

# Welcome to the Public Information Centre No. 1

- All relevant information regarding this project (including the display material presented today) is available for public review on the Town of Tecumseh's website ([www.tecumseh.ca](http://www.tecumseh.ca)).
- Please sign in to record your attendance.
- Please review the display material and provide any comments on the sheet provided. You may submit your comments by mail / fax / e-mail or you may place them in the Comment Box located on the sign-in table.
- All comments for this Information Centre must be received by **November 1, 2019** to be given consideration in the development of the preferred solution for this project. Contact information for the Project Team is available below, and also on the comment sheet provided.
- The Project Team members present will be pleased to discuss any questions you may have.

## Project Team

This study has been initiated by the Town of Tecumseh. Landmark Engineers Inc. has been retained by the Town to serve as the Lead Consultant on the project.

Any comments, questions or suggestions relevant to this study should be directed to the following primary members of the Project Team:



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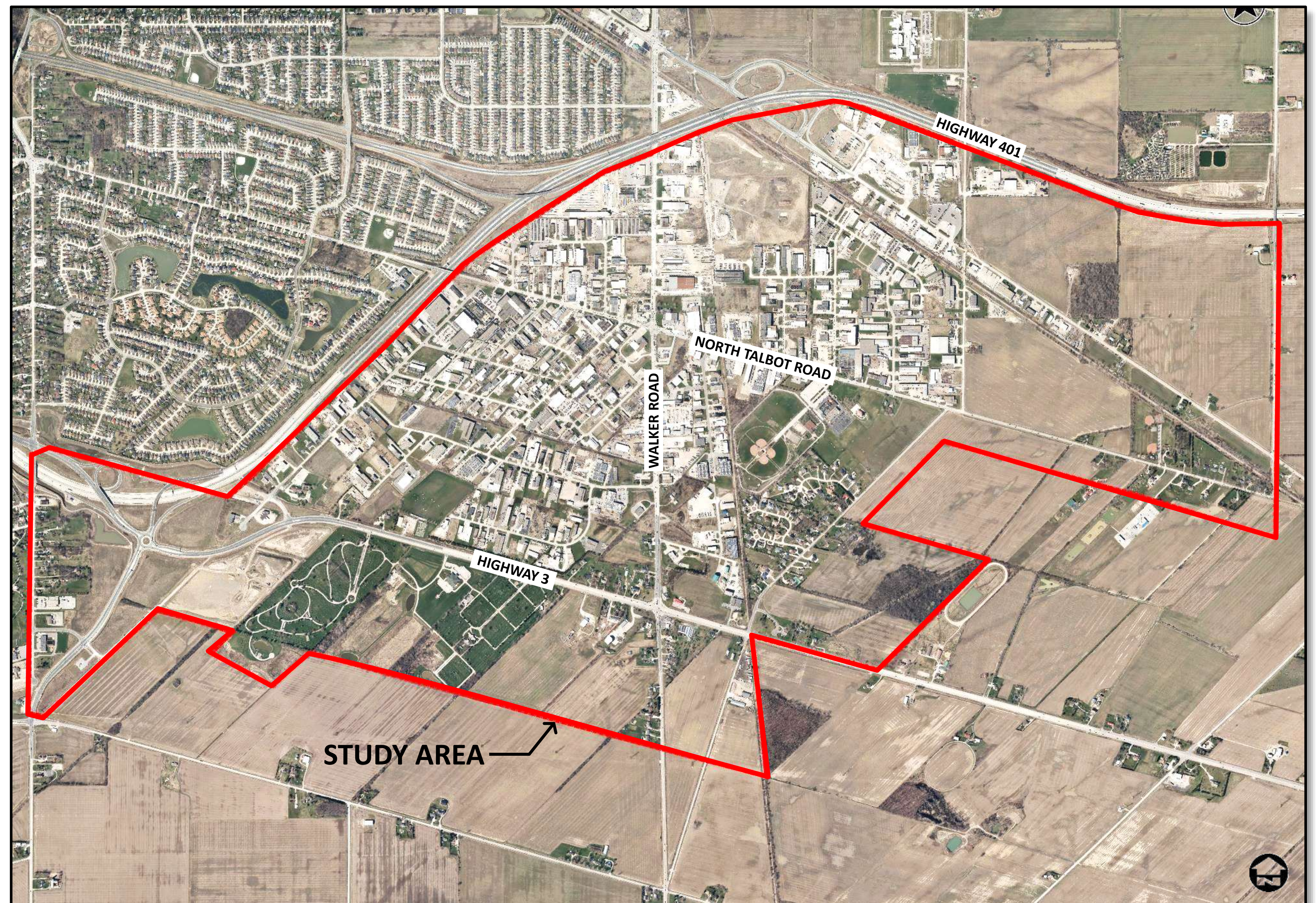


### Background

The Town of Tecumseh plans to undertake a Stormwater Master Plan for the Oldcastle Hamlet within the Town of Tecumseh. The Stormwater Master Plan will include a capacity review of the current storm sewer system and drains in consideration of both current and future development. As part of the review, the need for alterations, improvements and / or construction of new storm sewer system components will also be identified.

### Project Objectives

- Review the capacity of the current stormwater system;
- Identify the areas of concern;
- Review the stormwater needs of future development;
- Identify potential improvement alternatives; and,
- Create a strategy for implementing the proposed improvements.





## Purpose

This Public Information Centre is intended to:

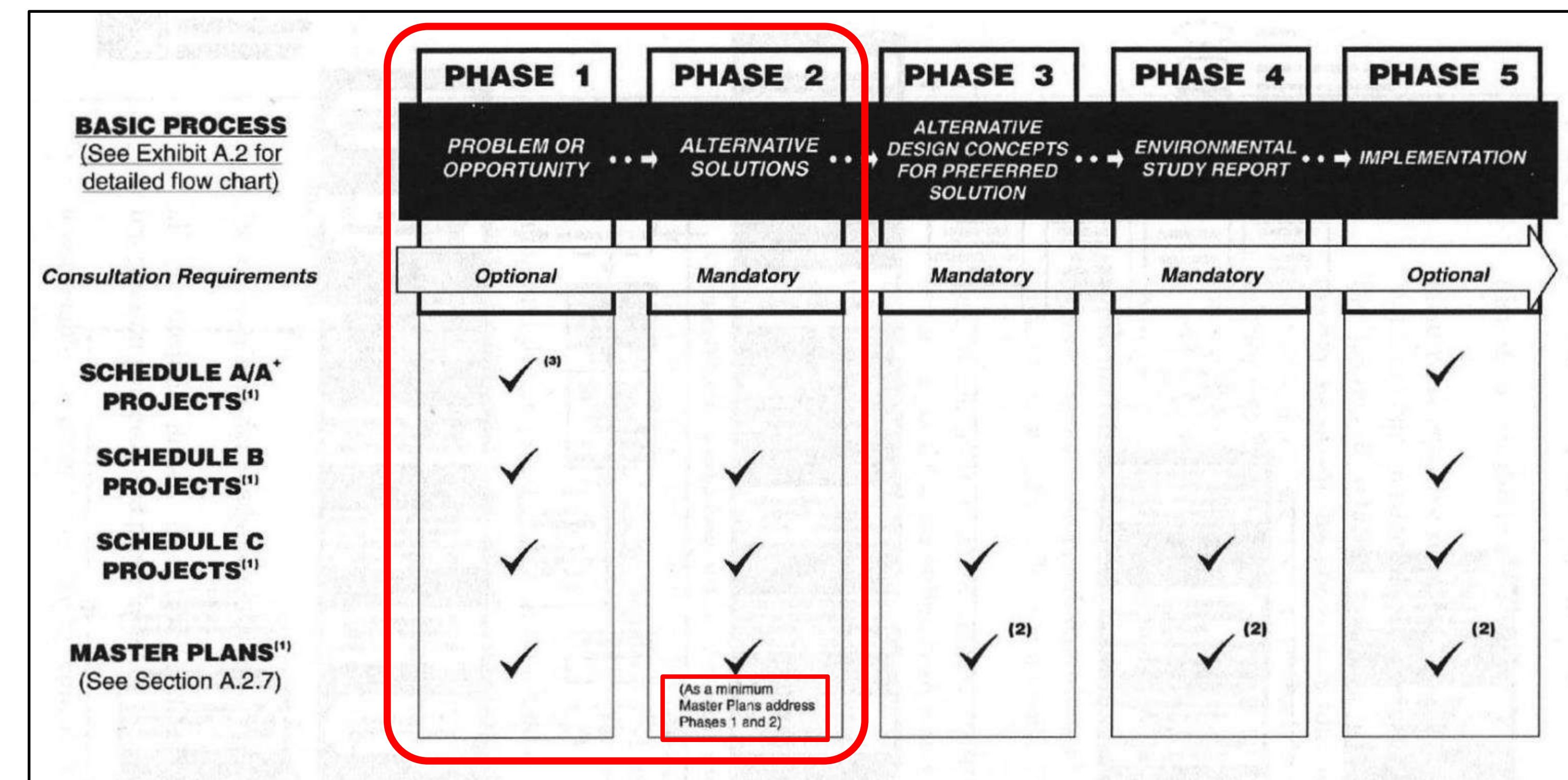
- Present the Problem / Opportunity Statement for the Project;
- Introduce the members of the Project Team;
- Present the scope of the Class Environmental Assessment (Class EA) process;
- Present existing conditions and areas of concern; and,
- Obtain feedback from local residents, property owners and community groups.

