

Tecumseh Hamlet Secondary Plan Area Infrastructure Improvements



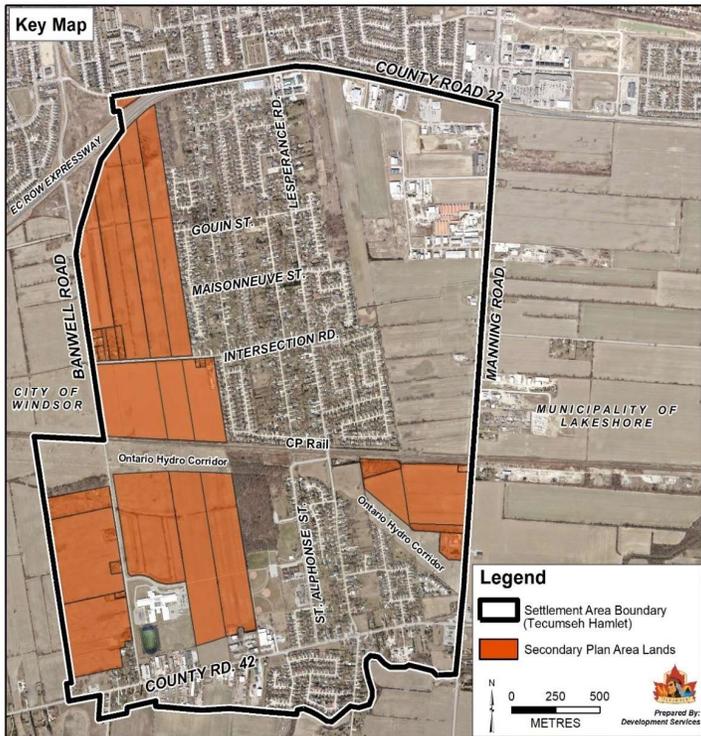
Municipal Class Environmental
Assessment and Functional Design

Public Information Centre #2
November 27, 2023



Tecumseh Hamlet Infrastructure Improvements

Municipal Class Environmental Assessment & Functional Design



Study Purpose

Recommend municipal infrastructure improvements needed to serve future development in the Secondary Plan Area.

Study Objectives

- ✓ Support development
- ✓ Develop a comprehensive Servicing Plan
- ✓ Projects identified as **recommended** will be approved to proceed with design and construction

Purpose of PIC #2

To provide opportunity for the public and stakeholders to review and comment on the preliminary preferred design concepts. Assist the Town with finalizing the servicing strategy and proceeding with necessary projects.

Proposed infrastructure improvements include:

- Transportation
- Water
- Wastewater
- Stormwater Management



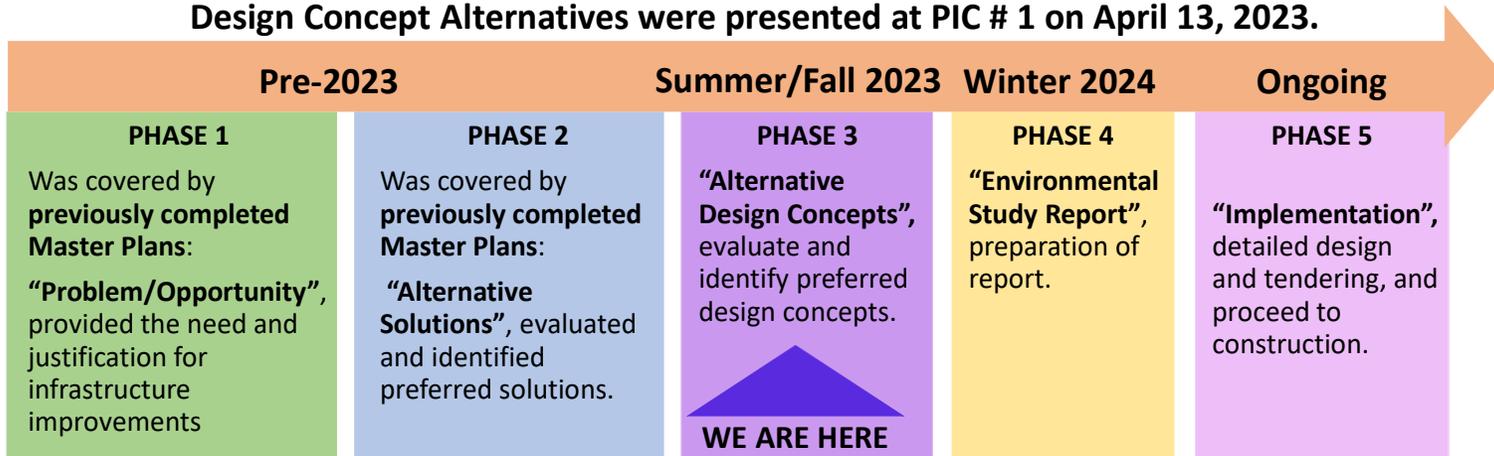


Municipal Class EA Process

The **Municipal Class Environmental Assessment (MCEA)** is an approved planning and design process used to ensure that municipal infrastructure projects meet the requirements of the Ontario Environmental Assessment Act.

The Schedule C process is being followed. Phases 1 and 2 of the MCEA were covered by the previously completed Master Plans. This study will address Phases 3 and 4.

Design Concept Alternatives were presented at PIC # 1 on April 13, 2023.



To avoid or minimize adverse impacts, Phase 3 involves:

- The development and evaluation of Design Concepts to determine the preferred solution;
- The preparation of a detail inventory of the potentially affected environment and impact assessment of the Design Concepts;
- The selection of the preliminary preferred concepts; and
- Public and agency consultation and the selection of the preferred concept.





