City of Windsor
LITTLE RIVER POLLUTION CONTROL PLANT STUDY

PUBLIC INFORMATION CENTRE NO. 3
WELCOME

Municipal Class Environmental Assessment Study
October 15th, 2025

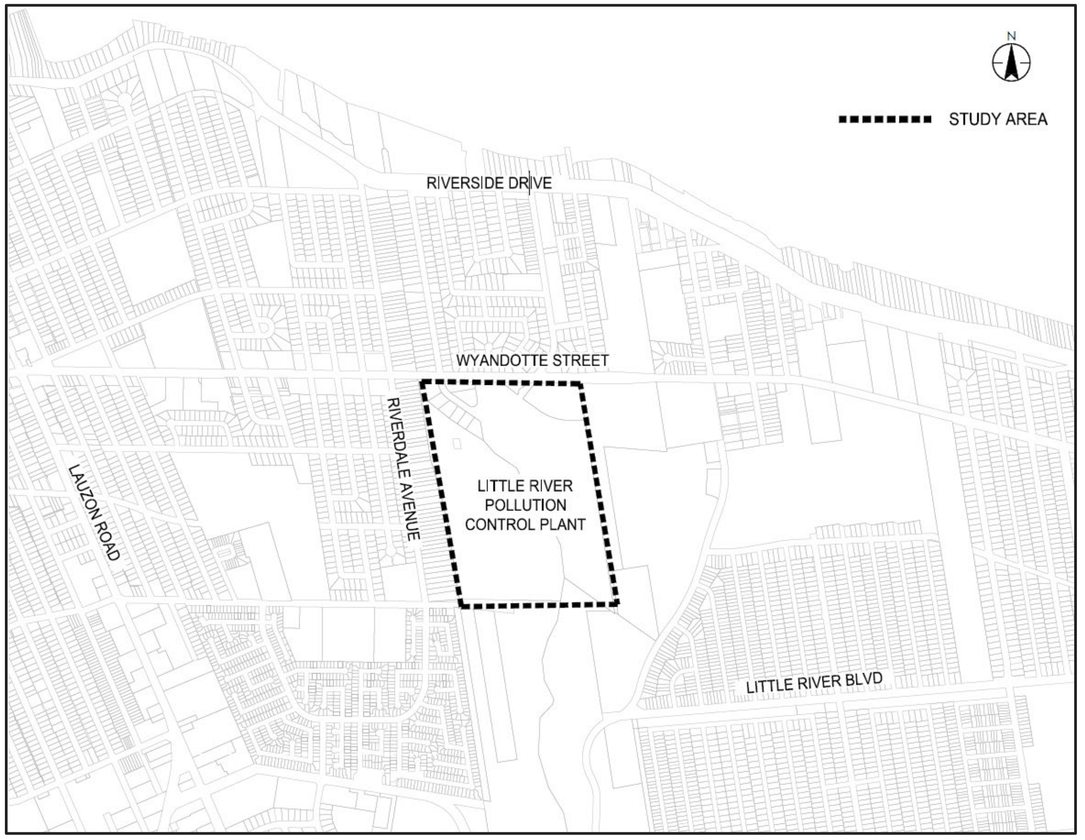
Introduction

Purpose of this Study

The purpose of this study is to determine the preferred solution and conceptual design to address the need for additional wastewater capacity at the Little River Pollution Control Plant (LRPCP).

The purpose of this Public Information Center (PIC) is to:

- Describe the Municipal Class Environmental Assessment (EA) Process
- Review the Study Background and Recommended Design Solution
- Present an Evaluation of and Obtain Public Input on Alternative Design Concepts
- Include Feedback in the Evaluation Process



Introduction

Key Features of the Class EA Process

This study is being conducted in accordance with the Class EA requirements for Schedule ‘C’ Projects.

	Municipal Class EA Phases	
	Phase 1 – Review and identify problem or opportunity	This EA Study
	Phase 2 – Alternative solutions to problem	This EA Study
★	Phase 3 – Alternative design concepts for the preferred solution	This EA Study
	Phase 4 – Prepare Environmental Study Report	This EA Study
	Phase 5 – Implementation of the preferred design	Future Work

Problem / Opportunity Statement

Prior planning reports identified the need to upgrade the existing LRPCP:

- The Sewer & Costal Flood Protection Master Plan (SMP) outlined **immediate wet weather flow capacity issues** and confirmed that during severe storm events the LRPCP is unable to accommodate all flows resulting in combined sewer overflows and higher sewer surcharge potential.
- The Sandwich South Master Servicing Plan (SSMSP) identified the **long-term wastewater treatment capacity limitations** and confirmed the need to increase capacity of the LRPCP to accommodate future development.

