

# Section 7: Natural Heritage

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## **7.0 Natural Heritage**

### **7.1 Natural Heritage Constraint Assessment**

MTE Consultants Inc. (hereafter MET) was retained to complete a Natural Heritage Constraint Assessment for the Oldcastle Stormwater Master Plan Study Area. The objective of the assessment was to identify potential constraints within the Study Area associated with natural heritage components and regulatory aspects. This study was conducted as a desktop review of available documents related to identified natural heritage features and orthoimagery interpretation of vegetation communities. A copy of the report can be found in this section of the Project File.

The study area was evaluated with respect to:

- Land use Settings – Environmental designations and land use designations;
- Description of the Natural Environment – biological setting divided into Vegetation Communities and Aquatic Habitats;
- Protected Wildlife Habitats – Species at risk (flora and fauna), Special concern and Rare Wildlife Species, Aquatic Species at Risk, and Migrator Bird Convention Act;
- Stormwater Constraint Areas.

MTE indicated that no Provincially Significant Wetlands (PSW), Areas of Natural or Scientific Interest (ANSI), or Environmentally Significant Areas were identified within the study area. Several areas have been identified as Woodland within the area of study. Vegetation communities were predominantly classified as anthropogenic with areas of open agriculture on the eastern and southern periphery, and a relatively small amount of natural/successional communities. The study area contains water courses that are part of Turkey Creek, Little River, and River Canard sub-watersheds. Aquatic habitat within the study area is mainly channelized municipal drains that do have the potential to support warm water fish species, but have no sensitive species present.

Assessment Recommendations:

- If areas of known constraint are within the considered development areas, relevant regulators (DFO, County of Essex, ERCA) should be engaged to determine if proposed works could be supported through a permitting or approval process;
- In areas where constraints are unknown, but potentially present, targeted surveys and assessments are recommended.

#### **Note:**

The MET Natural Heritage Constraint Assessment was drafted by Paul Mikoda in 2019. Paul was no longer with MTE when the report was finalized. Dave Haymen with MTE reviewed and signed the final report in January 2020. In 2022, Dave Haymen also reviewed the PPS 2020 updates as the report referenced PPS 2014. Upon review, Dave noted nothing in the PPS 2020 natural heritage policies affect the conclusions of the report.

## **7.2 Endangered Species Act (ESA) Review**

Once the Recommended Solutions were identified through the EA process, MET was retained to expand their scope and provide feedback on the feasibility of online stormwater pond infrastructure within the watershed with respect to the Endangered Species Act. A copy of the memo can be found in this section of the Project File.

MET identified that the Recommended Solution has potential to impact the following:

- Individuals and habitat of species protected under the Endangered Species Act (ESA, 2007);
- Migratory birds protected under the federal Migratory Birds Convention Act (MBCA, 1994);
- Fish and aquatic habitat protected by the federal Fisheries Act (1985, amended 2019); and
- Other wildlife protected under the Fish and Wildlife Conservation Act (1997).

In order to proceed with the Recommended Solutions, MET indicated that timing windows could be utilized to mitigate against impacts to come of the species and habitats, but approvals from the Department of Fisheries and Oceans Canada (DFO), the Ministry of Environment, Conservation and Parks (MECP), and the Essex Region Conservation Authority (ERCA) would be required.

## Social and Natural Environment

### Natural Heritage Assessment

MTE Consultants Ltd. were retained to complete a Natural Heritage Constraint Assessment of the Study Area. The report details the natural heritage components protected under municipal, provincial and federal legislation, as well as areas and features that are subject to regulatory authority review. The following recommendations have been made for next steps:

- For areas of known constraints within a considered development area, relevant regulators (DFO, County of Essex, ERCA) should be engaged to determine if the proposed works could be supported through a permitting or approval process and to scope the extent of site specific investigation required.
- For areas where constraints are unknown, but potentially present, they should be confirmed through targeted field surveys and assessments.

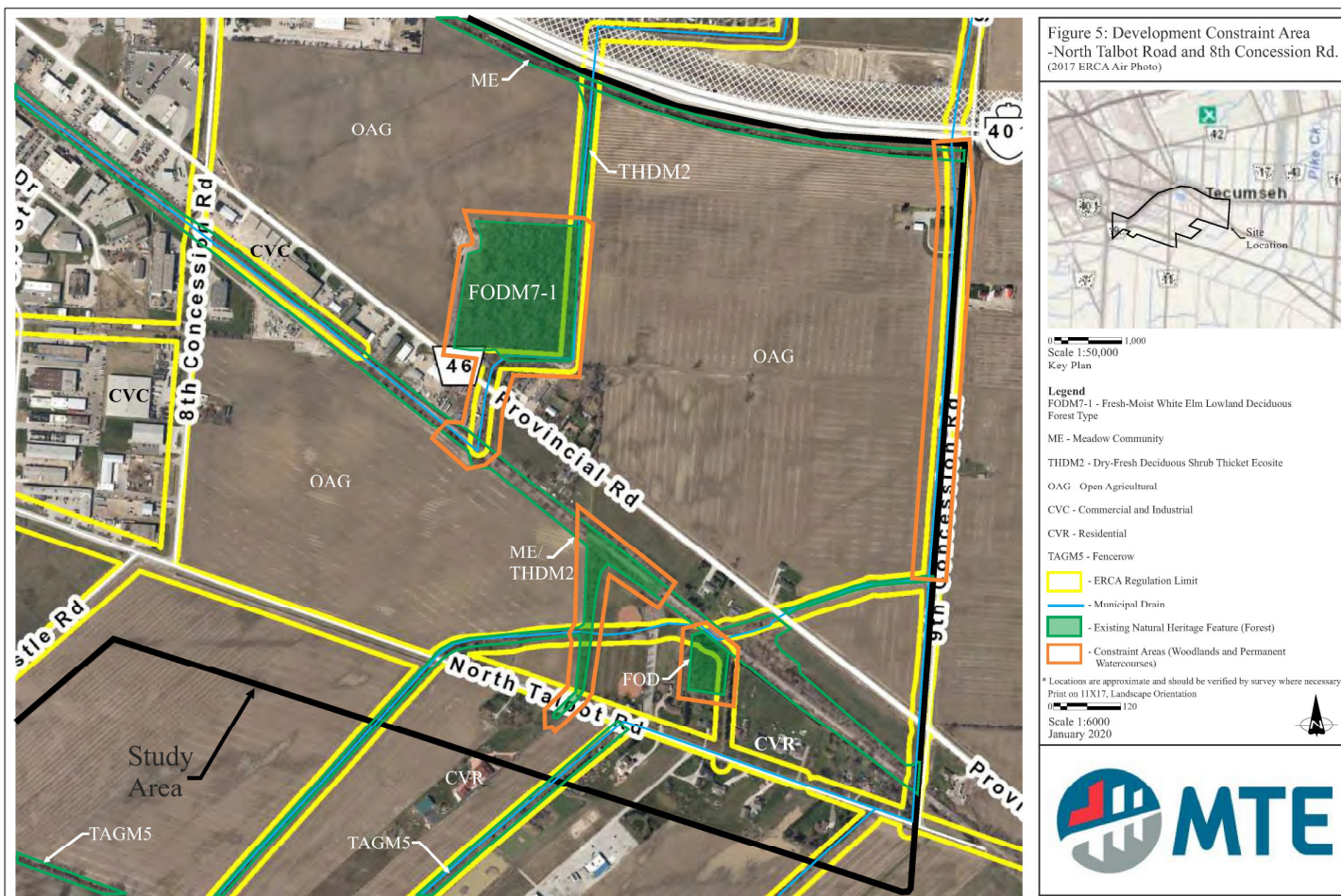


Figure 5 illustrates the typical Development Constraints that can be found within the Study Area.