## Environmental Assessment (EA) Master Plan Process

- This project will follow the planning process set out in the Municipal Engineers Association’s *Municipal Class Environmental Assessment (Class EA) for Master Plans (Approach #2)*.
- Master Plans are defined as: A long range plan which integrates infrastructure requirements for existing and future land use with environmental assessment principles. At a minimum, a Master Plan addresses Phases 1 and 2 of the Municipal Class EA process.
- Given the Master Plan will minimally cover Phases 1 and 2, all projects identified in the Master Plan that are ‘Schedule B’ will be considered complete through the EA Process and may proceed to construction. Projects identified as ‘Schedule C’ will have to complete Phases 3 and 4 before they may proceed to construction.
- For ‘Schedule B’ projects, only one point of Public Consultation is required. Given the nature of this project, however, the Project Team has elected to increase the level of public consultation (over and above the minimum requirement), and host **an extra** Public Information Centre, creating a total of **two** Public Consultations for this project.
- A copy of the MCEA document is on-site and is available for review by the public.

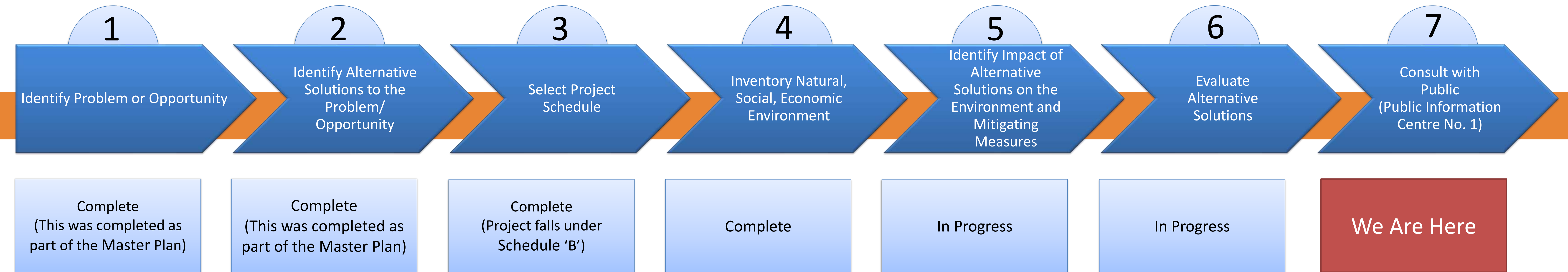
## Problem / Opportunity Statement

*“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.”*

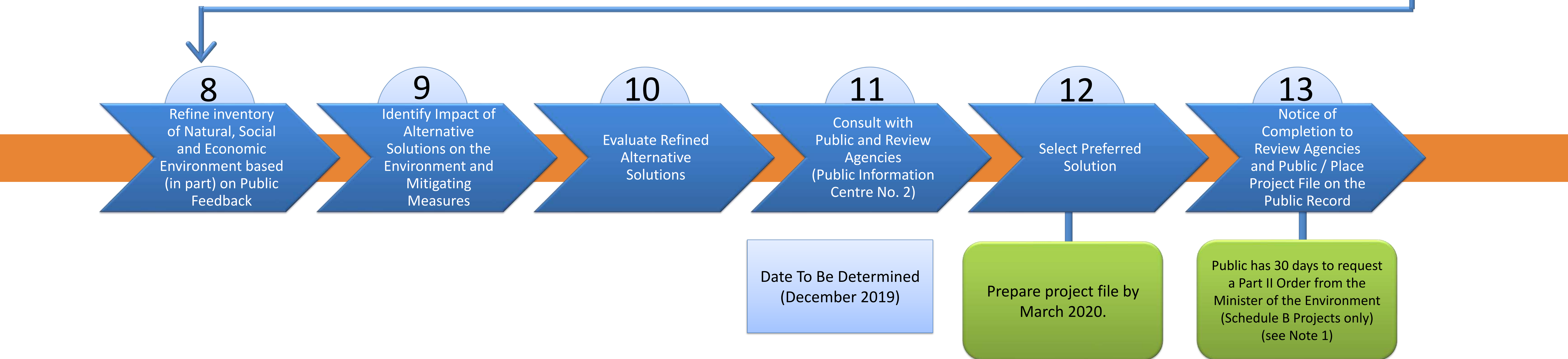




Where we have been:



Where we are going:



- Note: 1. In accordance with the terms of the Municipal Engineers Association's *Municipal Class EA*, if concerns regarding this project cannot be resolved with the Municipality, any member of the public may request that the Minister of the Environment make an order for the project to comply with Part II of the EA Act - requiring an individual EA (not Class EA).  
 2. A Part II Order can only be requested for the individual Schedule B project identified in the Master Plan.



The following displays are intended to present the Environmental Inventory of the Study Area that has been compiled by the Project Team. This inventory documents the existing conditions of the site in terms of the following categories:

### Physical Environment

- Site Location
- Physical Infrastructure
- Topography

### Natural Environment

- Species at Risk
- Drainage Patterns

### Social / Economic Environment

- Land Ownership
- Land Use Map
- Heritage & Archaeological Resources



BUSINESS PARK (WALKER ROAD (CR11) LOOKING NORTH)



BUSINESS PARK (PULLEYBLANK ROAD LOOKING SOUTH)



HAMLET RESIDENTIAL (PICADILLY AVENUE LOOKING EAST)



COMMUNITY FACILITY (VICTORIA MEMORIAL GARDENS)



GENERAL COMMERCIAL (PROVINCIAL ROAD)

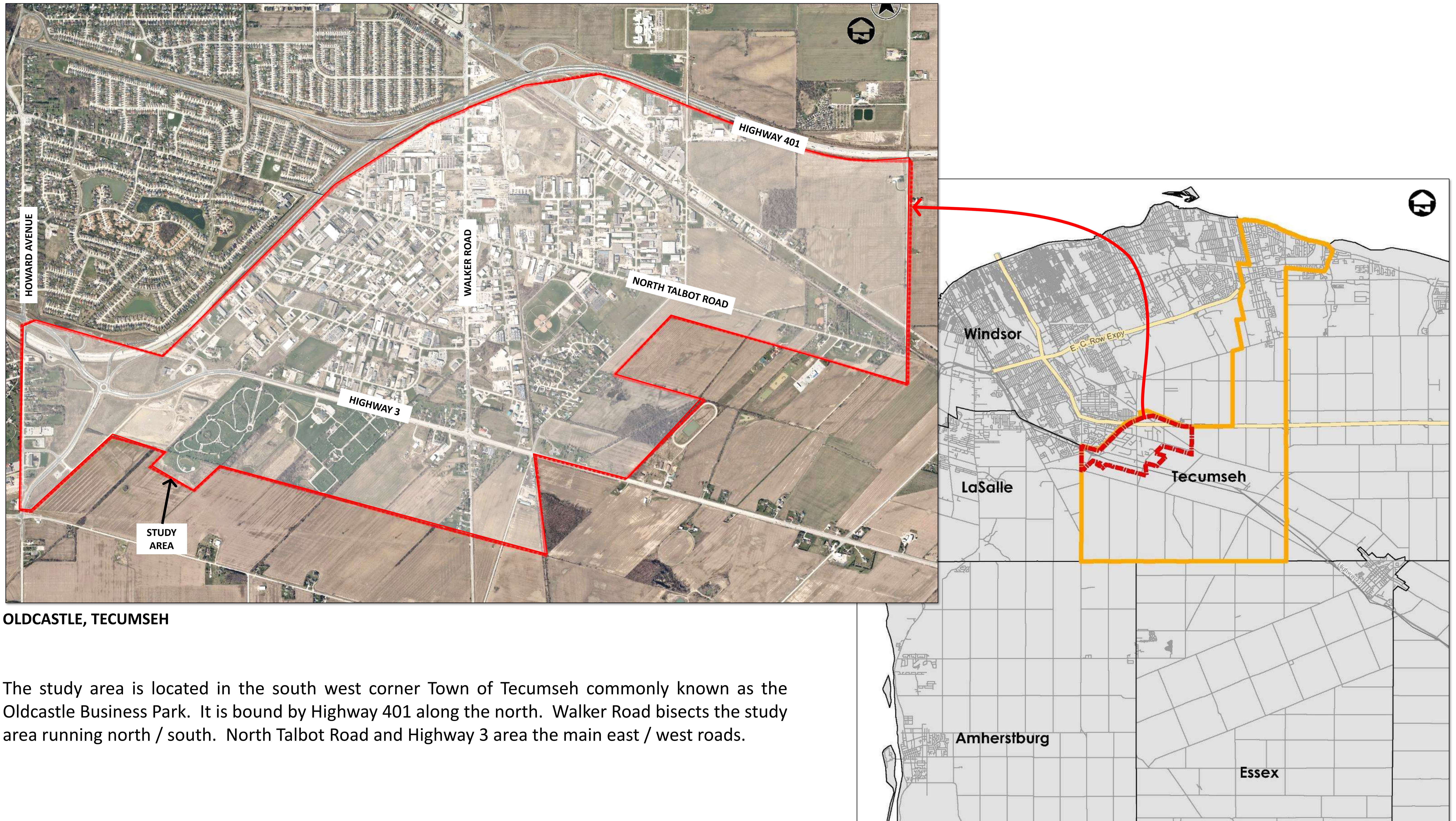


HAMLET DEVELOPMENT (NORTH TALBOT ROAD)

Note: All images on this page are from Google Earth.