Problem / Opportunity Statement

Municipal infrastructure including road, water, wastewater and stormwater infrastructure, are required to service new development in the Tecumseh Hamlet Secondary Plan Area.

The facilities will be planned and designed to mitigate impacts on the natural heritage environment, water resources, cultural resources and existing municipal infrastructure.

Background Studies

Site Investigations Completed

- Stage 1 Archaeological Assessment
- Cultural Heritage Assessment
- MTO Landfill - Methane Gas Investigation
- Environmental Condition Assessment

Engineering Analysis

- Transportation Impact Study Update
- Stormwater Management Analysis
- Sanitary System Capacity Assessment

Previously Completed Master Plans:

Transportation

- Town of Tecumseh Transportation Master Plan (2017)
- City of Windsor Banwell Road Environmental Assessment (2016)
- County Road 42 and 43 Environmental Assessment (2009)
- County Road 22/19 Environmental Assessment (2009)

Water and Wastewater

- Water and Wastewater Master Plan (2019)

Stormwater

- Upper Litter River Watershed Drainage and Stormwater Management (SWM) Master Plan (2023)
- Tecumseh Drainage Master Plan (2019)



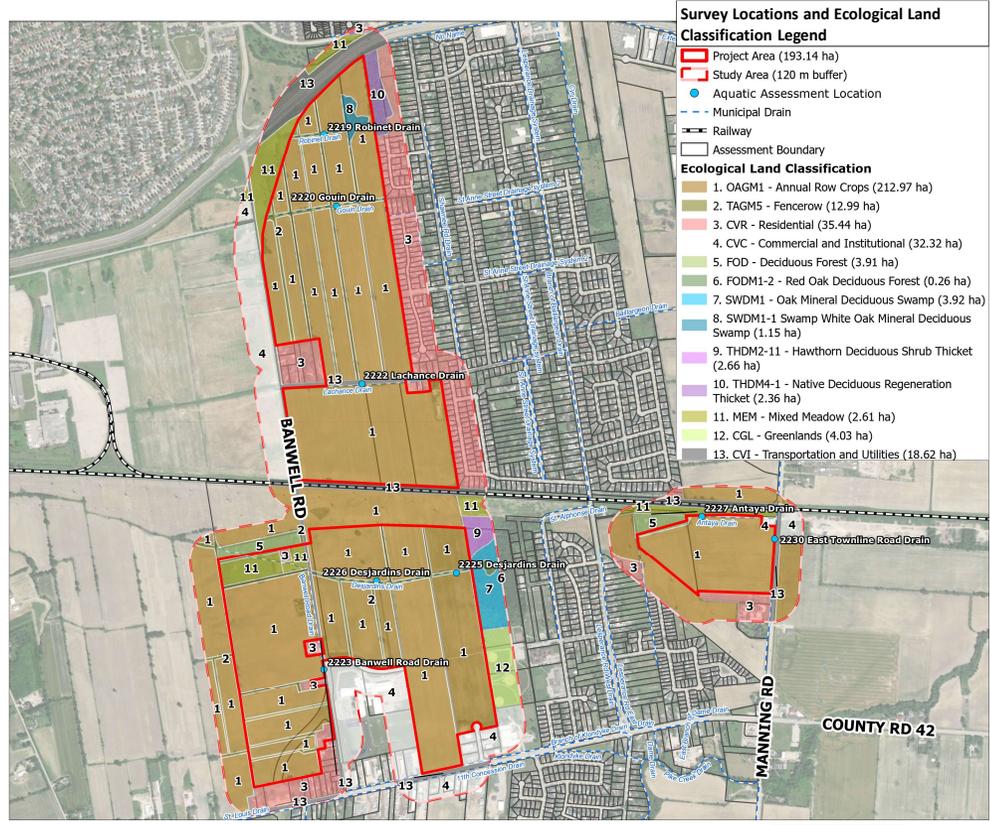
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Natural Environment

- A total of 7 natural communities and 5 cultural communities exist within the Study Area.
- The majority of the Study Area consists of developed cultural communities, most of which are active agricultural lands with annual row crops.
- Based on the existing conditions documented, a total of 15 Species at Risk (SAR) have the potential to occur in the general vicinity of the Study Area including bats, snakes, and vegetation.
- 19 species were incidentally observed within the Study Area during the field surveys undertaken in March 2023, all considered Secure (S5) or Apparently Secure (S4) in the province.





Cultural Environment

Stage 1 Archaeological Assessment

(Fisher Archaeological Consulting, April 2013)