### Cultural Heritage

AECOM Canada Ltd. were retained to complete a Cultural Heritage Assessment of the Study Area. The following is a summary of their findings and recommendations:

- A review of the Town of Tecumseh's Municipal Register of Cultural Heritage Properties indicates that there are no listed or designated properties located within the Study Area.
- Talbot Road (Highway 3) is a historical pioneer route, dating back to the early nineteenth-century. The road was surveyed to provide access to settlements along the north shore of Lake Erie. The 1877 Map of Essex shows there were once as many as twelve residences located along the north and south sides of Talbot Road within the Study Area.
- Contemporary mapping imagery indicates that few of the nineteenth-century structures have survived. Most structures in the Study Area appear to date from the mid-to-late twentieth century.
- Four private properties have been identified within the study area that may contain structures which possibly date to the nineteenth or early twentieth centuries. These structures may require further evaluation if they are likely to be impacted by the project.

### Recommendations:

- The proposed project will not have anticipated impacts on cultural heritage resources, and thus, no mitigation measure are recommended at this time.

### Geotechnical Investigation

Due to the size of the Study Area, it was determined that it would not be feasible to undertake soil testing for the entire Study Area. Once areas for potential improvements are proposed, the Project Team will determine where geotechnical investigations are required (if warranted). As well, some improvements have been recommended on private properties. The Town would not be able to conduct testing on the property at this time.



# Old Castle Stormwater Master Plan Environmental Assessment

## Natural Heritage Constraint Assessment

**Project Location: County of Essex, Town of  
Tecumseh, Community of Oldcastle**

**Prepared for:  
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## 1.0 Introduction

Landmark Engineers Inc. is developing a Stormwater Master Plan for the community of Oldcastle located in the Town of Tecumseh, Township of South Sandwich, County of Essex, Ontario [Figure 1]. This study is being conducted in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process under the Environmental Assessment Act. This study intends to evaluate the current stormwater system capacity of the Oldcastle Hamlet, identify the capacity needed for existing and projected future demands and develop a strategy to implement proposed improvements.

MTE has been retained to complete a preliminary assessment of the Study Area to identify developmental constraints related to natural heritage components protected under municipal, provincial, and federal legislation, as well as areas and features that are subject to regulatory authority review. Constraints were assessed through a desktop review of identified natural heritage features and orthoimagery interpretation of vegetation communities. The vegetation communities were cross referenced to typical habitats that support species protected under the *Endangered Species Act (ESA, 2007)* that have the potential to occur within the Study Area. Fish habitat and migratory birds were also considered with respect to developmental constraints.

This report evaluates the background data, identifies areas of potential constraints to stormwater infrastructure activities, and provides recommendations to mitigate and/or address potential impacts to the identified natural features.

### 1.1 Report Objective

The purpose of this report is to identify potential development constraints within the Study Area associated with natural heritage components and regulatory aspects. This includes existing identified natural heritage features, potential habitats for and individuals of species protected under the *Endangered Species Act (ESA, 2007)* and fish habitat. Guidance on future studies to assess constraints and mitigation measures to avoid potential impacts to features, habitats and species is also provided. A summary of the documents and databases reviewed has been provided.

### 1.2 Background Documents

- Provincial Policy Statement (PPS) (2014)
- Endangered Species Act (ESA) (2007)
- Species at Risk Act (SARA)
- Fisheries Act (1985)
- Conservation Authorities Act. *Ontario Regulation 158/06* (2006)
- Township of Sandwich South Official Plan (2014)
- County of Essex Official Plan (2014)
- Natural Heritage Reference Manual (MNRF, 2010)
- Significant Wildlife Habitat Criteria Schedules – Ecoregion 7-E (MNRF, 2015)
- Essex Region Natural Heritage System Strategy (ERNHSS, 2013)
- Ontario Breeding Bird Atlas (OBBA)
- Ontario Reptile and Amphibian Atlas
- Citizen Science Databases (eBird, iNaturalist)
- Upper Little River Watershed Master Drainage and Stormwater Management Plan (Stantec, 2017)

## 2.0 Land Use Settings

Land use in the Study Area is primarily commercial and residential lands with interspersed agricultural areas within a defined Urban Area Boundary. The Study Area is located



approximately 5km east of the Town of LaSalle and immediately south-east of the City of Windsor.

## **2.1 Environmental Designations**

### **2.1.1 County of Essex Official Plan, Schedule B2 (2014)**

Natural Heritage areas are identified on the County of Essex Official Plan, Schedule B2 (2014) and are mirrored by Essex Region Conservation Authority (ERCA) Existing Natural Feature (ERNHSS, 2013) layers [Figure 2]. Several areas designated as Existing Natural Feature were identified by ERCA within the Study Area. These features were all classified as Forest (ERNHSS, 2013). No wetland habitats were identified by the County of Essex Official Plan, Schedule B2 or the ERCA existing natural features layer [Figure 2].

### **2.1.2 Township of South Sandwich Official Plan, Schedule A (2014)**

No areas designated as Natural Heritage were identified within the Study Area by the Township of South Sandwich Official Plan (Schedule A, 2014) [Figure 3].

## **2.2 Land Use Designations**

### **2.2.1 Township of South Sandwich Official Plan, Schedule A (2014)**

The Study Area is entirely within an Urban Area Boundary identified by the Township of South Sandwich Official Plan (2014). The landscape is predominantly designated as Business Park and Community Facility with additional areas of Hamlet Residential and Hamlet Development [Figure 3].

## **2.3 Essex Region Conservation Authority (ERCA) Regulation**

All drainage features and watercourses within the Study Area, plus 15m from the top of bank, are within the regulation limit of the Essex Region Conservation Authority (ERCA). Additional regulation limits associated with hazard lands (flooding and erosion) are also present within the Study Area. Development within the limit of any ERCA regulated feature requires a permit.

## **3.0 Description of the Natural Environment**

### **3.1 Biological Setting**

A review of relevant background documents, including the Natural Heritage Information Centre (NHIC) database, and municipal policy documents was completed to identify areas of natural heritage within the Study Area.

No Provincially Significant Wetlands (PSW), Areas of Natural or Scientific Interest (ANSI), or Environmentally Significant Areas were identified within the Study Area. There is potential for unevaluated wetlands to be present in the Study Area within low lying topographical areas or within fresh – moist woodland communities. These features, if present, would be examined in greater detail at the site specific level.

The NHIC database identifies several areas identified as Woodland within the Study Area. The ERNHSS, 2013 report, which is referenced within the County of Essex Official Plan (2014), identifies the same areas classified by the NHIC as Forest features [Figure 2].

### **3.1.1 Vegetation Communities**

The vegetation communities within the Study Area were assessed through a combination of orthoimagery interpretation (ERCA Air Photos) and a review of a previously compiled report that

included approximately half of the Study Area (Stantec, 2017). Communities are described using the Southern Ontario Ecological Land Classification Vegetation Type List (Lee, 2008).

Vegetation communities within the Study Area are predominantly anthropogenic, with various Constructed (CV) communities in the core, and Open Agriculture (OAG) on the eastern and southern periphery. The remaining natural/successional communities are relatively small features and include Shallow Aquatic (SA), Fresh-Moist White Elm Lowland Deciduous Forest (FODM7-1), Deciduous Forest (FOD), Dry-Fresh Mixed Meadow (MEMM3), Forb Meadow (MEF), and Fencerows (TAGM5) [Figure 4]. Vegetation communities that are adjacent to municipal drains and watercourses within the Study Area are likely classified as Meadow (ME) and/or Dry-Fresh Deciduous Shrub Thicket (THDM2).

No provincially protected communities, as currently evaluated, have been identified within the Study Area. The natural heritage features identified by the County of Essex/ERCA receive some regional protection [Figure 2]. These and other unmaintained vegetation communities, may contain species, features or functions that do receive provincial or regional regulation or protection, including supporting species or habitats protected under the ESA.