## Site Location



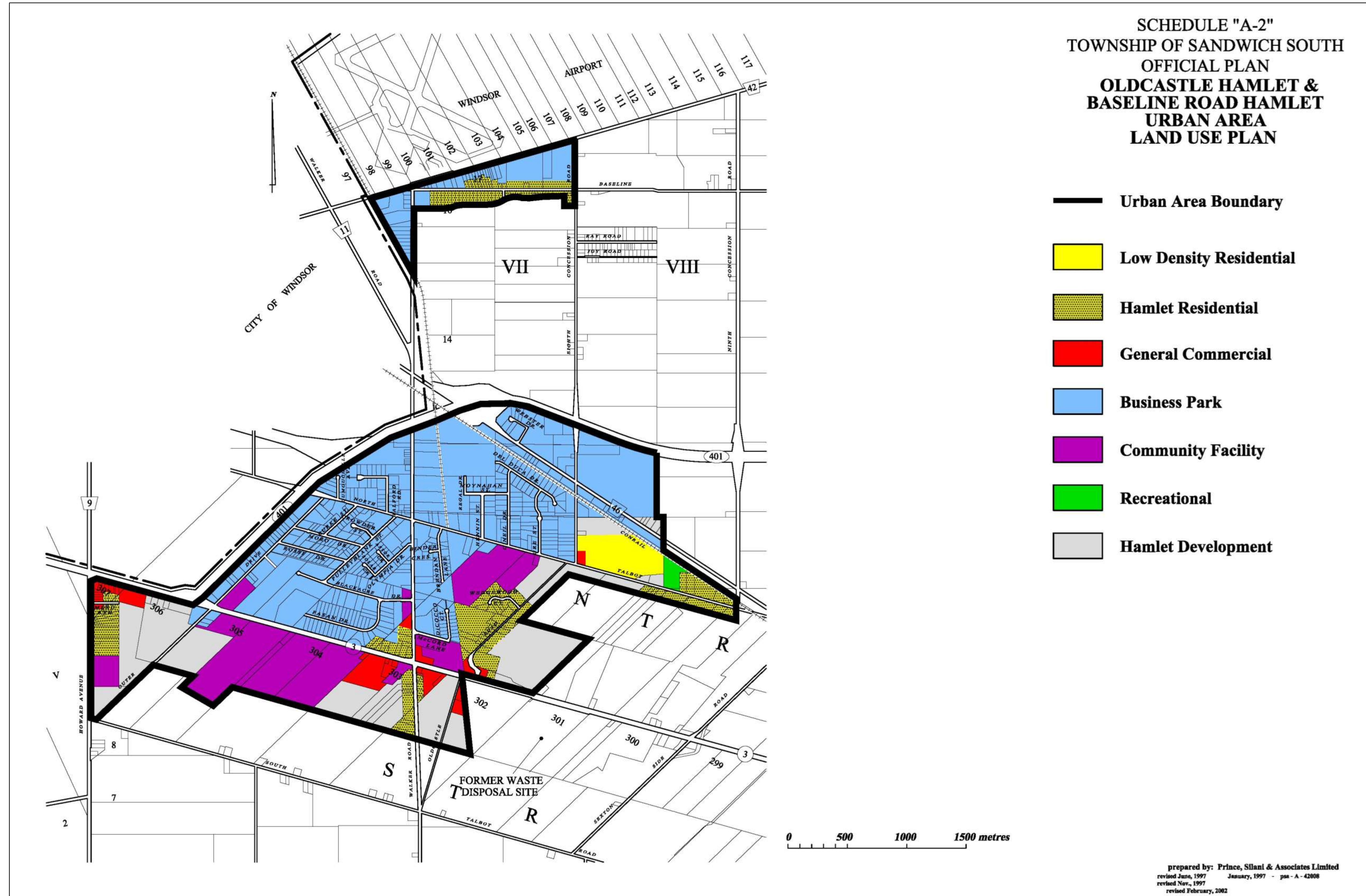
OLDCASTLE, TECUMSEH

The study area is located in the south west corner Town of Tecumseh commonly known as the Oldcastle Business Park. It is bound by Highway 401 along the north. Walker Road bisects the study area running north / south. North Talbot Road and Highway 3 area the main east / west roads.



## Land Uses

This display presents the zoned land uses for the study area. As illustrated by the map below, the area is comprised primarily of Business Park, Hamlet Development and Community Facility with very little Hamlet Residential, General Commercial and Recreational.





## Social Environments

### Archaeological Potential

AMICK Consultants Ltd. were retained to complete a Stage 1 Archaeological Assessment of the Study Area. The following is a summary of their findings and recommendations:

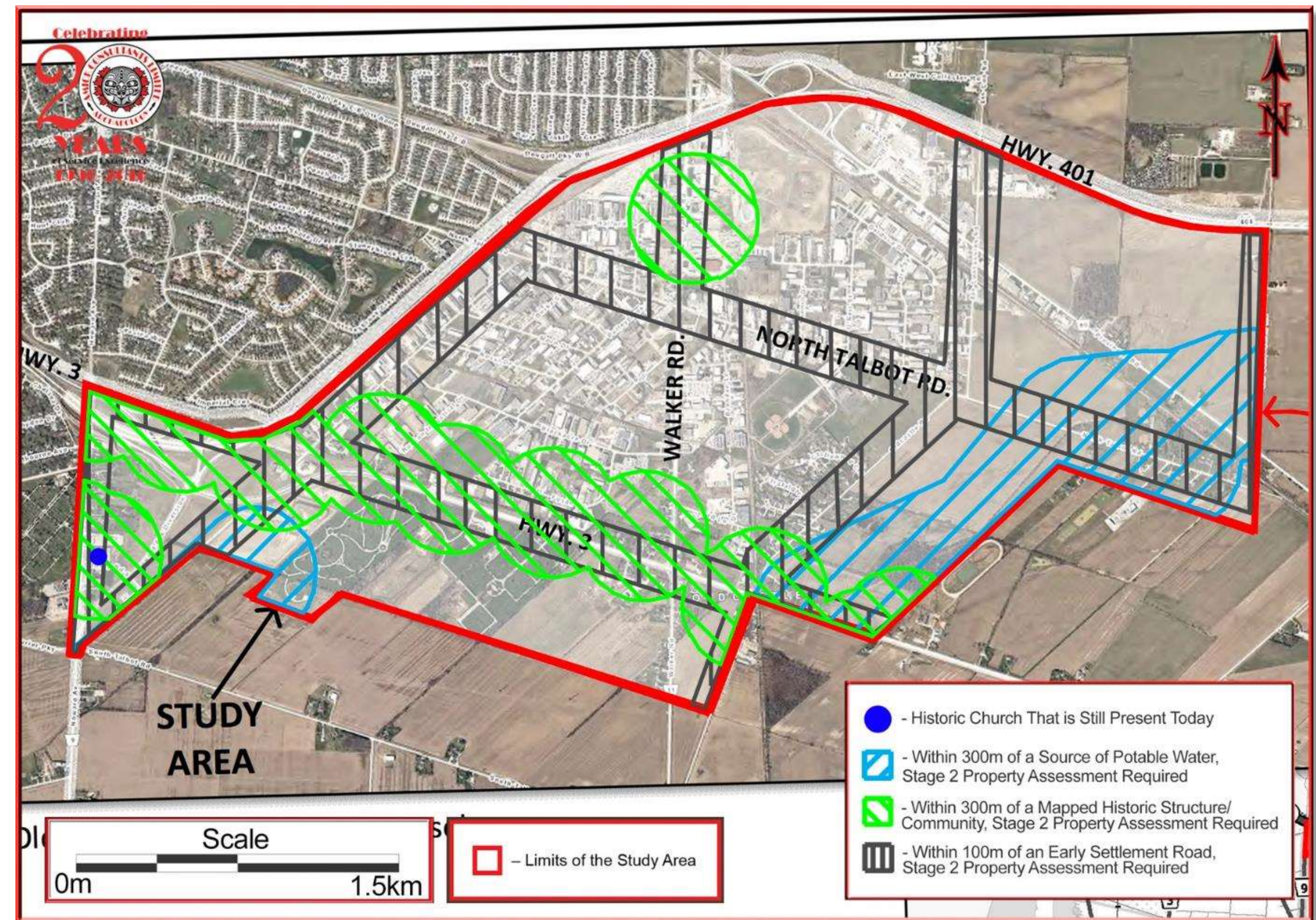
- The study area has been identified as a property that exhibits potential to yield archaeological deposits of Cultural Heritage Value or Interest.
- A Stage 2 Archaeological Assessment is recommended for the Study Area (once the areas that will be impacted by improvements are known).
- No soil disturbance or removal of vegetation shall take place within the study area prior to the acceptance of a report recommending that all archaeological concerns have been addressed and no further studies are warranted.

### First Nations Consultations

Under provincial environmental law, First Nation and Metis communities must be consulted during the EA process. The Project Team has reached out to 8 local First Nations to keep them apprised of the project progress and offer consultation.