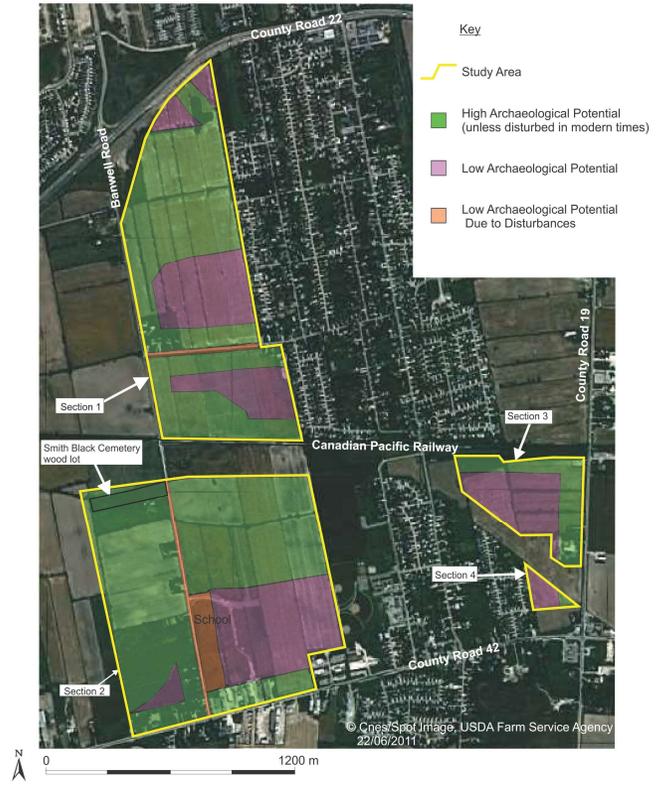
- High potential for archaeological significant resources, including historic Aboriginal, refugee slave Euro-Canadian settlements and the presence of the Smith Black Cemetery on Banwell Road.
- Stage 2 Archaeological Assessment(s) (AA) are required prior to the construction and the development of infrastructure on lands noted within the Stage 1 AA Report.

Cultural Heritage Assessment (ASI, August 2023):

Built Heritage Resources (BHR) and Cultural Heritage Landscape (CHL) Assessment

A total of 1 known CHL, 3 potential CHLs, 1 potential BHR, and 1 commemorative feature (CF) were identified within the study area as part of the August 2023 study.

- The known CHL is designated under Part IV of The Ontario Heritage Act.
- The study provides a detailed analysis of the potential impacts and proposed mitigation measures for protecting the identified CHLs, BHR, and CF.





Socio-Economic Environment

- This Servicing Plan is being done in conjunction with the **Town's Tecumseh Hamlet Secondary Plan**, Official Plan Amendment.

Existing Land Uses, Tecumseh Hamlet

- The Hamlet's existing population is about 5,300
- Land uses consist primarily of single detached residences and some commercial uses, community facilities and parks

Provincial Policy Statement (PPS)

- "Settlement Areas" shall be the focus of growth and development
- Full municipal services are the preferred form of servicing
- Municipalities shall consider the wise use and management of natural heritage, water and cultural heritage resources when planning for infrastructure

County of Essex and

Town of Tecumseh Official Plans

- Both plans direct all non-agricultural development to "Settlement Areas", including the Tecumseh Hamlet, designated for "Future Development"
- The Town's plan projects a population of 32,050, an increase of 8,750 people by 2045
- The County's Official Plan Update projects that the Town's population will be between 35,300 and 42,300 by 2051, significantly higher than previous projections
- Full municipal services are required in "Settlement Areas"

Tecumseh Hamlet Secondary Plan

- The Secondary Plan will address the integration of existing and new development, land use distribution, and related infrastructure requirements.
- The plan projects that 1,500 residential units will be built in the Hamlet over the next 10 years, potentially adding more than 3,500 people to this area.

Tecumseh Hamlet Infrastructure Improvements

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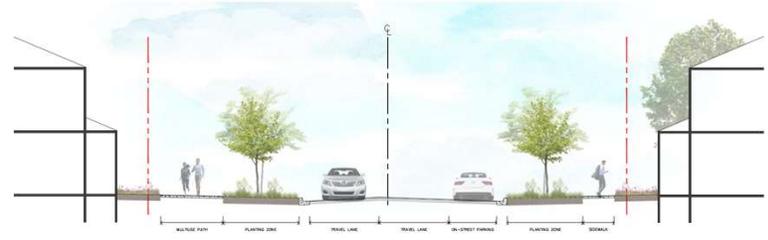


Transportation

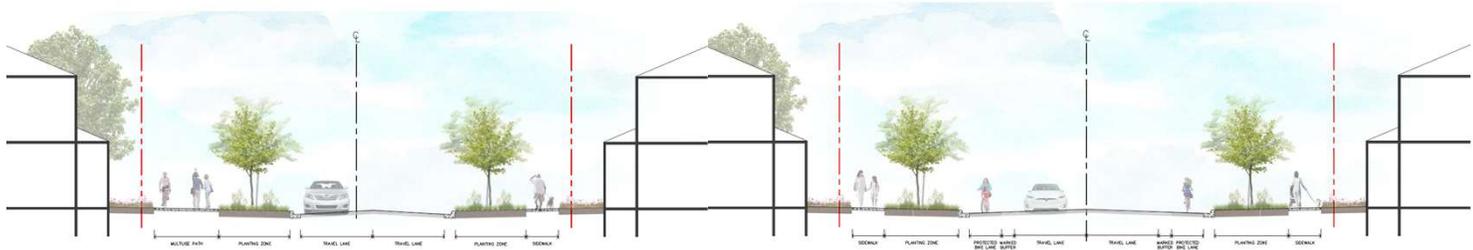
To support the internal road network, accommodate growth and promote connectivity, three Urban Collectors are required north of the CPR Rail Corridor at:

- Gouin Street;
- Maisonneuve Street; and
- Intersection Road.

- ✓ Provide 23.0m (75.5ft) right-of-way for future Urban Collector Roads.
- ✓ Improve existing roadways and provide linkage to Lesperance Road.
- ✓ Introduce Active Transportation Corridors (pathways for bike and pedestrian traffic).