### 3.1.2 Aquatic Habitat

The Study Area contains watercourses that are part of the Turkey Creek, Little River, and Canard River sub-watersheds [Figure 2]. The majority of available aquatic habitat within the Study Area consists of channelized municipal drains that are parallel to major roadways [Figure 2]. Nearly all of the drains within the Study Area are Class F, characterized as being intermittent, warm water systems with no sensitive species present (DFO Drain Classification, 2017). One (1) Class C drain, characterized as being permanent warm water with no sensitive species, is present within the Study Area [Figure 4]. Overall, aquatic habitat within the Study Area has the potential to support warm water fish species.

## 4.0 Protected Wildlife and Habitats

A review of available background information, knowledge of species at risk present in Essex County, the NHIC database, and relevant citizen science data was completed to compile a list of provincially at risk floral and faunal species that have the potential to be found within the Study Area. A total of 14 species protected under the provincial *Endangered Species Act* (ESA, 2007), designated as Endangered or Threatened, were identified as potentially occurring within the Study Area.

Provincially-designated Species of Special Concern (SC) and rare (S1-S3) wildlife species, are not protected under the *ESA* (2007), but are considered under the *Provincial Policy Statement* (PPS, 2014). Additional federal considerations with respect to migratory birds and aquatic species are detailed.

### 4.1 Species at Risk (Provincial)

#### 4.1.1 Floral Species at Risk

A review of the NHIC database and citizen science information of the Essex-Windsor area identified the following floral species protected under the *ESA* (2007) that are found or are potentially found within the Study Area boundary.

- White Colicroot [Endangered]
- American Chestnut [Endangered]
- Dense Blazing Star [Threatened]
- Willowleaf Aster [Threatened]
- Kentucky Coffee-tree [Threatened]
- Spotted Wintergreen [Threatened]

#### 4.1.2 Faunal Species at Risk

A review of the NHIC database and citizen science information of the Essex-Windsor area identified the following faunal species protected under the *ESA* (2007) that are found or are potentially found within the Study Area boundary.

- Eastern Foxsnake [Endangered] with regulated habitat
- Butler's Gartersnake [Endangered]
- Bobolink [Threatened]
- Eastern Meadowlark [Threatened]
- Barn Swallow [Threatened]
- Chimney Swift [Threatened]
- SAR Turtles
- SAR Bats

#### 4.2 Special Concern and Rare Wildlife Species (Provincial)

While not protected under the *Endangered Species Act* (2007), Special Concern and rare (S1-S3) species require consideration with respect to potential developmental constraints as these species and candidate Significant Wildlife Habitat (SWH) fall under the *Provincial Policy Statement* (PPS, 2014). Surveys targeting species protected under the *ESA* (2007) may also identify species of provincial interest.

#### 4.3 Aquatic Species at Risk (Federal)

Review of the Department of Fisheries and Oceans (DFO) aquatic SAR mapping database did not identify any critical habitat for aquatic SAR within the Study Area. In addition, no aquatic SAR (fish and mussel) species were identified as being found or potentially being found within the Study Area. If works are proposed in water that supports fish and fish habitat or below the High Water Mark for a watercourse, DFO approval may be required. This is discussed in greater detail below under Areas of Development Constraint.

#### 4.4 Migratory Bird Convention Act (1994)

Bird species protected under the federal *Migratory Birds Convention Act* (MBCA) require consideration due to the potential for migratory bird nesting within the Study Area. In short summary, the MBCA prohibits any person from disturbing, destroying, or taking a nest, egg, or migratory bird. The general timing window for peak migratory bird activity is late March to July 31 but this may be extended to August depending on the species. Since the shoulder times of active nesting season can vary from year to year and between species, this timing window is somewhat conservative and can be adjusted based on the year and site inspections completed by a qualified ecologist.

## 5.0 Stormwater Constraint Areas

Areas of natural heritage constraint are natural features, functions, species and habitats identified within the Study Area that are, or have the potential to be, protected or regulated under Provincial, Municipal and Conservation Authority policies [Figure 4]. These features include, but are not limited to, permanent watercourses and forested areas. Forests identified on the County of Essex Natural Environment Overlay (Schedule B2, 2014) within low lying areas may support unevaluated wetland habitats [Figure 4]. If works are proposed adjacent to these features, further evaluation would be required to determine if the features meet the criteria for provincial significance.

Based on the features identified during this review, and applicable legislation, the following feature constrains are present:

- Fish and Fish Habitat (Department of Fisheries and Oceans)

- Areas identified on County of Essex Natural Environment Overlay (Schedule B2, 2014)
- Areas regulated by the Essex County Conservation Authority
- Potentially Unevaluated Wetlands (Provincial Policy Statement, 2014)

As site-specific surveys have not been conducted, the presence of individual species and their habitats that receive protection is unknown. Potential constraints related to species and their habitats include:

- Species and Habitats protected under the Endangered Species Act (ESA, 2007)
- Rare and Special Concern Species (Provincial Policy Statement (2014))
- Migratory Bird Convention Act (Environment Canada)

## 6.0 Evaluation of Stormwater Constraint Areas

Prior to site planning, if areas of known constraint are within the considered development area, relevant regulators (DFO, County of Essex, ERCA) should be engaged to determine if the proposed works could be supported through a permitting or approval process, and to scope the extent of investigations required to support said approvals. An example of a location within the Study Area that contains natural heritage and regulatory constraints has been attached [Figure 4].

In areas where constraints are unknown, but potentially present [Figure 5], they can be confirmed through targeted surveys and assessments of appropriate habitat. Habitats within the Study Area, and the species they have the potential to support, are outlined in Table 1.

**Table 1:** Potential occurrence of species protected under the *Endangered Species Act* (2007) and species of Provincial Interest (Special Concern and Rare Wildlife Species) based on vegetation communities present within the Study Area.

ELC Community (Vegetation Type)	Potential Species of Provincial Interest	
	Faunal	Floral
<b>Meadow (ME)</b>	<ul style="list-style-type: none"> <li>• Eastern Foxsnake [END]</li> <li>• Butler’s Gartersnake [END]</li> <li>• Bobolink [THR]</li> <li>• Eastern Meadowlark [THR]</li> <li>• SC and Rare Species</li> </ul>	<ul style="list-style-type: none"> <li>• White Colicroot [END]</li> <li>• Dense Blazing Star [THR]</li> <li>• Willowleaf Aster [THR]</li> <li>• Spotted Wintergreen [THR]</li> <li>• SC and Rare Species</li> </ul>
<b>Deciduous Thickets (THD)</b>	<ul style="list-style-type: none"> <li>• Eastern Foxsnake [END]</li> <li>• Butler’s Gartersnake [END]</li> <li>• SC and Rare Species</li> </ul>	<ul style="list-style-type: none"> <li>• SC and Rare Species</li> </ul>
<b>Deciduous Forest (FOD)</b>	<ul style="list-style-type: none"> <li>• Protected Bats</li> <li>• Eastern Foxsnake [END]</li> <li>• SC and Rare Species</li> </ul>	<ul style="list-style-type: none"> <li>• American Chestnut [END]</li> <li>• Kentucky Coffee-tree [THR]</li> <li>• SC and Rare Species</li> </ul>
<b>Residential (CVR)</b>	<ul style="list-style-type: none"> <li>• Eastern Foxsnake [END]</li> <li>• Barn Swallow [THR]</li> <li>• Bank Swallow [THR]</li> <li>• SC and Rare Species</li> </ul>	<ul style="list-style-type: none"> <li>• Dense Blazing Star [THR]</li> <li>• Willowleaf Aster [THR]</li> <li>• Kentucky Coffee-tree [THR]</li> <li>• SC and Rare Species</li> </ul>
<b>Commercial and Residential (CVC)</b>	<ul style="list-style-type: none"> <li>• Eastern Foxsnake [END]</li> <li>• Butler’s Gartersnake [END]</li> <li>• Barn Swallow [THR]</li> <li>• Bank Swallow [THR]</li> <li>• SC and Rare Species</li> </ul>	<ul style="list-style-type: none"> <li>• Dense Blazing Star [THR]</li> <li>• Willowleaf Aster [THR]</li> <li>• Kentucky Coffee-tree [THR]</li> <li>• SC and Rare Species</li> </ul>

