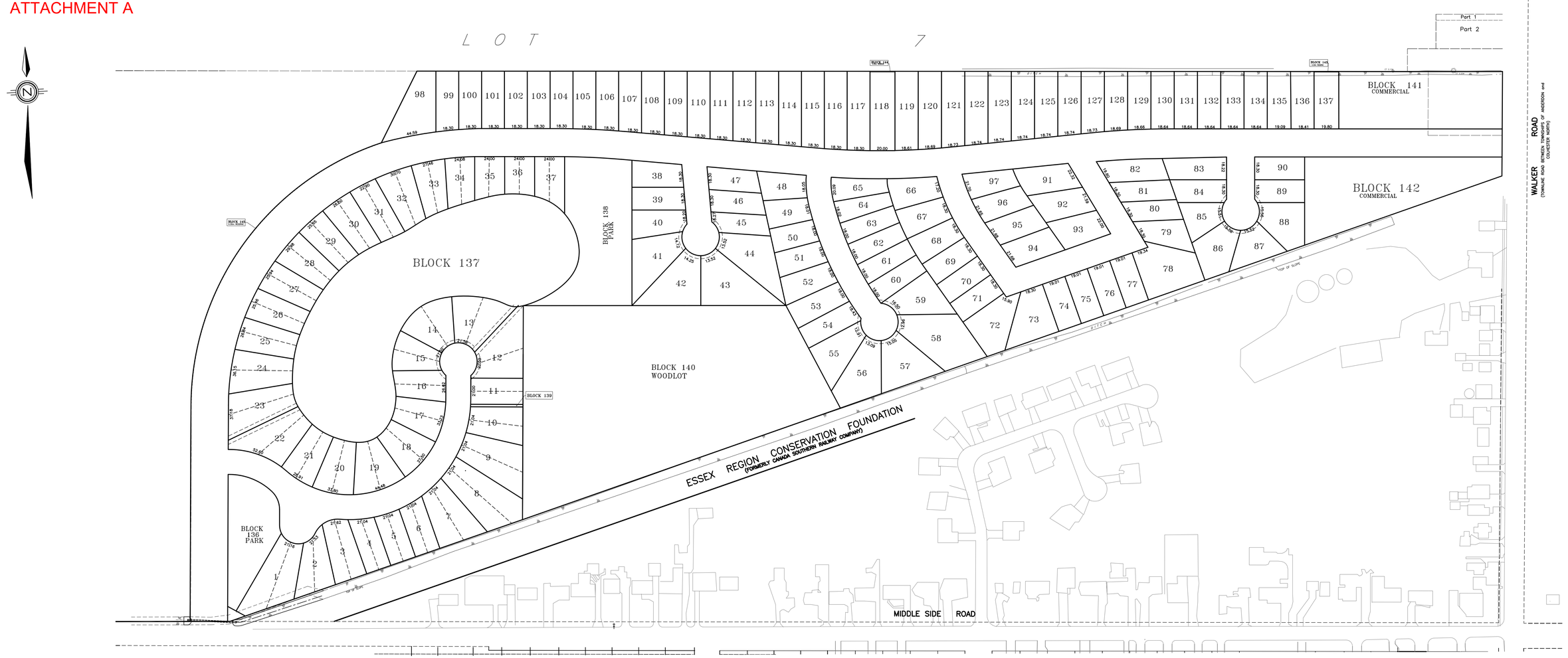
0 111.13 222.3

Meters

1: 5,000

4/1/2019

ATTACHMENT A



TOTALS:

SINGLE FAMILY UNITS (MIN. 18.0m FRONTAGE): 100 UNITS

SEMI-DETACHED UNITS (MIN. 21.0m FRONTAGE): 37 UNITS

RC SPENCER ASSOCIATES INC.
Consulting Engineers
Windsor: 800 University Ave. W.- Windsor, ON N9A 5R9
Leamington: 18 Talbot St. W.- Leamington, ON N8H 1M4
Chatham: 138 King St. W. Unit 102-Chatham, ON N7M 1E3
Professional Engineers Ontario

NO.	REVISION	DATE	BY	APP.

NO.	REVISION	DATE	BY	APP.
1.	.	.	.	.