Alternative 1: Includes Off-Street Cycling Facilities (Multi-Use Path) and On-street Parking



Alternative 2: Includes Off-Street Cycling Facilities (Multi-Use Path) and No Parking

Alternative 3: Includes On-Street Cycling Facilities and No Parking



Tecumseh Hamlet Infrastructure Improvements

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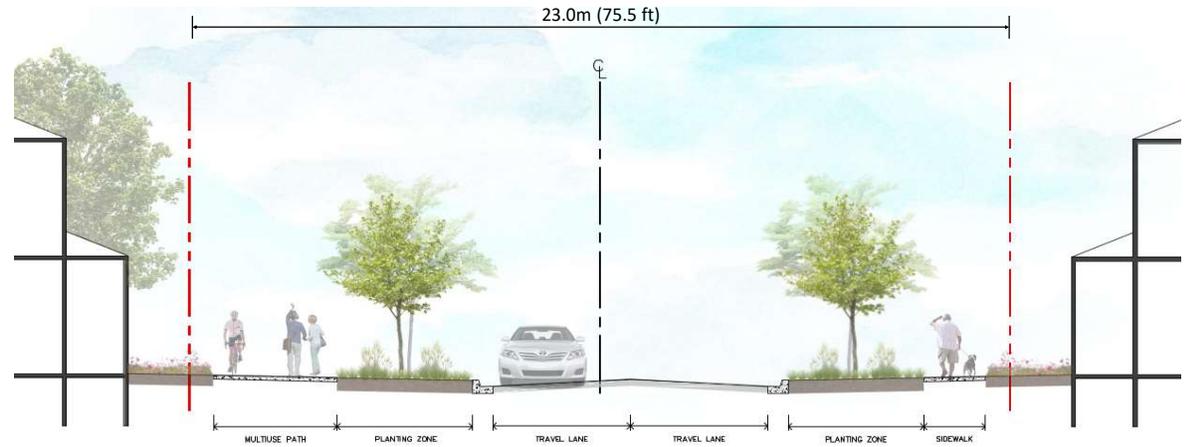
Transportation

Preliminary Preferred Design Concept

Alternative 2: Includes Off-Street Cycling Facilities (Multi-Use Path) and No On Street Parking

Typical Urban Collectors Cross Section:

- Commercial Main Street Area shall include provisions for on street parking.



Preliminary Preferred Design Concept

Evaluation Criteria	Alternative Design Concepts – Gouin, Maisonneuve and Intersection Collector		
	Design Concept #1 OFF-STREET CYCLING FACILITIES (MUP) AND ON-STREET PARKING	Design Concept #2 OFF-STREET CYCLING FACILITIES (MUP) AND NO PARKING	Design Concept #3 ON-STREET CYCLING FACILITIES AND NO PARKING
Natural Environment	●	●	●
Socio-Cultural Environment	◐	◐	◐
Financial Factors	◑	●	◑
Technical Factors	◐	◑	◐
OVERALL SUMMARY	Least Preferred	Most Preferred	Somewhat Preferred

● Most Preferred
◐ More Preferred
◑ Somewhat Preferred
◒ Less Preferred
○ Least Preferred

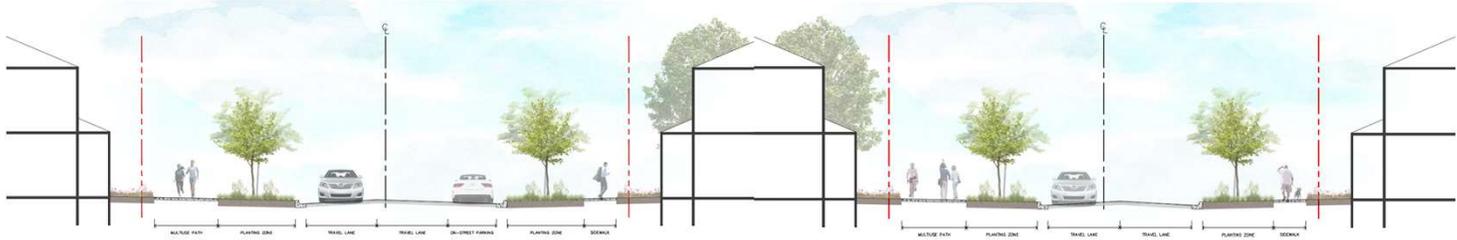
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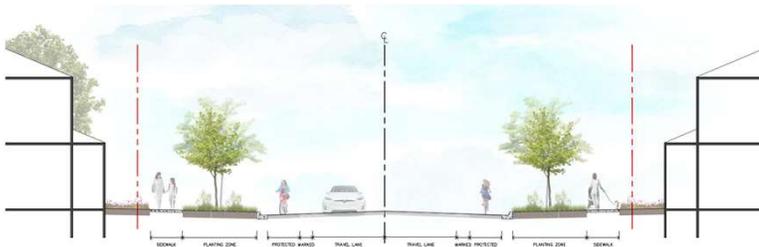
Transportation - Shields Street (Collector)

To support the internal road network, a 23.0m (75.5ft) wide Urban Collector is required south of the CPR Rail Corridor at Shields Street.



Alternative 1: Includes Off-Street Cycling Facilities (Multi-Use Path) and On-street Parking

Alternative 2: Includes Off-Street Cycling Facilities (Multi-Use Path) and No Parking



Alternative 3: Includes On-Street Cycling Facilities and No Parking



Alternative 4: Includes Off-Street Cycling Facilities (Multi-Use Path), No Parking, and Bio Swale Median

Tecumseh Hamlet Infrastructure Improvements

Municipal Class Environmental Assessment & Functional Design



Transportation - Shields Street (Collector)

- ✓ Roadway will be integrated into the enhanced McAuliffe Regional Park Improvements.
- ✓ Designated Pedestrian Crossover signals will be used.
- ✓ Raised planters and wayfinding signage will be used to assist movement of pedestrians and cyclists.
- ✓ Refer to the Secondary Plan PIC #3 for more details.