<b>Shallow Aquatic (SA)</b>	<ul style="list-style-type: none"> <li>Protected Turtle Species</li> <li>SC and Rare Species</li> </ul>	<ul style="list-style-type: none"> <li>SC and Rare Species</li> </ul>
<b>Fencerow (TAGM5)</b>	<ul style="list-style-type: none"> <li>Eastern Foxsnake [END]</li> <li>Butler's Gartersnake [END]</li> <li>SC and Rare Species</li> </ul>	<ul style="list-style-type: none"> <li>Dense Blazing Star [THR]</li> <li>Willowleaf Aster [THR]</li> <li>SC and Rare Species</li> </ul>

## 6.1 Species Surveys

### 6.1.1 Floral Inventory Surveys

For SWM and drainage works that are within 30m adjacent to identified natural heritage constraint areas [Figure 4], it is recommended that a three season floral inventory be completed to identify potential rare or at-risk species that may be present. Three season floral inventories are completed in the spring, summer, and fall to encapsulate the entire plant community within a given area. The timing of surveys is important as certain floral species protected under the *ESA* (2007) in the Windsor-Essex region only flower during one season or for a short period of time. During the floral inventory process, ELC vegetation community classification should be confirmed or completed. If a rare or at-risk floral species is identified, consultation with the Ministry of Natural Resources and Forestry (MNRF) or Ministry of Environment, Conservation, and Parks (MECP) will be required, respectively.

For SWM and drainage works that are over 30m from identified constraint areas, it is recommended that a single floral site visit be completed to identify potential rare or at-risk species that may be present. This single survey would be scoped to the species that are suspected of being present, based on the habitat. As an example, if works are proposed over 30m from an identified constraint feature but are adjacent to a Fencerow (TAGM5) [Figure 5], floral assessments would target Dense Blazing Star [THR], Willowleaf Aster [THR], and SC and Rare species (Table 1).

### 6.1.2 Faunal Surveys

For SWM and drainage works that are within 30m adjacent to identified natural heritage constraint areas [Figure 5], it is recommended that breeding bird surveys be completed, as well as targeted surveys for any other species in Table 1 where suitable habitat exists.

Recommended survey protocols include:

- **Snakes** – Survey Protocol for Ontario's Species at Risk Snakes, (MNRF, 2016)
- **Turtles** – Blanding's Turtle Survey Protocol (2015)
- **Birds** – OBBA Survey Protocol for Participants (2003) OR Bobolink/Meadowlark Survey Protocol (MNRF, 2013)
- **Bats** – Survey Protocol for Species at Risk Bats within Treed Habitats (MNRF, 2017)

## 6.2 Drainage Works Timing Windows for Faunal Species

Once targeted surveys for faunal species are completed for an area of contemplated development, activity timing windows are used as a best management practice to ensure potential impacts are avoided [Table 2]. These sensitive timing windows often coincide with breeding periods and periods of increased activity (SAR snakes and turtles).

The development timing windows are only applicable to those species that are identified within an area of contemplated development during completed field surveys at the site development level. As an example, if in water works are not proposed for a given project and no impacts to fish habitat are anticipated, a timing window for fish and fish habitat would not be required.

**Table 2:** SWM and drainage works timing windows for faunal species. Months in red are when development should be avoided, unless it is determined by a qualified professional that a species is not present. Green timing is when development should be completed to avoid sensitive breeding periods or to coincide with activity periods (snakes and turtles).

Species Timing Window	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SAR Snakes (Active Season)	Red	Red	Red	Green	Green	Green	Green	Green	Red	Red	Red	Red
SAR Snakes (Overwintering)	Red	Red	Red	Red	Green	Green	Green	Green	Green	Red	Red	Red
Grassland Birds	Green	Green	Red	Red	Red	Red	Red	Green	Green	Green	Green	Green
Migratory Birds	Green	Green	Red	Red	Red	Red	Red	Red	Green	Green	Green	Green
Turtles and Amphibians	Red	Red	Red	Green	Green	Green	Green	Green	Green	Red	Red	Red
Fish (Warm water)	Green	Green	Red	Red	Red	Red	Red	Green	Green	Green	Green	Green

### 6.3 Regulatory Permitting Constraints

#### 6.3.1 Stormwater Management Ponds

For new Stormwater Management Ponds (SWM), regulatory considerations are required prior to approval when construction will occur near watercourses. The construction of a new SWM pond that the outlets to an existing watercourse would require a DFO Request for Review as new structures would be constructed below the seasonal High Water Mark. Any construction of new structures (outlets, footing, and bridges) below the High Water Mark for a given area requires consideration through DFO to address potential impacts to fish and fish habitat.

Additional regulatory considerations with respect to municipal and conservation authority approval of SWM ponds are associated with the water balance of an area. If a SWM facility is proposed adjacent to low lying woodlands [FODM7-1, Figure 5] or permanent watercourses, water balance considerations would be required during the municipal planning process.

#### 6.3.2 Drain Maintenance or Repair

Under the *Drainage Act* (1990), municipalities are required to maintain and repair all drains constructed under by-law. Consultation with conservation authorities is required through this process. Submission of a Notification of Drain Maintenance or Repair form to the conservation authority is required before approval is provided. Standard compliance requirements to mitigate impacts from the drain repair works are provided by the conservation authority. This notification form can also be submitted to DFO and MECP if works are suspected of impacting species protected under the *ESA* (2007) and fish or fish habitat.

#### 6.3.3 Drain Improvements

Improvements to municipal drains fall under a separate category from repairs and require additional considerations and approvals. Drain realignment and closing drains are examples that are considered improvements under the *Drainage Act*. All relevant policies under Section 78 of the *Drainage Act* with respect to improving drains should be followed. In addition to municipal and conservation authority policies, a DFO Request for Review will be required for drain improvements to mitigate impacts to fish and fish habitat. If DFO deems that the proposed works will impact fish and fish habitat, Fisheries Act approval will be required. This would be evaluated further at a site specific level.

#### 6.3.4 New Drainage Features

When new drainage features are proposed within a municipality, all relevant policies under the *Drainage Act* (1990) with respect to new drainage features should be followed. In addition to municipal procedures, consideration for potential species protected under the *ESA* (2007) that may be present within an area of contemplated development needs to be considered.

If protected species are identified within the footprint of a new drainage feature, a permit under the *ESA* (2007) is required. If species protected under the *ESA* (2007) are not identified but there is potential for the species to be found in the general area of a new drainage project, mitigation measures will be established by the MECP at the project review stage. These measures are focused on implementing mitigation plans and best management practices for species at risk that are identified as being potentially found within an area of proposed drainage construction.

## 7.0 Conclusion

MTE has evaluated the potential stormwater constraints within the Oldcastle Stormwater Master Plan Study Area. Natural heritage components protected under municipal, provincial, and federal legislation, as well as areas and features that are subject to regulatory authority review, have been detailed and an evaluation of the next steps for these features has been provided. Specific field surveys required and applicable permitting processes required at the site plan level are also discussed.

Should any clarification or additional information be required as part of the review of this natural heritage constraint assessment, please do not hesitate to contact us.