In general, the study objective is to follow the planning process defined under the *Environmental Assessment Act* to arrive at an environmentally responsible and cost-effective solution to address the need for additional capacity at the LRPCP.

Future Requirements

Service Area and LRPCP Capacity

The anticipated wastewater flow in millions of liter per day (MLD) was determined to be:

Flow Projections	2045 (20-Year)	2065+ (Ultimate)
Average Daily Flow (ADF)	77.2 MLD	104 MLD
Peak Dry Weather Flow (DWF)	201 MLD	259 MLD
Peak Wet Weather Flow (WWF)	393 MLD	474 MLD

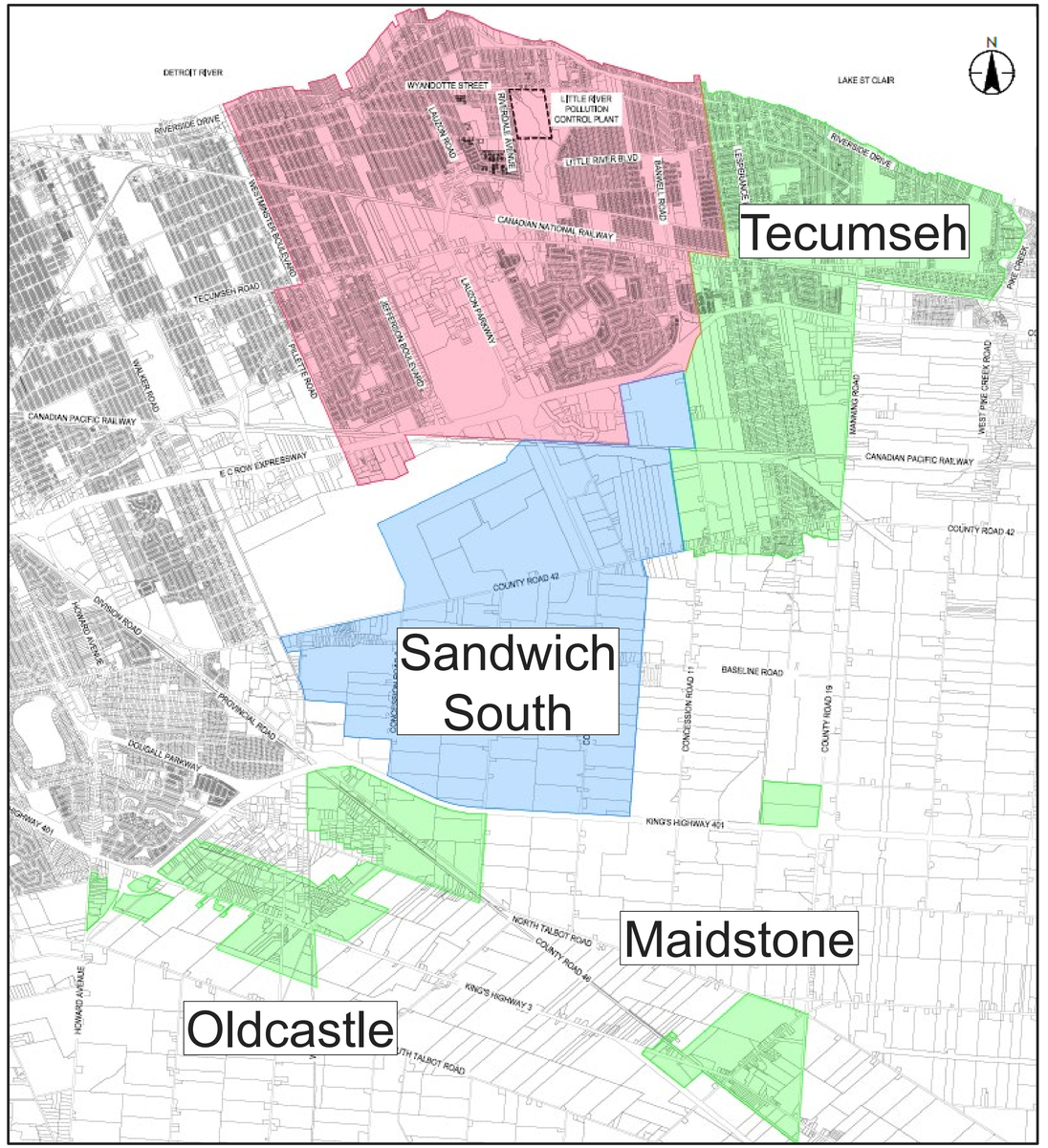
Note: Projections include anticipated flows provided by the Town of Tecumseh. The Peak WWF varies with Inflow and Infiltration (I&I) Reduction Factor (equivalent to ± 13 MLD).