Preliminary Preferred Design Concept Alternative 4: Includes Off-Street Cycling Facilities (Multi-Use Path), No Parking, and Bio Swale Median



Preliminary Preferred Design Concept



Evaluation Criteria	Alternative Design Concepts – Shields Street Collector			
	Design Concept #1 Off-Street Cycling Facilities and On-street Parking	Design Concept #2 Off-Street Cycling Facilities and No Parking	Design Concept #3 On-Street Cycling Facilities and No Parking	Design Concept #4 Off-Street Cycling Facilities, No Parking, and Bio Swale Median
Natural Environment	●	●	●	●
Socio-Cultural Environment	●	●	●	●
Financial Factors	●	●	●	●
Technical Factors	●	●	●	●
OVERALL SUMMARY	Least Preferred	More Preferred	Somewhat Preferred	Most Preferred
● Most Preferred	● More Preferred	● Somewhat Preferred	● Less Preferred	○ Least Preferred

Tecumseh Hamlet Infrastructure Improvements

Municipal Class Environmental Assessment & Functional Design



Water Servicing

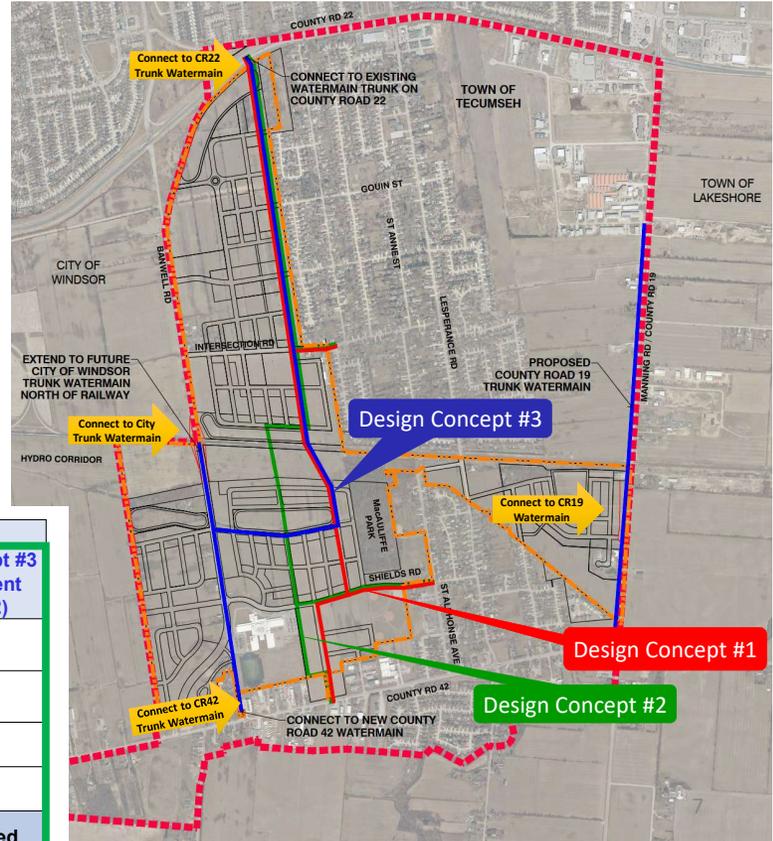
- ✓ Provide water service for future development area.
- ✓ New interconnection with the City of Windsor's Trunk watermain on Banwell Road.
- ✓ Improved water circulation and servicing capabilities for existing and future areas to satisfy the Water and Wastewater Master Plan.

- Most Preferred
- More Preferred
- ◐ Somewhat Preferred
- Less Preferred
- Least Preferred

Preliminary Preferred Design Concept



Evaluation Criteria	Alternative Design Concepts		
	Design Concept #1 East alignment (Odessa/CR42)	Design Concept #2 Center Alignment (Odessa/CR42)	Design Concept #3 West Alignment (CR43/CR42)
Natural Environment	◐	◐	●
Socio-Cultural Environment	◐	◐	◐
Financial Factors	◐	◐	●
Technical Factors	◐	◐	●
OVERALL SUMMARY	Less Preferred	Least Preferred	Most Preferred



Tecumseh Hamlet Infrastructure Improvements

Municipal Class Environmental Assessment & Functional Design



Wastewater Servicing

- ✓ Provide wastewater service for future development area.
- ✓ Redistribute wastewater flows to provide relief for the existing developed areas.
- ✓ Utilize updated design criteria and population densities that considers impacts of wet weather on the system.