All of which is respectfully submitted,

**MTE CONSULTANTS INC.**



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Figure 1: Site Location  
(2017 ERCA Air Photo)



0 4,000  
Scale 1:200,000  
Key Plan

\* Locations are approximate and should be verified by survey where necessary.

Print on 11X17, Landscape Orientation

0 1000

Scale 1:50,000

January 2020





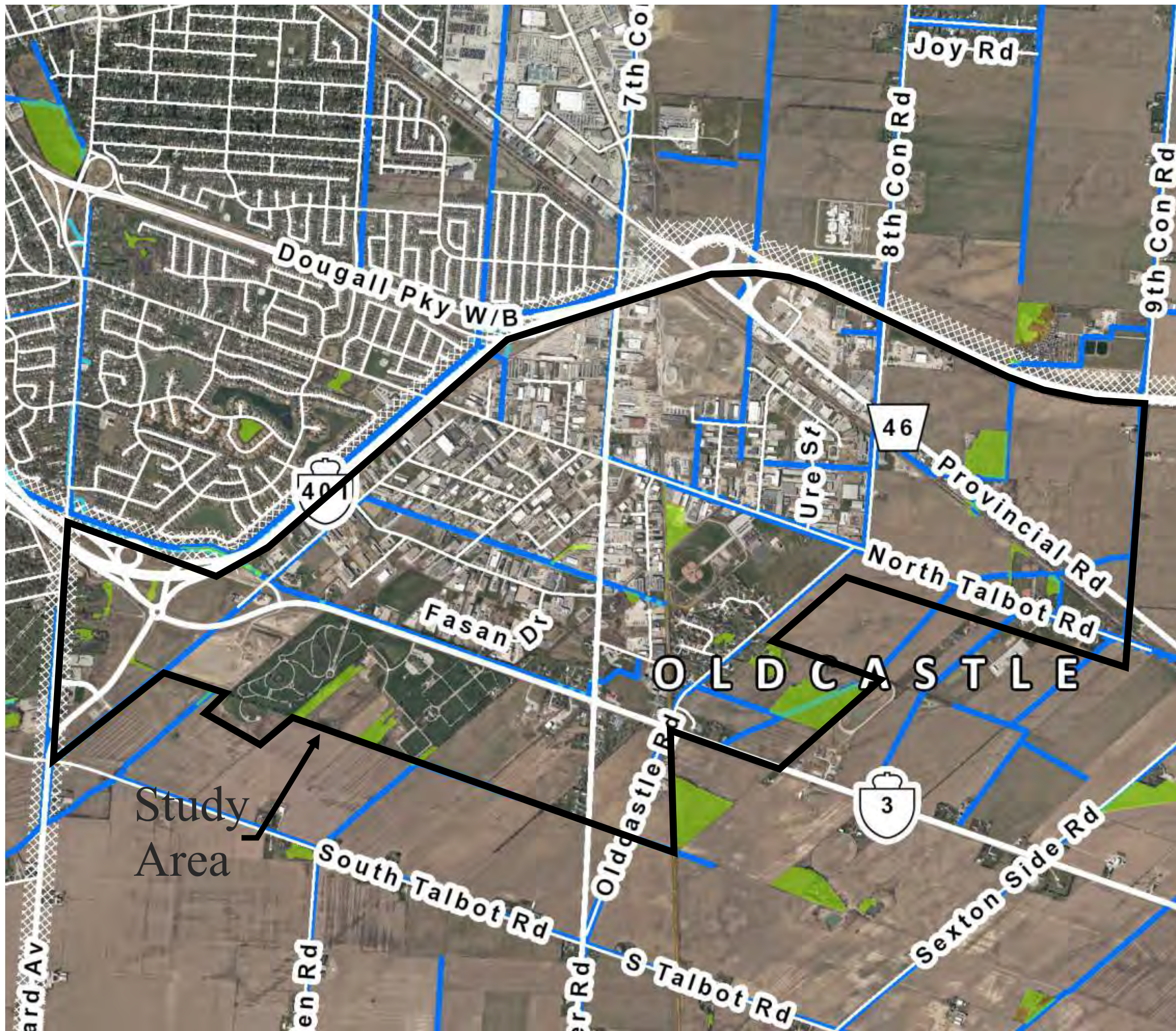
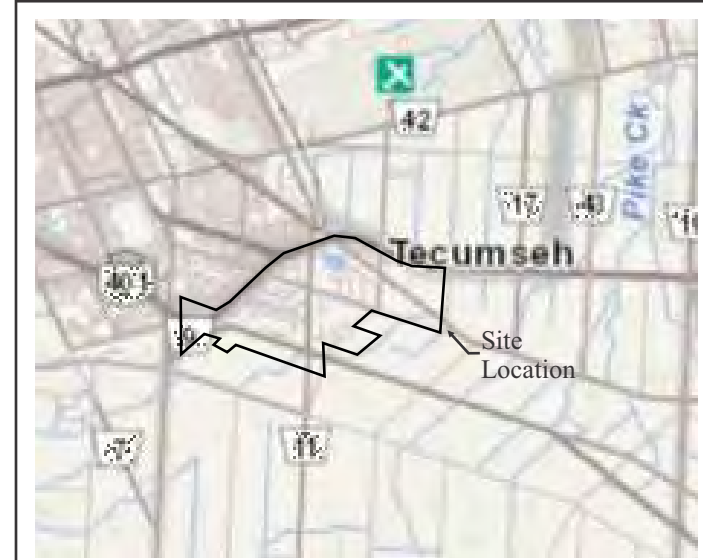


Figure 2: Natural Heritage and Drainage Features  
(2017 ERCA Air Photo)





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Key Plan

**Legend**

**Natural Heritage Overlay**

 - Existing Natural Heritage Feature (Forest)

**Municipal Drains**

 - Open  
 - Closed/Tiled

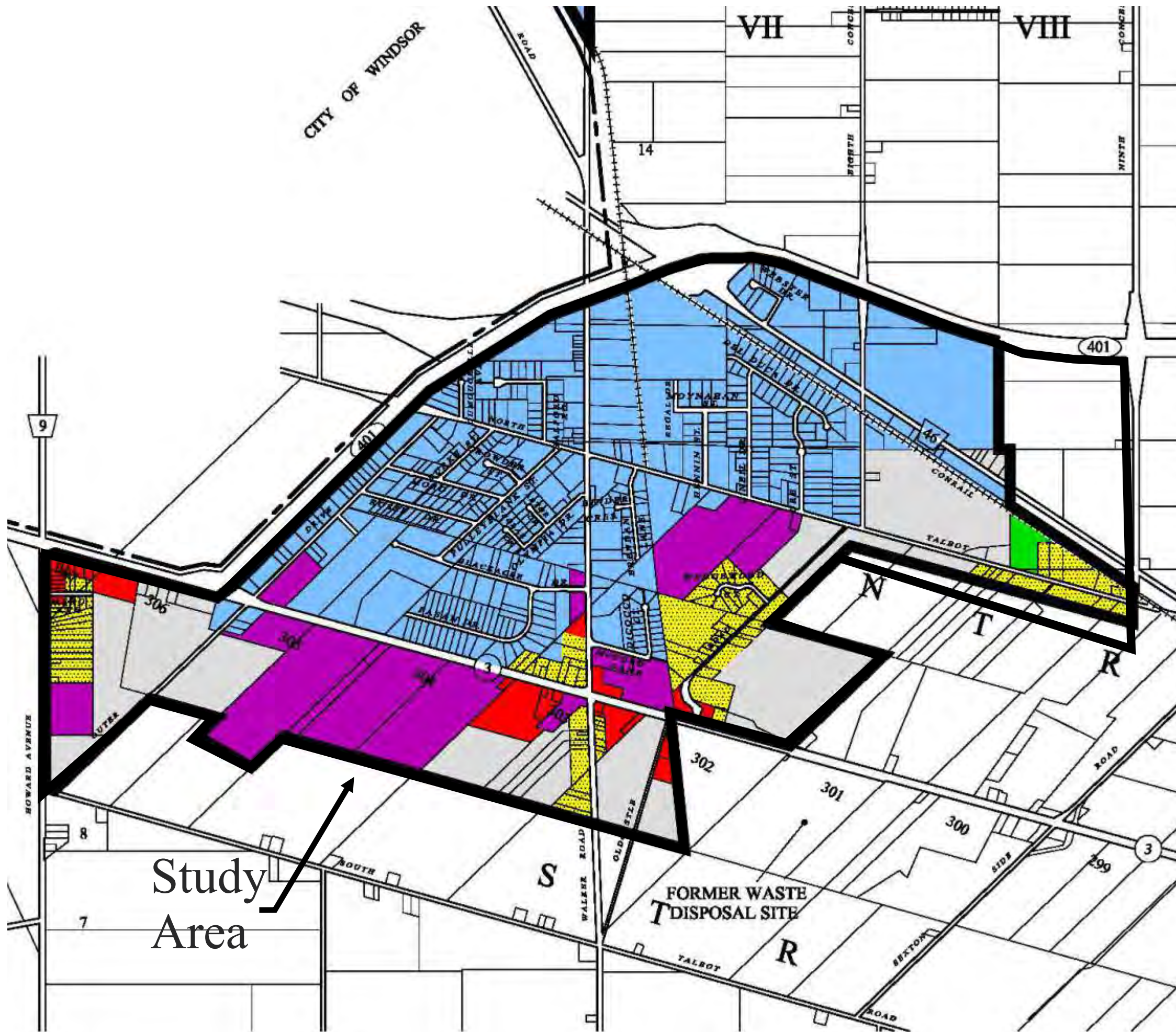
\* Locations are approximate and should be verified by survey where necessary.