The following First Nations have been contacted to offer consultation:

- Aamjiwnaang First Nation
- Walpole Island First Nation
- Chippewas of the Kettle and Stoney Point First Nation
- Chippewas of the Thames First Nation
- Caldwell First Nation
- Oneida Nation of the Thames First Nation
- Munsee-Delaware Nation
- Delaware Nation



Note: Image from AMICK Consultants Ltd. report.



## Social and Natural Environment

### Species at Risk

MTE Consultants Ltd. were retained to complete a Biological Assessment of the Study Area.

The *Endangered Species Act* protects species of plants and wildlife considered threatened or endangered. It is administered by the Ministry of Environment, Conservation and Parks (MECP). The following is a list of possible species that may be considered throughout the study area.

#### Wildlife:

Eastern Foxsnake  
Butler's Gartersnake  
Barn Swallow  
Chimney Swift  
Bobolink  
Eastern Meadowlark

#### Plants:

Willowleaf Aster  
Dense Blazing Star

These species at risk, many of which are locally common, will need to be further assessed as the project progresses and potentially impacted areas are identified to ensure compliance with the federal *Species at Risk Act* (SARA) and provincial *Endangered Species Act* (ESA).

### 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).

### Cultural Heritage

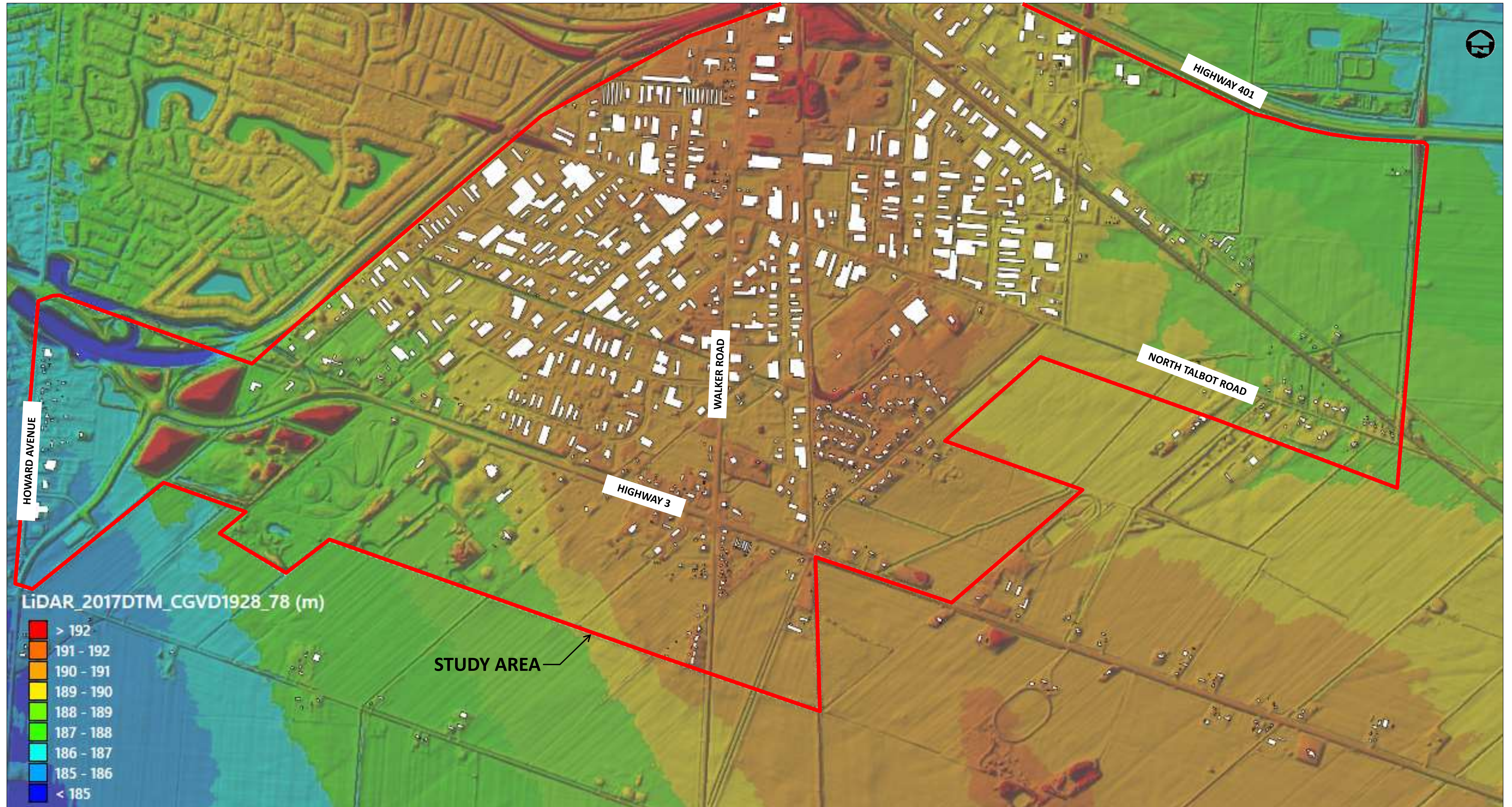
AECOM Canada Ltd. were retained to complete a Cultural Heritage Assessment of the Study Area. The following is a summary of their findings and recommendations:

- 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.



## Topography – Ground Elevations

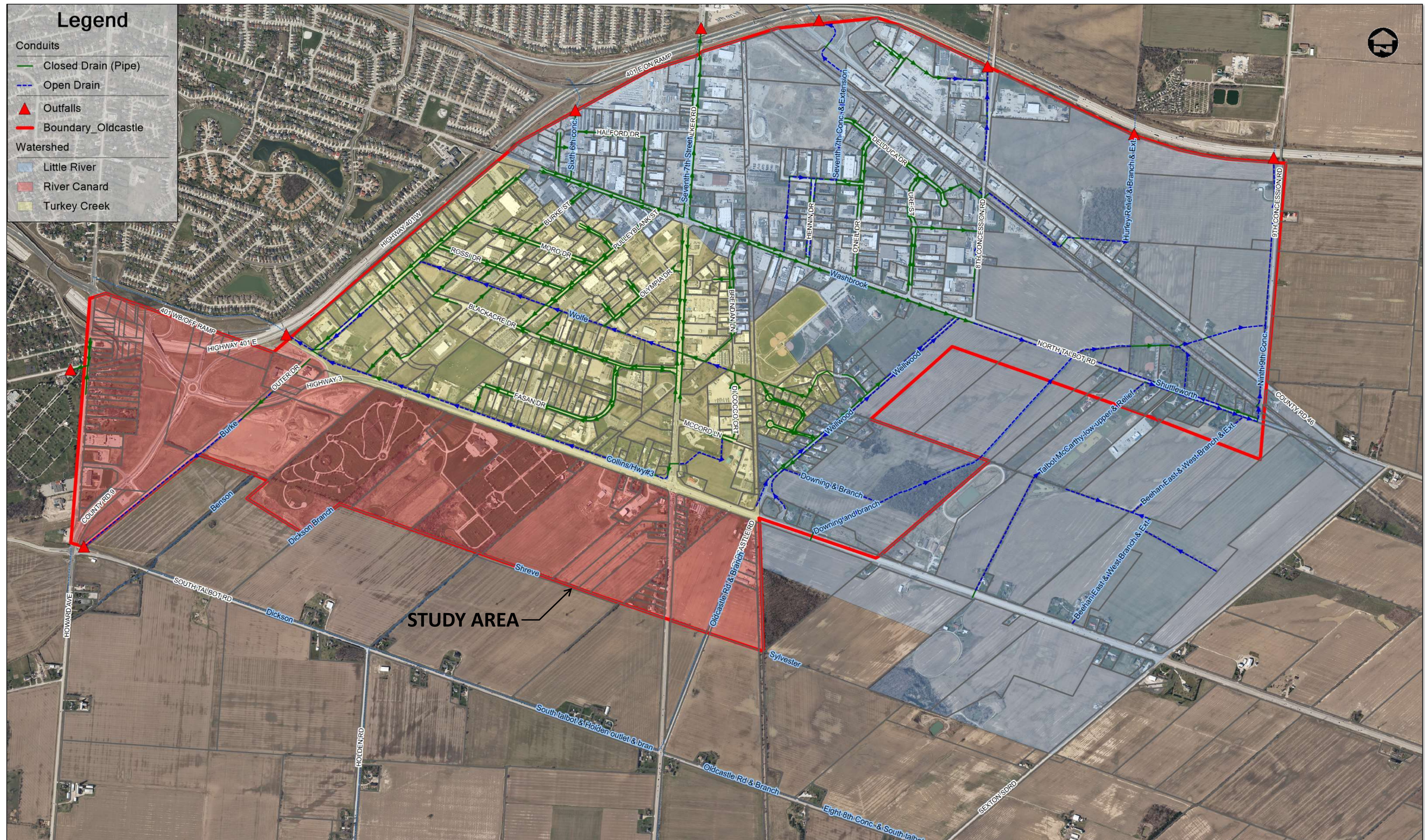
This display depicts the existing ground elevations within the study area. Elevations range between 185.0 and 192.0 metres above mean sea level. The mapping illustrates a clearly defined ridge bisecting the study area from north to south.