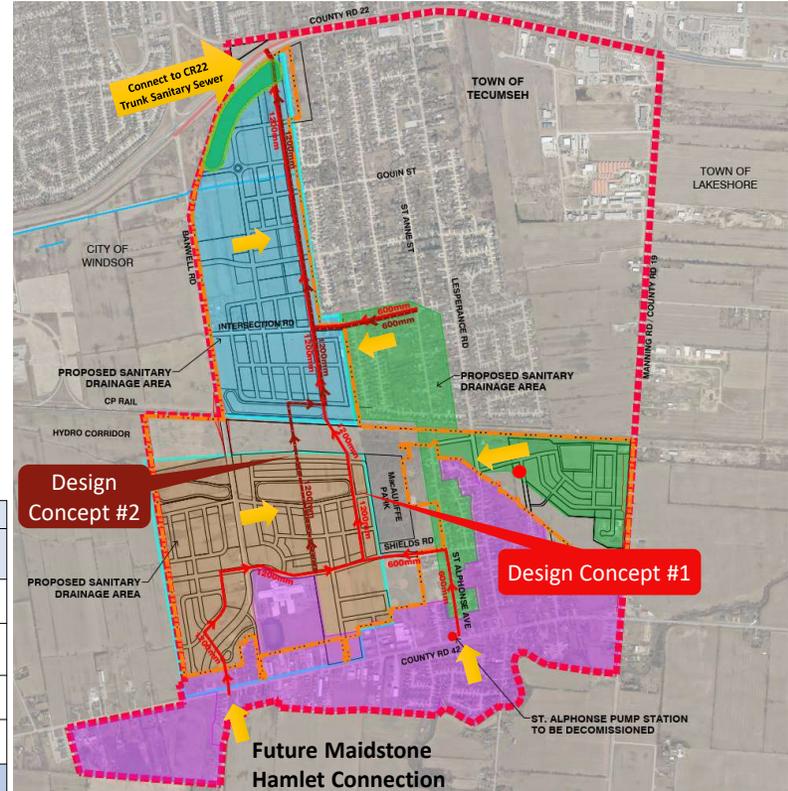
LEGEND

- URBAN AREA BOUNDARY
- .-.- TECUMSEH HAMLET STUDY AREA BOUNDARY
- NEW TRUNK SANITARY SEWER DESIGN CONCEPT #1
- NEW TRUNK SANITARY SEWER DESIGN CONCEPT #2
- EXISTING TRUNK SANITARY SEWER
- SANITARY PUMP STATION
- Sewage Flow Contribution

Evaluation Criteria	Alternative Design Concepts	
	Design Concept #1 Central Alignment	Design Concept #2 West Alignment
Natural Environment	☉	☉
Socio-Cultural Environment	☉	☉
Financial Factors	●	☉
Technical Factors	☉	☉
OVERALL SUMMARY	Most Preferred	Least Preferred

☉ Preliminary Preferred Design Concept

● Most Preferred ☉ More Preferred ☉ Somewhat Preferred ☉ Less Preferred ○ Least Preferred



Tecumseh Hamlet Infrastructure Improvements

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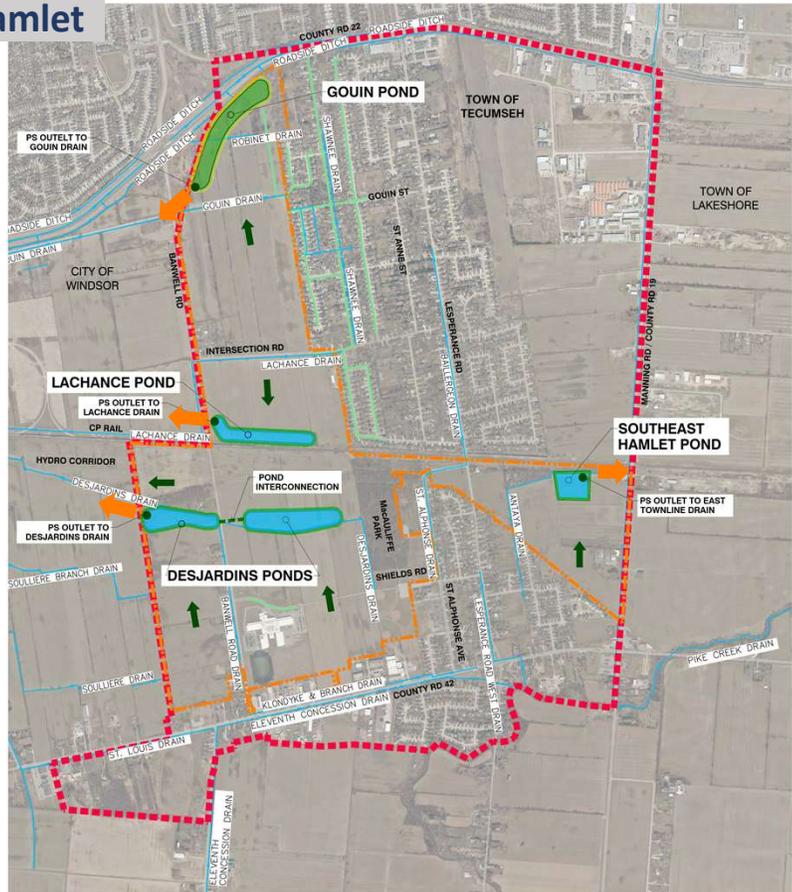
Stormwater Management West Hamlet

In accordance with the Upper Little River Stormwater Management Environmental Assessment, the recommended solution includes implementation of stormwater management facilities that will;

- ✓ Provide quality and quantity control of runoff to protect the upper reaches of the Little River drain.
- ✓ Require three (3) controlled outlets to existing drains to mitigate downstream impacts.
- ✓ Incorporate flexibility to accommodate Climate Change.
- ✓ Accommodate capacity to improve storm sewer systems upstream along existing residential streets (i.e. Shawnee, Hebert).

LEGEND

- URBAN AREA BOUNDARY
- TECUMSEH HAMLET STUDY AREA BOUNDARY
- WET STORMWATER MANAGEMENT POND
- STORM PUMP STATION
- STORM SEWER DRAINAGE
- DRY STORMWATER MANAGEMENT POND
- CONTROLLED OUTLET





Stormwater Management West Hamlet

Wet Pond

- ✓ Provide water quality control and quality control, to mitigate the need for upstream quality control measures which are costly and difficult to maintain to ensure proper effectiveness.
- ✓ Can be incorporated into natural spaces and provide natural environment linkages.
- ✓ Meets SWM Regional and provincial guidelines.
- ✓ Must consist of features to mitigate waterfowl due to proximity with the Airport.