Print on 11X17, Landscape Orientation

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January 2020









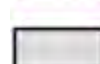
Study Area

Figure 3: Land Use  
(Township of Sandwich South Official Plan, Schedule A-2)



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Key Plan

Legend

-  Hamlet Residential
-  General Commercial
-  Business Park
-  Community Facility
-  Recreational
-  Hamlet Development

\* Locations are approximate and should be verified by survey where necessary.

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January 2020



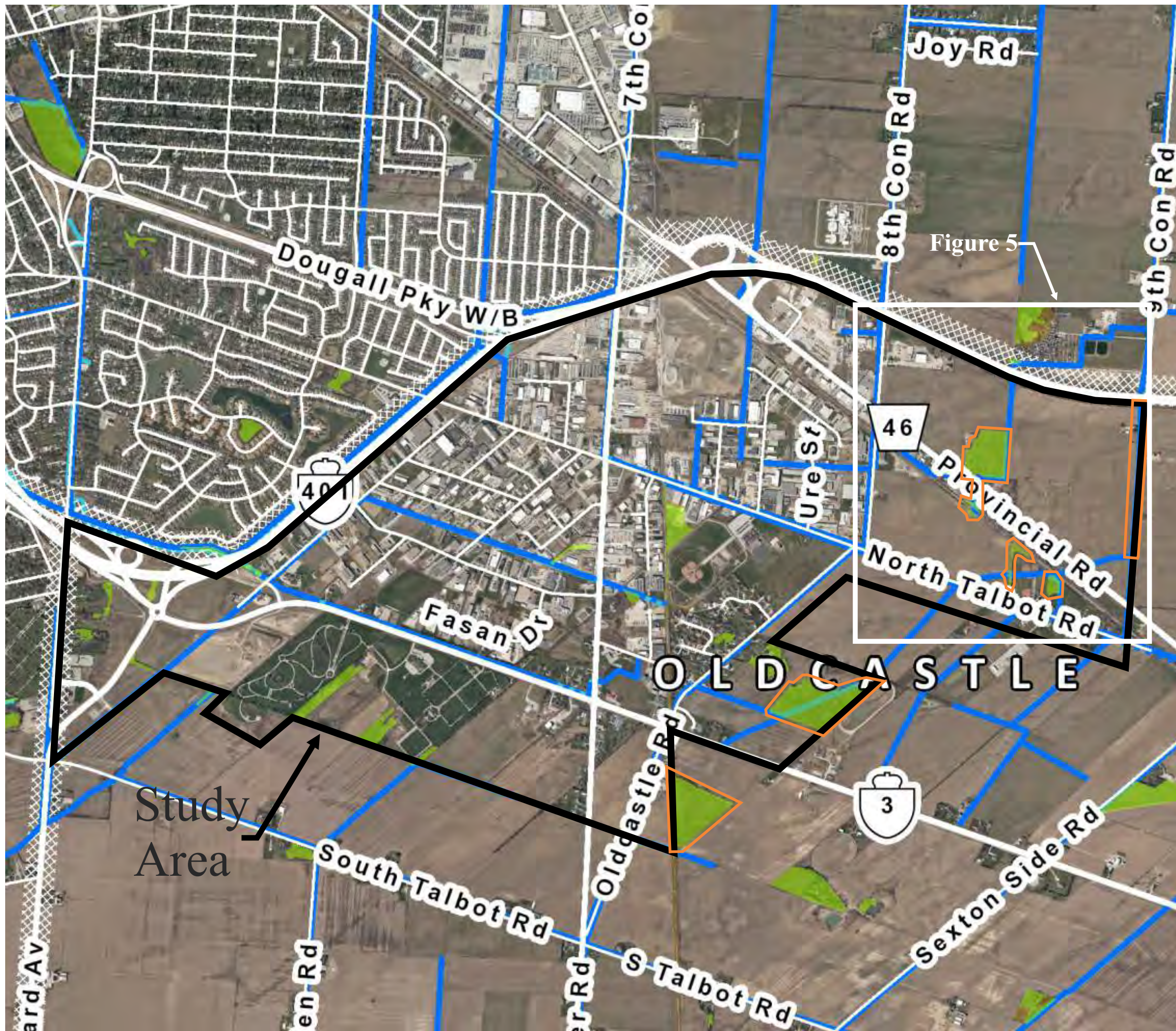



Figure 4: Development Constraint Areas  
(2017 ERCA Air Photo)





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Key Plan

**Legend**


**Natural Heritage Overlay**

 - Existing Natural Heritage Feature (Forest)

**Municipal Drains**

 - Open  
 - Closed/Tiled

**Constraint Areas**

 - Constraint Areas (Woodlands and Permanent Watercourses)

\* Locations are approximate and should be verified by survey where necessary.