## Minor System Drainage

The **minor or “convenience” system** consists of drainage works, such as open drains and closed drains (pipes) that convey flows from frequent events to limit the inconvenience of stormwater ponding. As illustrated by the ridge in the topographic mapping, there is a drainage divide within the study area that results in the minor system draining to 3 separate watersheds – Little River to the northeast, Turkey Creek to the west and River Canard to the southwest.

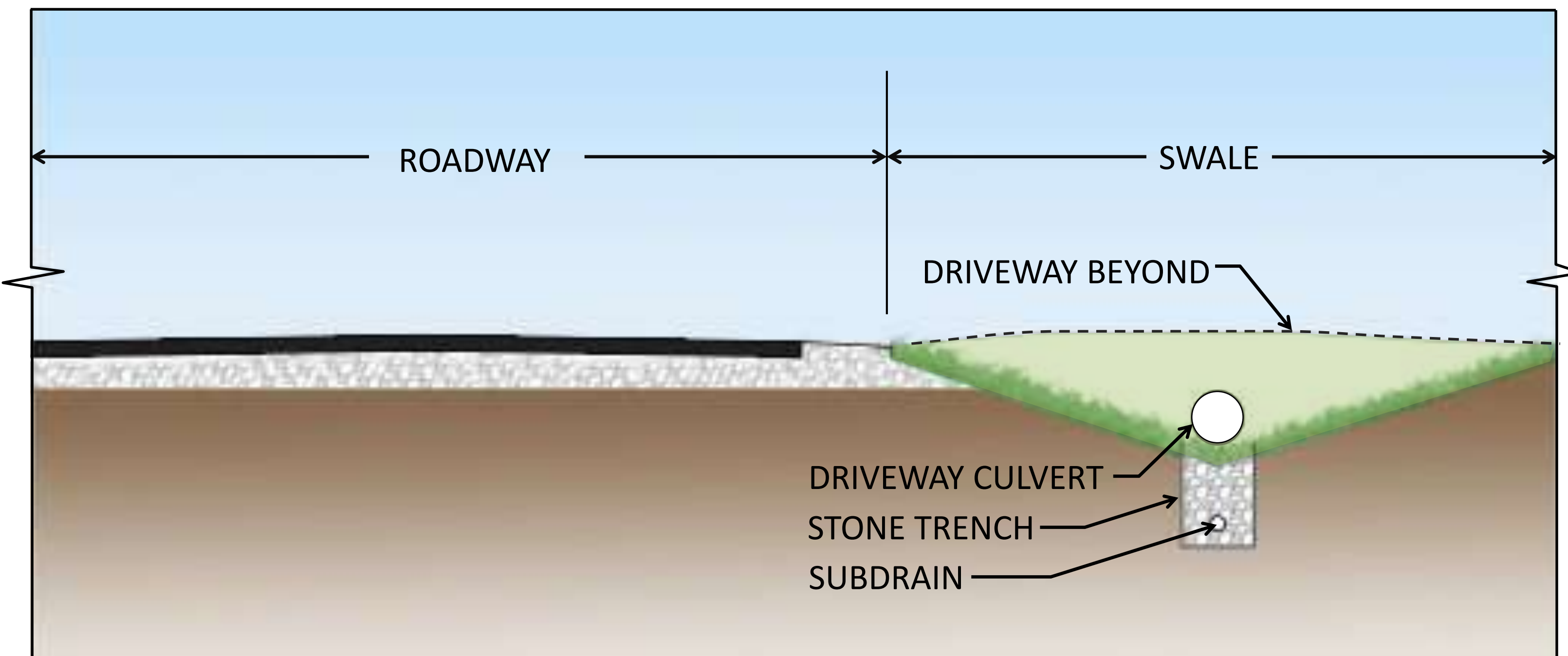




## Subdrain with Shallow Swale & Driveway Culverts

Some industrial areas in the Oldcastle Hamlet are drained by a small pipe in a stone trench combined with a shallow swale and intermittent driveway culverts. Flow capacity for this combined system can be significantly reduced when driveway culverts are blocked or damaged.

However in other instances, the drainage design may undersize culverts to intentionally hold back water in swales for eventual drainage at a controlled rate. This design is often practiced when the downstream receiving drainage feature has limited capacity to handle excess runoff created by the proposed land development.



SECTION - TYPICAL SWALE WITH DRIVEWAY CULVERT



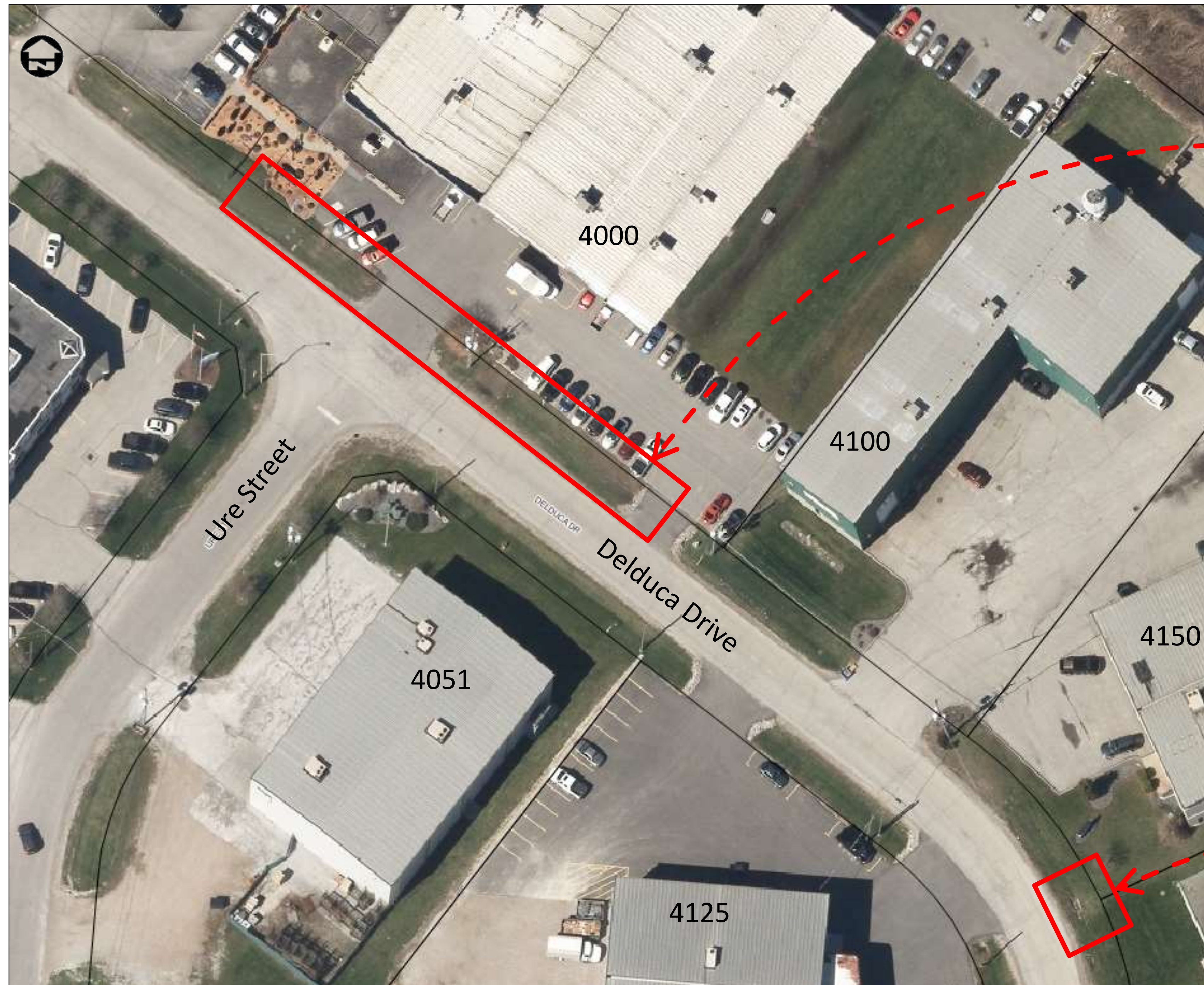
SWALE WITH DRIVEWAY CULVERT (TYPICAL)



## Flow Constraints

### Storm Outlet at 4150 Delduca Drive

This slide illustrates an example of flow constraints that have been observed in the study area. The swale flow along the north side of Delduca Drive is throttled by limited flow through the driveway culverts. As shown, stormwater has overtopped the swale and spread onto the roadway and parking lot while the catch basin has available capacity to receive runoff.



EAST END OF DELDUCA DRIVE



OBSERVED PONDING ON NORTH SIDE OF DELDUCA DRIVE



CATCH BASIN SOUTH EAST OF 4150 DELDUCA DRIVE



## Reduced Flow Capacity

The following images are a few examples of conditions observed in the study area that reduce the flow capacity of the minor system (drains and pipes). Deficiencies, such as a plugged culvert, damaged pipe or heavily vegetated drain, reduce flow capacity and potentially create a drainage problem.