Dry Pond

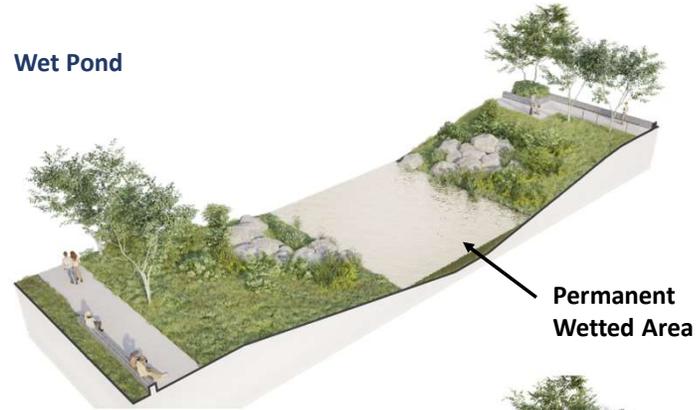
Gouin Pond is within the Windsor Airport Runway Approach Zone, therefore a Dry Pond is recommended to discourage the presence of waterfowl. Upstream quality control measures shall be accommodated accordingly.

Both dry and wet facilities would have similar footprints and both will include natural features, waterfowl mitigation measures and sediment and erosion control.

Preliminary Preferred
Design Concept



Wet Pond



Permanent
Wetted Area

Dry Pond



Dry Area

Tecumseh Hamlet Infrastructure Improvements

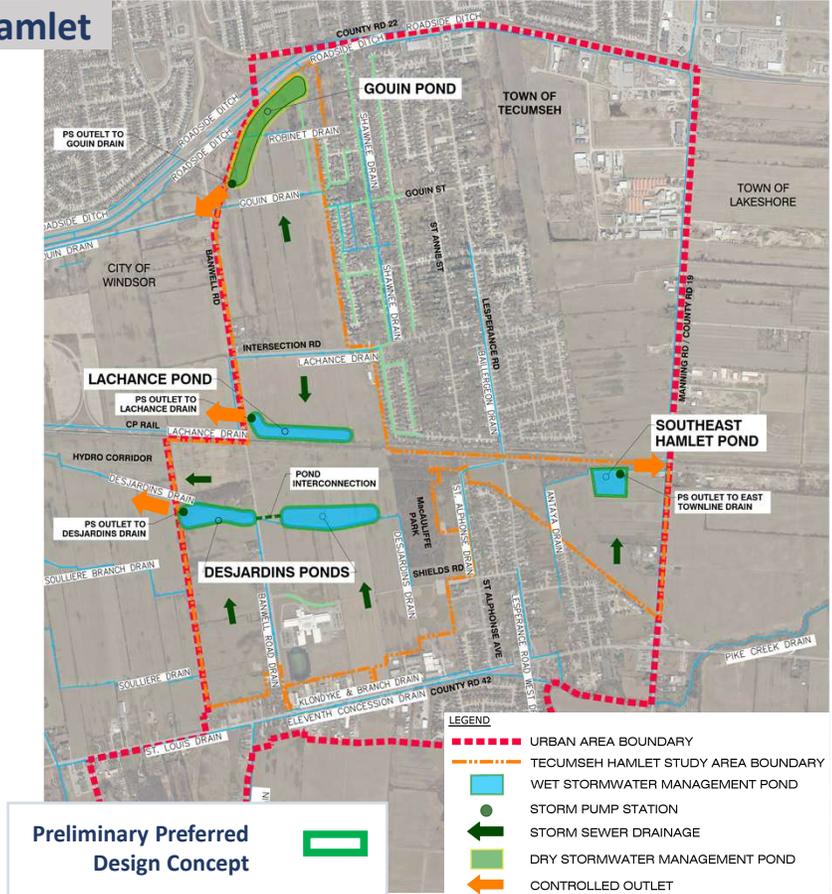
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Stormwater Management West Hamlet

Alternative Design Concepts – LaChance and Desjardins Stormwater Management Facility		
Evaluation Criteria	Design Concept #1 Wet Stormwater Management Facility	Design Concept #2 Dry Stormwater Management Facility
Natural Environment	☉	●
Socio-Cultural Environment	☉	☉
Financial Factors	●	☉
Technical Factors	☉	●
OVERALL SUMMARY	Most Preferred	Least Preferred

Alternative Design Concepts – Gouin Stormwater Management Facility		
Evaluation Criteria	Design Concept #1 Wet Stormwater Management Facility	Design Concept #2 Dry Stormwater Management Facility
Natural Environment	☉	●
Socio-Cultural Environment	☉	☉
Financial Factors	☉	●
Technical Factors	☉	●
OVERALL SUMMARY	Least Preferred	Most Preferred



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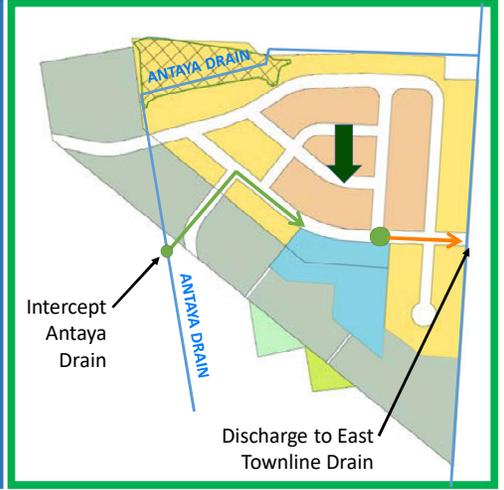
Stormwater Servicing Southeast Hamlet

- ✓ The preferred stormwater management solution is to implement a Stormwater Management Facility that also serves the Antaya Drainage area.
- ✓ A wet pond is recommended.
- ✓ Incorporate flexibility to accommodate Climate Change.
- ✓ One (1) controlled outlet to the existing municipal drain along CR19, East Townline Drain.
- ✓ The area shall outlet to the East Townline Line drain. Under ultimate conditions, the East Townline Drain is planned to be redirected south to the Pike Creek Drain (CR19/CR22 EA).