DESIGN	R.C.S.
CHECKED	R.C.S.
DRAWN	D.L.
CHECKED	R.C.S.
DATE	JANUARY 2019
SCALE	1:1500

CORPORATION OF THE TOWN OF AMHERSTBURG
WOODLAND TRAILS SUBDIVISION

PRELIMINARY DRAFT PLAN

PROJECT NO. 18-815
SHEET NO. 1
OF 1

Z:\2018\18-815\DRAFTPLAN\18-815_01DP.dwg Plot Time: Feb 15, 2019 - 4:56pm

Attachment B:

Woodland Trails Subdivision, Amherstburg. Site photographs taken on March 12, 2019.

Goodban Ecological Consulting Inc. (GEC)

April 2019

Photo 1 – View looking west southwest across site. Most of the site is active agricultural land.
Panorama – Left.

Photo 2 – View looking west across site.
Panorama – Middle.

Photo 3 – View looking west northwest. Panorama – Right.

Photo 4 – Feature “A” is a small 0.6 ha patch that is primarily a tangle of Manitoba Maple (*Acer negundo*), White Elm (*Ulmus americana*), and Eastern Cottonwood (*Populus deltoides*). Fill was deposited in this area decades ago and it became grown over with these woody species.

Photo 5 – Portions of Feature “A” are becoming overgrown with the invasive European Common Reed (*Phragmites australis* ssp. *australis* +).

Photo 6 – There are some very small patches of wetland within Feature “A”. In this view, small pools are evident between old piles of fill next to the old rail line.

Photo 7 – At the west end of Feature “A” there are a few tiny (10m x 10m) wet pockets with Pin Oak (*Quercus palustris*) and Swamp White Oak (*Quercus bicolor*).

Photo 8 – At the far west end of Feature “A” there is a small patch of oaks and White Elm, with swards of Shoreline Sedge (*Carex hyalinolepis*).

Photo 9 – View of ditch alongside the old rail line. This ditch connects with the Dufour Drain to the west of the woodlot (Feature “B”).

Photo 10 – Second view of ditch alongside the old rail line. At several locations there are informal trail crossings from the rail trail onto the subject property.

Photo 11 – View looking north along the John Knapp Drain, at the west side of the woodlot (Feature “B”). At this location, the drain is blocked with woody debris and the water has backed up. Elsewhere the John Knapp Drain is a small shallow ditch.

Photo 12 – View looking north along the western side of the woodlot (Feature “B”). The edge is comprised mainly of hawthorns (*Crataegus* spp.).

Photo 13 – View of north edge of the woodlot (Feature “B”). A strip of hawthorns (*Crataegus* spp.) grows along the edge of the forest.

Photo 14 – The east edge of the woodlot (Feature “B”) includes a strip of hawthorns (*Crataegus* spp.), White Elm (*Ulmus americana*) and Eastern Cottonwod (*Populus deltoides*).

Photo 15 – The woodlot (Feature “B”) can be classified as a Fresh-Moist Oak-Maple-Hickory Deciduous Forest Ecosite.

Photo 16 – The tree species are a mix of Red Oak (*Quercus rubra*), Bur Oak (*Quercus macrocarpa*), Shagbark Hickory (*Carya ovata*), Bitternut Hickory (*Carya cordiformis*), Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum* ssp. *saccharum*), White Elm (*Ulmus americana*), Ironwood (*Ostrya virginiana*) and Blue-beech (*Carpinus caroliniana*).

Photo 17 – View showing an informal trail within the woodlot.

Photo 18 – There are some clusters of larger trees (i.e. >50 cm dbh) within the woodlot.

Photo 19 – At the north side of the woodlot there are signs of recent activity by Humans (*Homo sapiens*).

Photo 20 – This elaborate campsite and fire pit is likely frequented by young people living in residences on the south side of the rail trail.

Photo 21 – There are a few scattered trees along the property line. There are a few Bur Oak (*Quercus* cf. *Macrocarpa*), Pin Oak (*Quercus palustris*) and White Elm (*Ulmus americana*).

Photo 22 – The vast majority of the site is active agricultural land on heavy clay soils. The property is in crop rotation.

Photo 23 – Most of the White Elm (*Ulmus americana*) onsite are in decline or dead due to Dutch Elm Disease.

Photo 24 – Former residential property fronting onto Walker Road. There are no structures on the entire subject property.

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