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January 2020



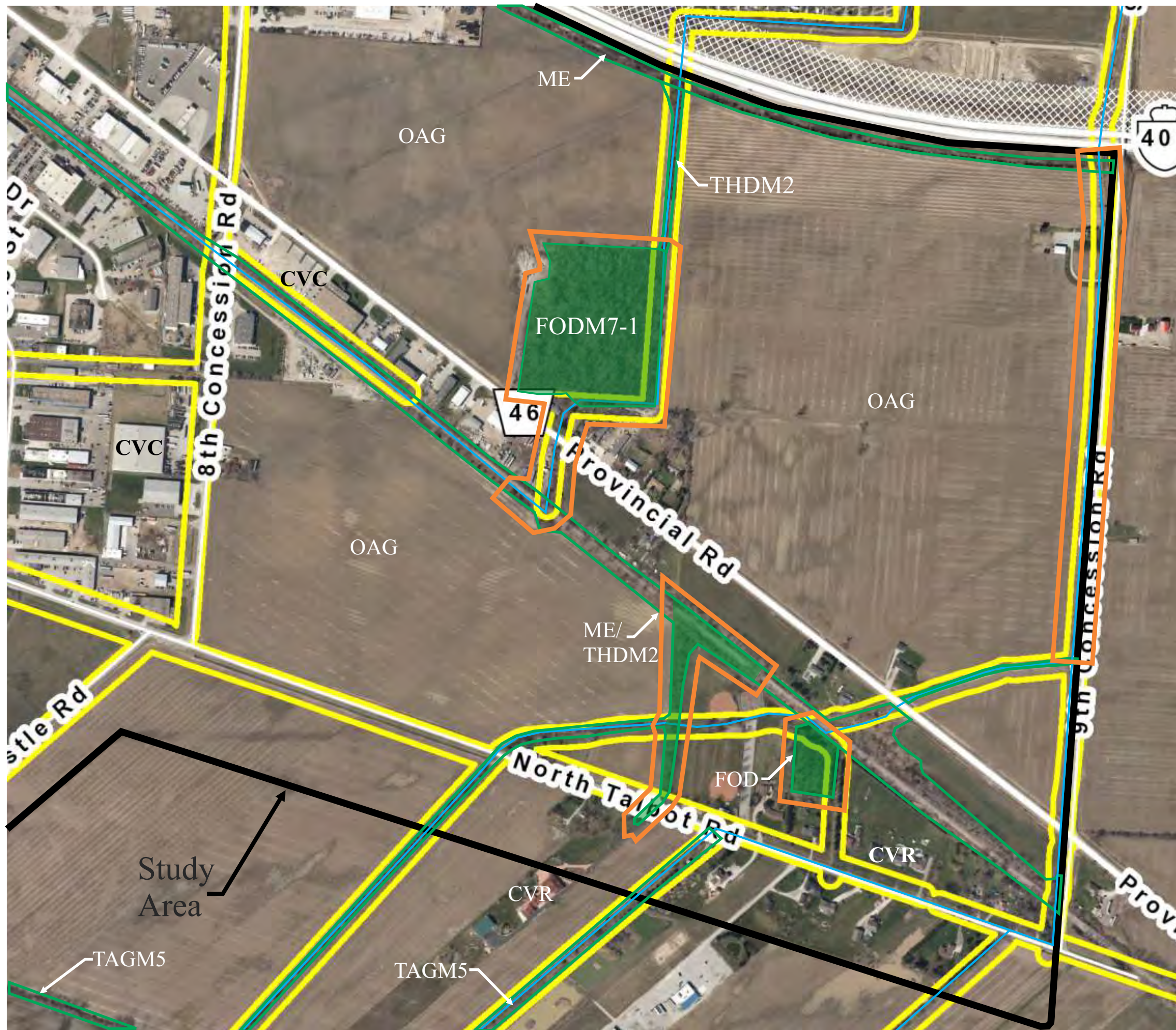


Figure 5: Development Constraint Area  
-North Talbot Road and 8th Concession Rd.  
(2017 ERCA Air Photo)



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Key Plan

- Legend**
- FODM7-1 - Fresh-Moist White Elm Lowland Deciduous Forest Type
  - ME - Meadow Community
  - THDM2 - Dry-Fresh Deciduous Shrub Thicket Ecosite
  - OAG - Open Agricultural
  - CVC - Commercial and Industrial
  - CVR - Residential
  - TAGM5 - Fencerow
  - Yellow line - ERCA Regulation Limit
  - Blue line - Municipal Drain
  - Green area - Existing Natural Heritage Feature (Forest)
  - Orange line - Constraint Areas (Woodlands and Permanent Watercourses)

\* Locations are approximate and should be verified by survey where necessary.  
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Scale 1:6000  
January 2020





MTE Consultants

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

April 3, 2020

MTE File No.: 46797-100

Alain Michaud  
Landmark Engineers Inc.  
2280 Ambassador Drive,  
Windsor, ON N9C 4E4

Dear Alain:

**RE: Oldcastle Watershed SWM Master Plan ESA Review**

Based on our review of the Subject Lands as defined via email and correspondence with yourself [Figure 1], along with additional desktop review, the following natural heritage aspects require consideration to support the Oldcastle Stormwater Master Plan Recommended Solution (Option 3). As a component of composing this letter, the Ministry of Natural Resources and Forestry (MNR) was contacted regarding fisheries sampling records from the local area, and the Department of Fisheries and Oceans (DFO) was contacted regarding the feasibility of online stormwater pond infrastructure within this watershed.

**Fisheries**

Based on data available, the most sensitive aquatic habitat within the Subject Lands is the 9th Concession Drain, a Class C (warmwater, no sensitive species) municipal drain. Other drainage features (Hurley, Hurley Relief, Washbrook and Downing Drains) are either Class F (Intermittent) or Unrated. A review of available fish sampling data provided by MNR for the area agrees with these classifications. Beyond the Subject Lands, a Class E Drain (warmwater, sensitive species) is present. A number of maintenance and repair activities can occur within drains without review by the DFO provided that Best Management Practices are observed (Guidance for Maintaining and Repairing Municipal Drains in Ontario, 2017). This includes conducting works outside of the Restricted Activity Timing Window (March 15 to July 15). Additionally, no fisheries authorizations are required for works within drains that are dry, such as what seasonally occurs in Class F drains. Despite this, the project should be reviewed by the DFO through a Request for Review process as the project proposes creation and loss of fish habitat through drain modifications, and there is some concern with water quality (temperature and sediment) to the downstream Class E watercourse as a result of the addition of online stormwater ponds.

**Fauna**

Based on the habitat present within and adjacent to the Subject Lands, no at-risk birds or mammals protected under the provincial Endangered Species Act (ESA) are expected to utilize the drain, its banks, or cultivated agricultural fields where stormwater facilities are proposed. Migratory birds protected under the federal Migratory Birds Convention Act (MBCA, 1994) are likely to utilize various habitats within and adjacent to the drains. These species, including nests, eggs and young are protected from harm and harassment by the MBCA. Typically, work outside

of the migratory bird nesting season (April through August) is recommended to prevent incidental impacts to these species. Alternatively, works can be conducted within this window following confirmation that no protected bird species are nesting within or near the work area. Barn Swallows [Threatened] often make use of box culverts and other water-crossing structures for nesting. If impacts to Barn Swallow nesting habitat are proposed, registration of the activity and subsequent compensation (creation of artificial nesting structures) will be required. Additionally, most other vertebrate wildlife in Ontario is protected from harm or harassment through the provincial Fish and Wildlife Conservation Act (1997) unless allowable through specific licenses or permits.

Snake species protected under the ESA (Butler's Gartersnake and Eastern Foxsnake, both Endangered) are known to be present in the general area and can use marginal habitats, such as drain banks, and can be found within drainage infrastructure (culverts, riprap, crossings, etc). No at-risk turtles are known within the Subject Lands. Previously, municipalities had agreements with the province relating to conducting maintenance and repair works within drains and potential impacts to species and habitat protected under the Endangered Species Act (ESA, 2007). These agreements are no longer in place, however, the Town of Tecumseh has a guidance document (Species at Risk Mitigation Plan for Drainage Works, 2018) that provides appropriate mitigation measures to conduct typical drainage maintenance or repair works within potential habitat of at-risk species, including reptiles. Activities above and beyond maintenance and repair, such as the removal or enclosure of a drain, or impacts to habitat outside of a drain, require further review with regard to the ESA. Project details and the results of site investigations should be submitted to the Ministry of Environment, Conservation and Parks (MECP) for Preliminary Screening with regard to species and habitats protected under the ESA.

## Flora

A number of floral species protected under the ESA (2007) are noted as being present within the general area of the Subject Lands. Habitats associated with drain banks could provide suitable habitat for some of these species. Additionally, there are other plant species that are not necessarily documented throughout their range that may be present within, or near, the Subject Lands. As with faunal species above, the results of site investigations for at-risk plants should be submitted to MECP for Preliminary Screening.