Design Concept # 1



Design Concept # 2



LEGEND

- WET STORMWATER MANAGEMENT POND
- STORM PUMP STATION
- STORM SEWER DRAINAGE
- CONTROLLED OUTLET

Preliminary Preferred Design Concept

Alternative Design Concepts – Southeast Hamlet Stormwater Management Facility		
Evaluation Criteria	Design Concept #1 North SWMF, South of CPR Corridor	Design Concept #2 South SWMF, Partially in Hydro Corridor
Natural Environment	◐	◑
Socio-Cultural Environment	◑	●
Financial Factors	◐	◑
Technical Factors	◑	◑
OVERALL SUMMARY	Less Preferred	More Preferred

● Most Preferred
◑ More Preferred
◐ Somewhat Preferred
◑ Less Preferred
○ Least Preferred

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Potential Impacts and Mitigation

Potential Impact	Proposed Mitigation
Impacts to Surrounding Lands	<ul style="list-style-type: none"> • Windsor Airport Safety - Design stormwater management ponds to include provisions for waterfowl mitigation and natural features. • Existing Road Network – Incorporate Traffic Calming, where warranted, restore disturbed areas. • Municipal Servicing –Proposed infrastructure considers needs of the existing servicing areas.
Construction & Maintenance	<ul style="list-style-type: none"> • Inform property owners about upcoming construction. • Use construction best management practices to minimize disruption, such as sediment and erosion control, controlling dust and following noise by-laws. • Implement necessary detours and signage. • Regular maintenance of ponds and pump stations, regular monitoring of waterfowl and natural features.
Property Impacts	<ul style="list-style-type: none"> • Avoid property impacts where possible, acquire property or easements, where necessary. • Compensation based on independently completed appraisal based on market values. • Consultation with effected landowners. Regular updates on the timing of progress on projects.
Archaeological and Cultural Heritage Resources	<ul style="list-style-type: none"> • Complete Stage 2 archaeological assessments prior to construction, and Stage 3 and 4 assessments, as required. • Engage indigenous communities during the planning and construction. • Notify appropriate agencies should unexpected resources be recovered during construction. • Establishing no-go zones with fencing and issue instructions to construction crews to avoid identified heritage resources. • Complete a resource-specific Heritage Impact Assessment (HIA) by a qualified heritage professional.
Natural Environment	<ul style="list-style-type: none"> • Minimize tree removal and replace any trees removed. • Protect existing natural environmental significant areas. • Development of mitigation plans to protect terrestrial and aquatic habitat. Prohibit construction during spawning and nesting seasons. • Obtain necessary regulatory permits. • Recommend necessary setbacks and barriers in the vicinity of the landfill site.

Tecumseh Hamlet Infrastructure Improvements

Municipal Class Environmental Assessment & Functional Design



Implementation/ Projects



The Town will continue to work with Developers to implement municipal servicing proposed herein.



Transportation

Collector Road Improvements

- Intersection Road Reconstruction (Lesperance Rd. to Shawnee Rd.) (2024)
- Intersection Road Reconstruction (Shawnee Rd. to Banwell Rd.)
- Gouin Street Extension
- Maisonneuve Street Extension
- Shields Street Extension and McAuliffe Park Expansion
- Shields Drive Interim Safety Improvements

Arterial Road Improvements (By Others)

- Banwell/CR22 Interchange Improvements (City of Windsor) (Design 2023/2024)
- County Road 43 Diversion (County of Essex) (2025)
- County Road 42 Improvements – Ongoing (County of Essex)



Watermain

- Banwell Road and County Road 43 Trunk Watermain (City and County) (Underway)
- West Hamlet Trunk Watermain CR22 to Intersection Road (2024)
- West Hamlet Trunk Watermain Intersection Road to Hydro Corridor (2025)
- West Hamlet Trunk Watermain - Hydro Corridor to County Road 43



Wastewater

- West Hamlet Trunk Sanitary Sewer - CR22 to Intersection Road (2024)
- West Hamlet Trunk Sanitary Sewer- Intersection Road to Hydro Corridor (2025)
- West Hamlet Trunk Sanitary Sewer - Hydro Corridor to County Road 42
- Intersection Road Sanitary Relief Sewer (2024)



Stormwater Management

- Four (4) Stormwater Management Ponds, Four (4) Pump Stations and outlets
- Upstream Trunk Storm Sewer Infrastructure.
- Municipal Drainage Improvements





Next Steps and Timelines

Fall 2023

Review Feedback from PIC # 2 and
Select and Finalize Preferred Concept Design

Fall 2023

Prepare Environmental Study Report (ESR) and
Functional Design Report (FSR)

Early 2024

Issue Notice of Completion to public and agencies	ESR available for public/agency review for 30 days
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Early 2024

Address any concerns received during review period

Ongoing

Implement Regional Infrastructure

Provide your input!

To provide comments on this project or request further information, please fill out a PIC form, contact one of the project team members listed below or visit the Town's website (www.Tecumseh.ca) for more information

Please provide your comments by January 5, 2024.

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Information collected for this study will be used in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record.