PLUGGED CULVERT



HEAVY VEGETATION



PARTIAL BLOCKAGE IN DRAIN

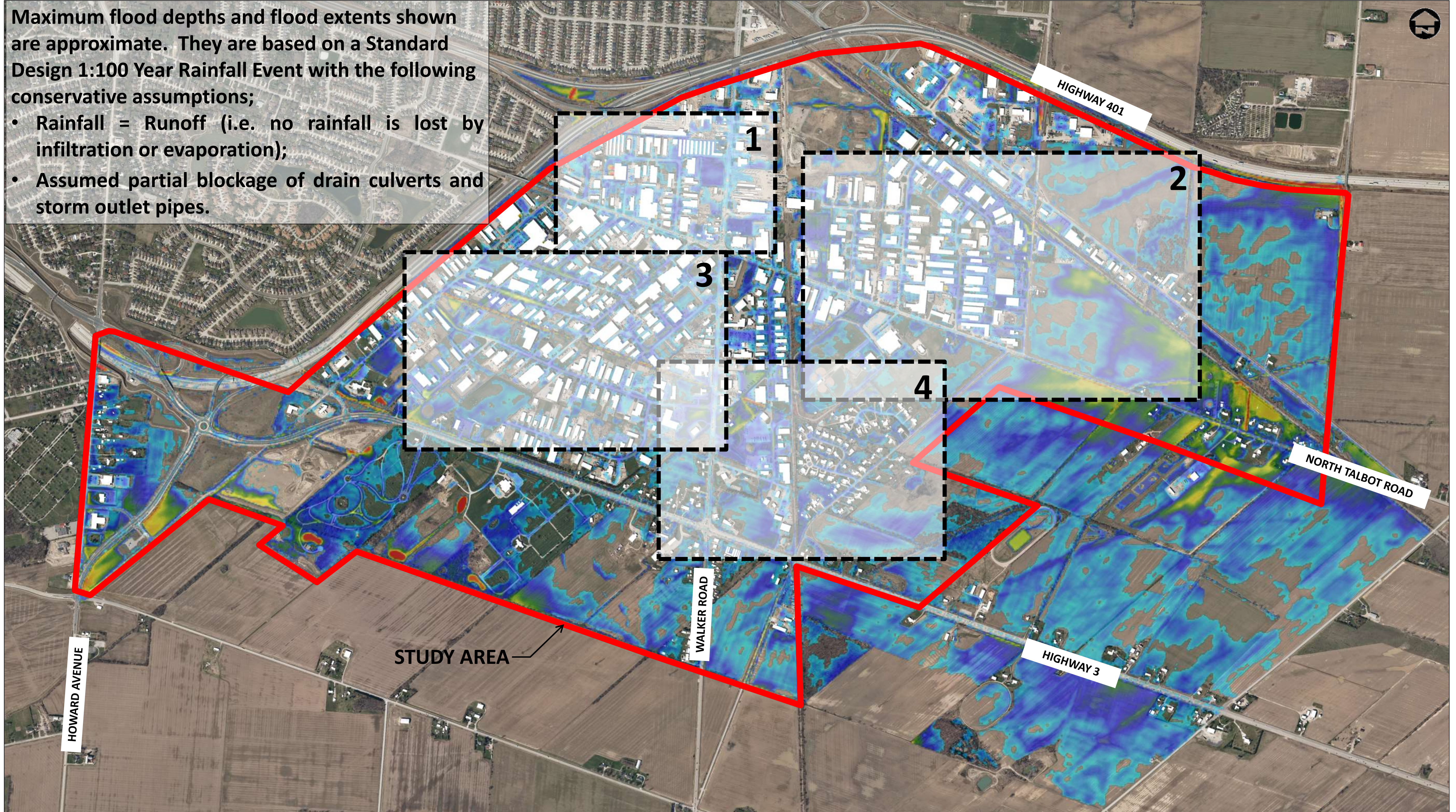


PLUGGED CULVERT



## Major System Drainage

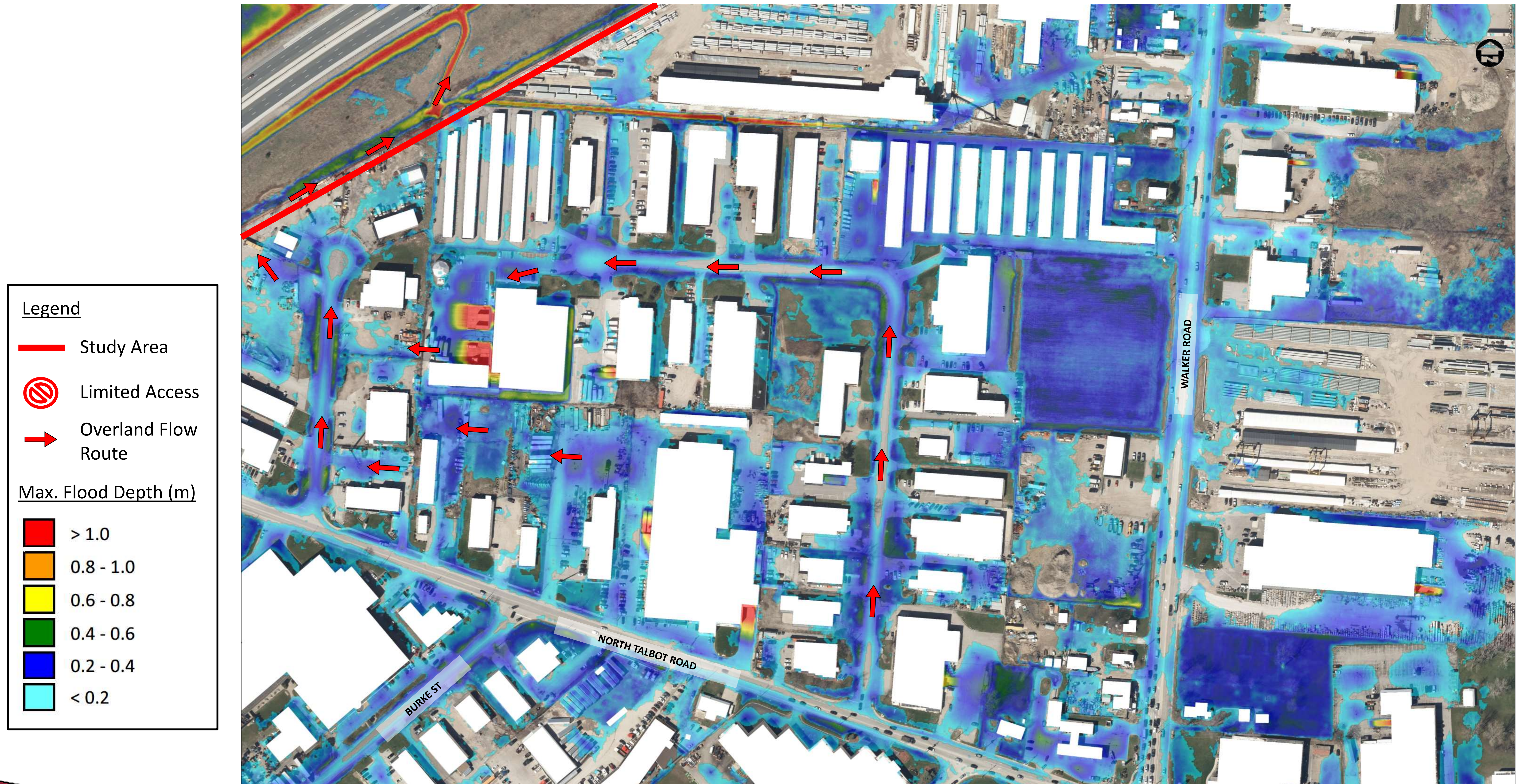
The **major system** drainage consists of drainage features that convey flows from infrequent storms. These typically consist of surface features, such as roadways and swales, but can sometimes consist of underground pipes. The major system supports the minor system by providing a pathway to safely convey excess runoff that the minor system cannot handle. The major system always exists, regardless of whether or not it is planned for. The highlighted areas represent the 4 main areas of concern.