## Conservation Authority

The Essex Region Conservation Authority (ERCA) regulates development within their jurisdiction with regard to erosion, flooding, wetlands and hazard lands through Ontario Regulation 158/06. The regulated area includes 15m from the top of bank of the drainage features within the Subject Lands, or as otherwise indicated on their online Public Interactive Mapping application.

## Next Steps

The Oldcastle Stormwater Master Plan Recommended Solution (Option 3), as outlined, has the potential to impact individuals and habitat of species protected under the Endangered Species Act (ESA, 2007), migratory birds protected under the federal Migratory Birds Convention Act (MBCA, 1994), fish and aquatic habitat protected by the federal Fisheries Act (1985, amended 2019) and other wildlife protected under the Fish and Wildlife Conservation Act (1997). Timing

windows can be utilized to mitigate against impacts to some of these species and habitats, however, approvals from the DFO for impacts to fish habitat and comment from MECP regarding species at risk and their habitats should be obtained to support this project.

## DFO

Drain cleanouts alone do not require review, however, any improvements or changes to drains (piping, re-routing, official abandonment, etc.) or activities which may affect habitat quality (on-line stormwater facilities) require review by DFO. To obtain project approval regarding fisheries habitat, a Request for Review (RfR) form should be submitted to DFO. To support the RfR, an assessment of the fish habitat to be impacted by the activity should be completed and included in the RfR. Draft plans of the design should be available for inclusion in the submission as well, but can be submitted later and added to the file prior to its review.

## MECP

Field surveys to determine the presence or potential presence of species or habitats protected under the ESA are required to support a Preliminary Screening Report to MECP. The Preliminary Screening Report should include mitigation measures to be implemented during activities that will prevent impacts to at-risk species or habitats identified during field surveys. If impacts to species or habitats can be mitigated satisfactorily, MECP will issue a response stating that, as proposed, the project is unlikely to contravene the ESA, providing all mitigation measures are followed. If impacts to at-risk species or habitats cannot be mitigated, an Overall Benefit Permit under the ESA may be required to support the project.

## ERCA

The ERCA should be contacted regarding permits for alterations within areas regulated under O. Reg. 158/06.

All of which is respectfully submitted,

**MTE Consultants Inc.**



**Zachary Anderson**

Biologist

519-204-6510 ext. 2245

[zanderson@mte85.com](mailto:zanderson@mte85.com)

ZJA:sdm

Attachments: Figure 1 – Refined Subject Lands

M:\46797\100\05-Reports\Summary Letter\46797-100R02 Oldcastle SWM Letter Final.docx

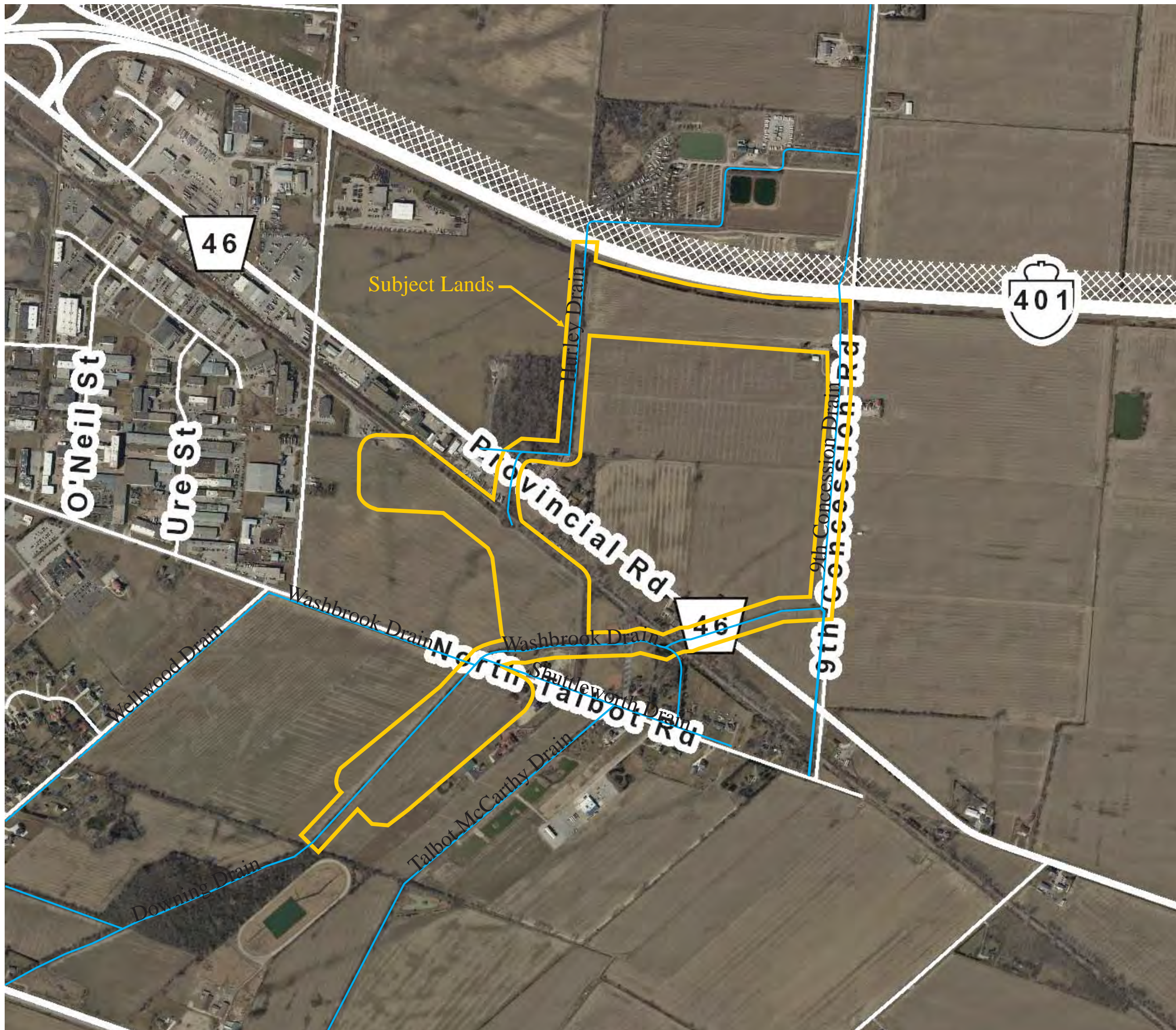


Figure 1: Refined Subject Lands  
(2019 ERCA Air Photo)



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Scale 1:200,000  
Key Plan

\* Locations are approximate and should be verified by survey where necessary.

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0 200

Scale 1:10,000

March 2020





## Liz Michaud

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**From:** Liz Michaud  
**Sent:** April 11, 2022 1:47 PM  
**To:** Dave Hayman  
**Subject:** RE: Oldcastle Natural Heritage Constraints

Thank you Dave. I will include this in our project file as a record.

Liz Michaud, P.Eng.



**Landmark Engineers Inc.**

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Windsor, ON, N9C 4E4

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f (519) 972-8644

e-mail [lmichaud@landmarkengineers.ca](mailto:lmichaud@landmarkengineers.ca)

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**From:** Dave Hayman <DHayman@mte85.com>  
**Sent:** April 11, 2022 1:33 PM  
**To:** Liz Michaud <lmichaud@landmarkengineers.ca>  
**Subject:** RE: Oldcastle Natural Heritage Constraints

This report was completed prior to the PPS update. However, nothing in the PPS 2020 natural heritage policies affect the conclusions of this report.

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**Dave Hayman, M.Sc. | Manager, Biological Sciences**  
**MTE Consultants Inc.**

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