## Area of Concern - 1

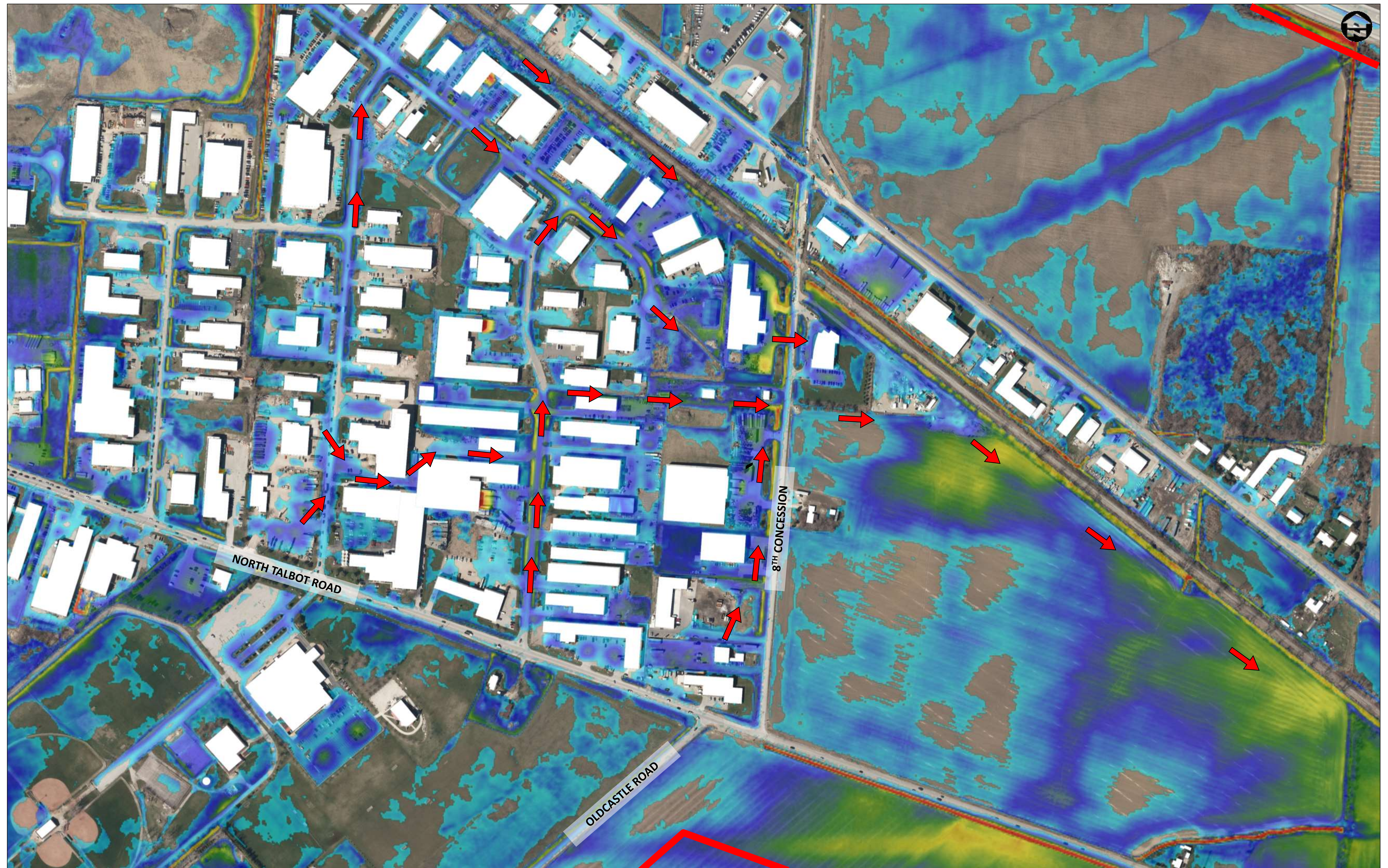
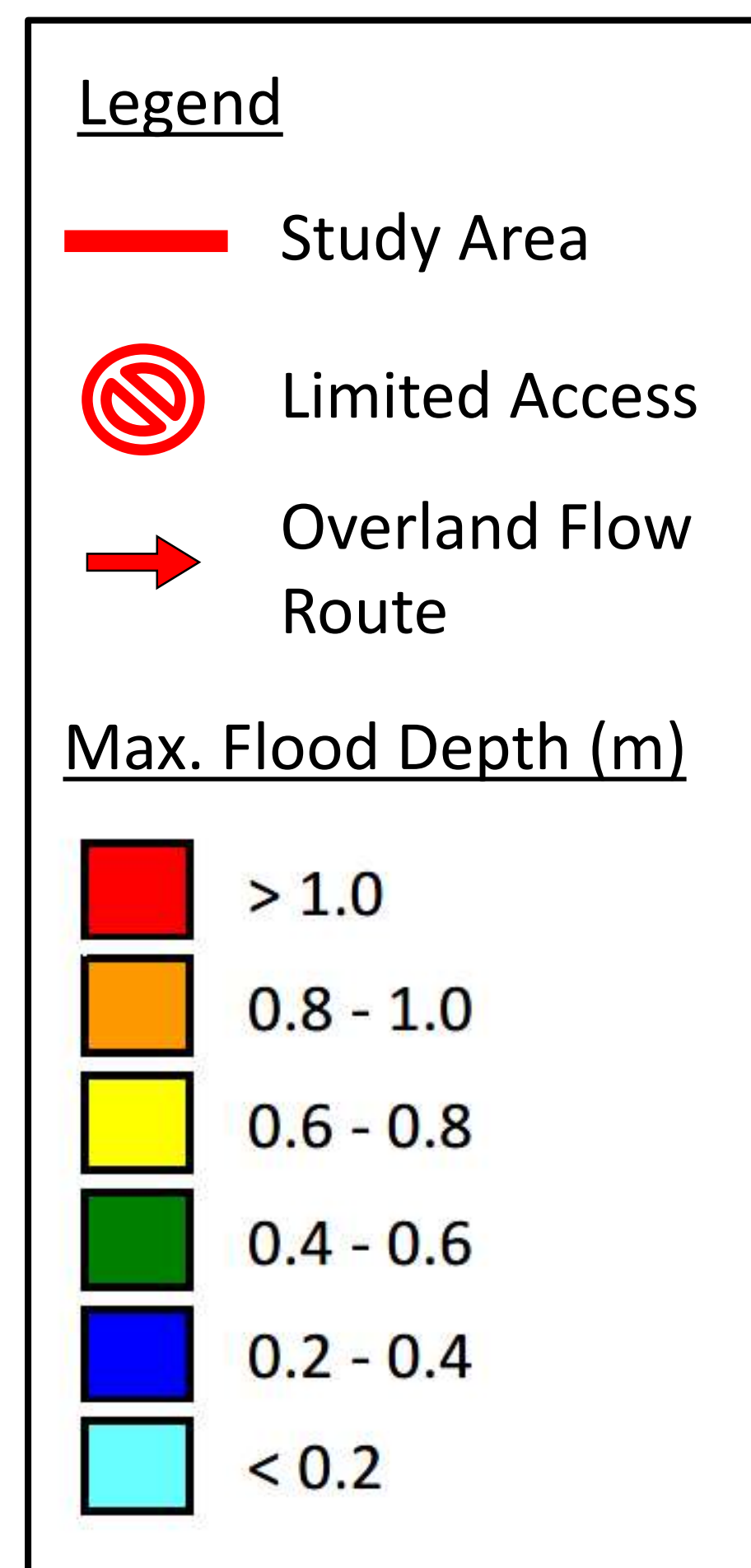
This display shows surface runoff flow paths (overland flow routes) as well as approximate 1:100 year flood depths and flood extents. Some existing flow paths are across one or more private properties. Where flood extents encroach onto building structures, there is a potential for flood damage. Blue ponding depths are typically acceptable on roadways, green is impassable for some vehicles and yellow is impassable for most vehicles. Ponding in undeveloped areas is typically a low risk of damage and/or low consequence.





## Area of Concern - 2

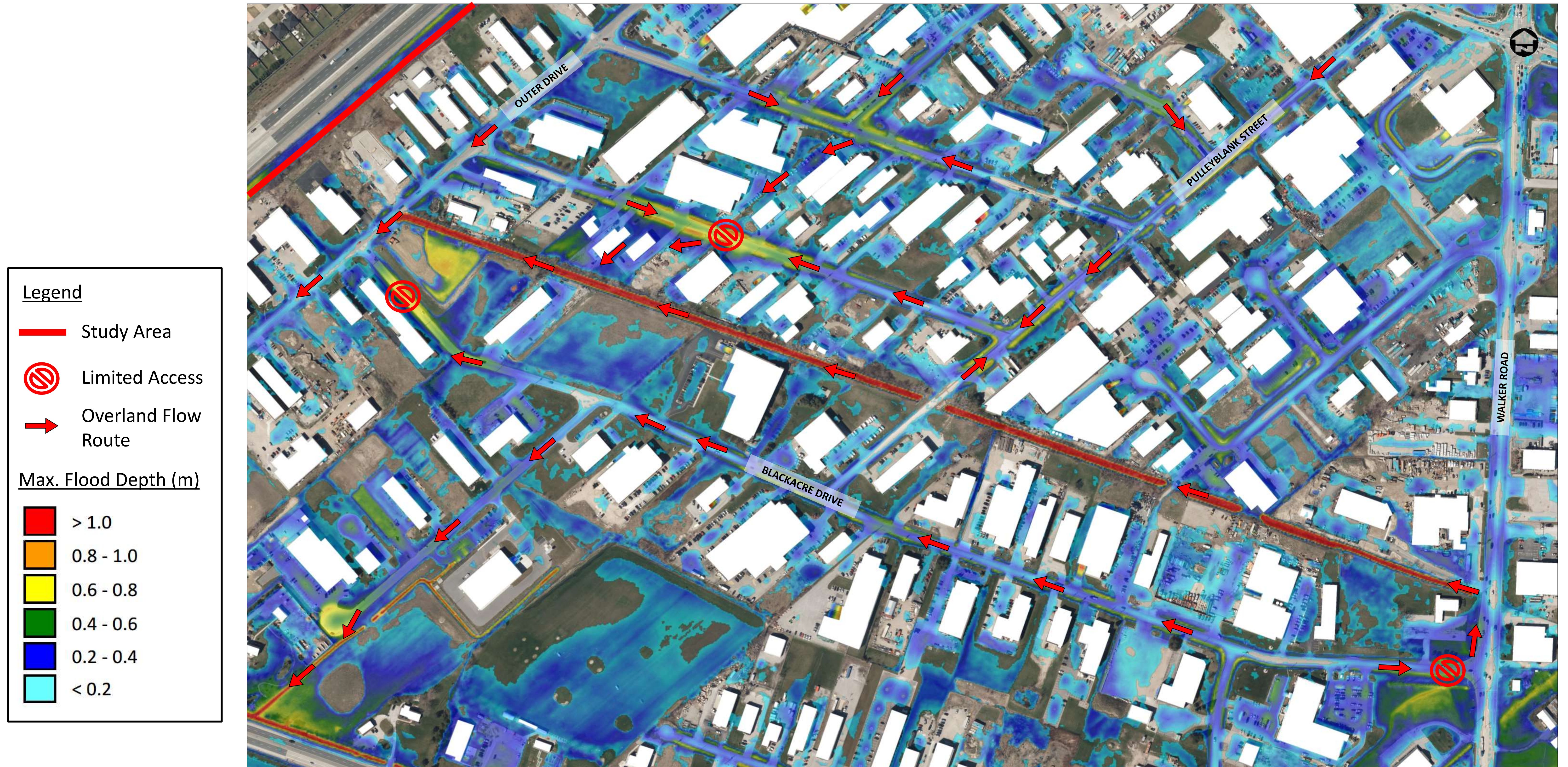
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## Area of Concern - 3

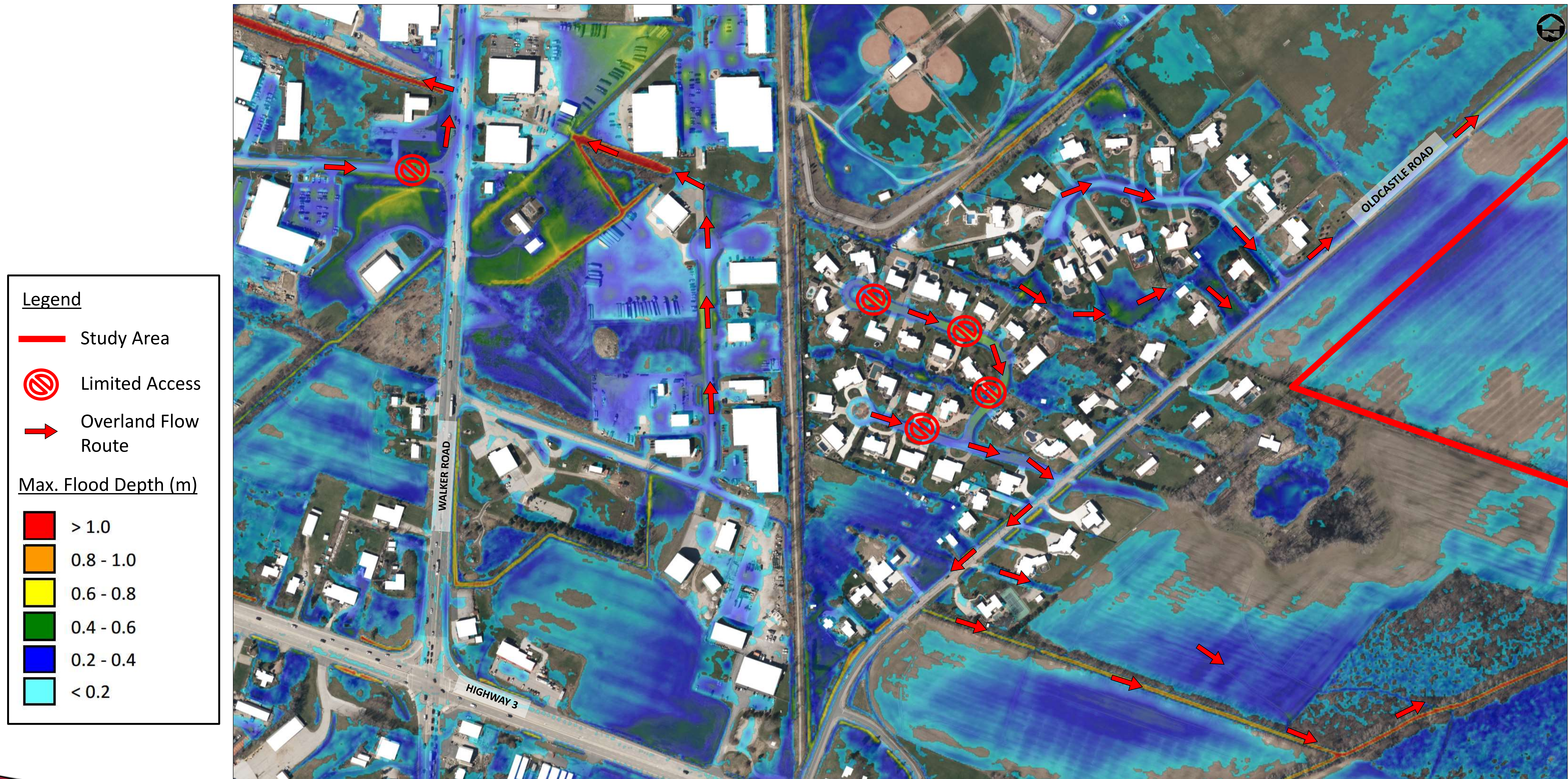
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## Area of Concern - 4

This display shows surface runoff flow paths (overland flow routes) as well as approximate 1:100 year flood depths and flood extents. Some existing flow paths are across one or more private properties. Where flood extents encroach onto building structures, there is a potential for flood damage. Blue ponding depths are typically acceptable on roadways, green is impassable for some vehicles and yellow is impassable for most vehicles. Ponding in undeveloped areas is typically a low risk of damage and/or low consequence.





This slide is intended to discuss the improvement alternatives that will be considered in the next steps of the study.

## **Alternative A: Enhance / Secure / Establish Acceptable Overland Routes and Storage Areas**

The existing topography dictates the surface flow path and depths to which surface water can accumulate. This alternative includes **consideration** of;

- Creating sufficient flow paths to direct flows away from structures;
- Identifying areas to be designated for flood storage during major storm events;
- Acquiring easements and/or dedicated blocks of land to support the above.

This alternative will consider major drainage system improvements via surface features (i.e. roadways, swales and flood storage on dedicated blocks of undeveloped land), which are typically the most cost effective. If warranted, consideration will also be given to new storage infrastructure such as stormwater ponds or underground storage chambers. The goal of this alternative is to minimize potential flood damage and ensure safety to the public.



UNDERGROUND STORAGE CHAMBERS  
HIGH COST STORAGE ALTERNATIVE



FLOOD STORAGE ON UNDEVELOPED LAND  
LOW COST STORAGE ALTERNATIVE

Source: purdue.edu



This slide is intended to discuss the improvement alternatives that will be considered in the next steps of the study.

## **Alternative B: Add Storm Relief Sewers**

In areas of concern where surface features cannot be accommodated, shallow storm sewers (underground pipes) will be considered to direct stormwater away from these areas and provide flood relief.

Improving drainage may also require a storage feature to control flow to a rate that the receiving downstream drain can handle.



EXAMPLE OF A SHALLOW STORM SEWER  
INSTALLED WITHIN EXISTING ROADWAY

Source: ads-pipe.com

## **Alternative C: Improve Minor System (Drains and Pipes)**

The Oldcastle Hamlet area drainage system has generally been developed in a fragmented fashion in response to individual developments. The area will benefit from the holistic approach of this Master Plan, which will consider drainage constraints and opportunities on a watershed scale. The existing system does not meet today's modern standards for new developments. This study does not intend to replace the overall existing drainage system to meet current standards. Rather, this study is intended to evaluate the existing system and consider improvements to address parts of the system that are deemed problematic and/or are found to have insufficient drainage capacity. There are several reasons to limit the efficiency of a drainage system, such as;

- Limited flow capacity of the downstream receiving drain;
- Reduce impact of development (increase in runoff volume) by controlling flow to the receiving drain;
- Reduce erosion and pollution potential;
- Smaller pipe sizes.



**We want to hear from you!**

**Please let us know if you have witnessed any of the following with the study area:**

- Frequent and/or extended duration of ponding after rain events?
- Ponding depths that exceed 0.3 metres (1 foot)?
- Flooding in your home or business?
- Broken storm pipes?
- Broken culverts? Culverts in poor repair?
- Blockages or erosion of drains and ditches?

**We encourage you to fill out a comment sheet with any information and locations regarding drainage issues within the study area.**



- All comments received from today's meeting will be reviewed by the Project Team and used to help define the Preferred Solutions.
- A second Public Drop-In Centre will be held in early December to present the Preferred Solutions.
- All comments received from the second Drop-In Centre will be reviewed and used to help refine the Preferred Solutions. The project website will then be updated and a Notice will be published, alerting the public that the 30-day public review period for this Class EA has commenced.
- Provided that all outstanding issues are resolved and no Part II Orders are requested, all 'Schedule B' projects identified in the Master Plan may proceed to final approvals and construction upon completion of the 30-day public review period.
- Projects identified as 'Schedule C' in the Master Plan must complete Phases 3 -5 of the Municipal Class EA process prior to proceeding with approvals and construction.

**We encourage you to fill out a comment sheet so that your issues and concerns can be addressed early in the planning process and to have your comments become part of the public record.**

**Thank you.**

PRIVACY INFORMATION

All personal information included in a submission – such as name, address, telephone number and property location – is collected, maintained and disclosed by the Ministry of the Environment for the purpose of transparency and consultation. The information is collected under the authority of the Environmental Assessment Act or is collected and maintained for the purpose of creating a record that is available to the general public as described in section 37 of the *Freedom of Information and Protection of Privacy Act*.

**Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential.**

For more information, please contact the Project Office or the Ministry of the Environment's Freedom of Information and Privacy Coordinator at 416-327-1434.