Existing LRPCP Rated Capacity:

ADF = 72.8 MLD

Peak DWF = 90 MLD

Peak WWF = 225 MLD



Phase 1 and 2 of the Class EA Process
Completed

The need for additional WWF management and wastewater treatment capacity were reviewed and confirmed. Following consultation with review agencies and the public, the preferred multi-phased solution was determined as follows:

Phase	Planning Horizon	Description of Works
1	Immediate	**Reduce WWF through inflow and infiltration (I&I) Reduction Efforts** • The City has numerous initiatives, programs, plans, and construction projects aimed at identifying sources and mitigating impacts of I&I • These projects will assist in reducing I&I to the sanitary sewer system and therefore would delay the need for LRPCP expansions **Construct a WWF Management Facility** • WWF Management Facility would be constructed to capture, store, and treat flows to mitigate combined sewer overflows • Also includes a new headworks facility for the LRPCP
2	10-15 Years*	Upgrade the Existing LRPCP (assuming that no tertiary treatment is required to comply with new effluent criteria). Otherwise, expansion would be required.
3	20-30 Years*	Expand the LRPCP by adding an additional treatment train, also known as a Tandem or Parallel Plant.

* May be subject to change based on the pace at which developments progress within the City of Windsor and Town of Tecumseh.

Phase 3 of the Class EA Process

Ongoing

- Review alternative design concepts for the Phase 1, 2, and 3 Upgrades
- Select the preferred design that satisfies wastewater collection and treatment criteria, minimizes undesirable impacts on the natural, social and economic environment, and is acceptable to the public and regulatory agencies

This open house is held as part of Phase 3 of the Class EA Process.

Alternative Design Concepts
Evaluation Criteria

Component	Evaluation Criteria
Technical Suitability	• Ability to meet current and future service needs • Ability for logical and cost-effective expansion • Ability to meet effluent limits and objectives • Proven technology, proof of successful installations within Canada and Southwestern Ontario (similar climate) within the last 20 years • Constructability, implementation timeline, and phasing • Flexibility to meet future needs and/or climate change projections • No adverse impacts on existing infrastructure (operations and/or maintenance)
Social	• Impacts to archaeological, built heritage, and cultural • Noise, vibration, odour, or air pollution emissions • Permanent changes or impacts to society / community • Development policies and agreements
Natural Environment	• Impacts to vegetation, fish and wildlife, areas of natural and scientific interest, environmentally sensitive areas, and soil / geology • Potential for conservation of energy, water and other natural resources • Regulatory compliances • Development and planning policies
Economic	• Capital, operational and maintenance (O&M) costs • Ability for ongoing process optimization

Alternative Design Concepts

Expansion Phase 1 - Construct a WWF Management Facility

The following alternative design concepts were considered for the Phase 1 Expansion:

1. Site Alternatives
- Construct Multiple Facilities throughout the City
- Construct One Facility at the LRPCP

2. WWF Management Facility Alternatives
- Provide Storage for WWFs to be later treated at the LRPCP
- Provide Storage and Treatment of WWFs through the application of a Retention Treatment Basin

3. Sizing Alternatives
- Size for Peak Flow of 273 MLD (± 13 MLD)
- Size for Peak Flow of 320 MLD (± 13 MLD)

4. Pumping Configuration Alternatives
- Influent Pumping Station
- Effluent Pumping Station

5. Screening Technologies Alternatives
- Multi Rake Screens
- Step Screens
- Grinder
- No Screening followed by Screw Pumps

6. Pumping Well Alternatives
- Wet Well Configuration
- Dry Well – Wet Well Configuration

7. Grit Removal Technologies Alternatives
- Aerated Grit Removal
- Vortex Grit Removal

Shaded text indicates the preferred design concept.

Alternative Design Concepts

Expansion Phase 1

Poor
Fair
Good
Very Good

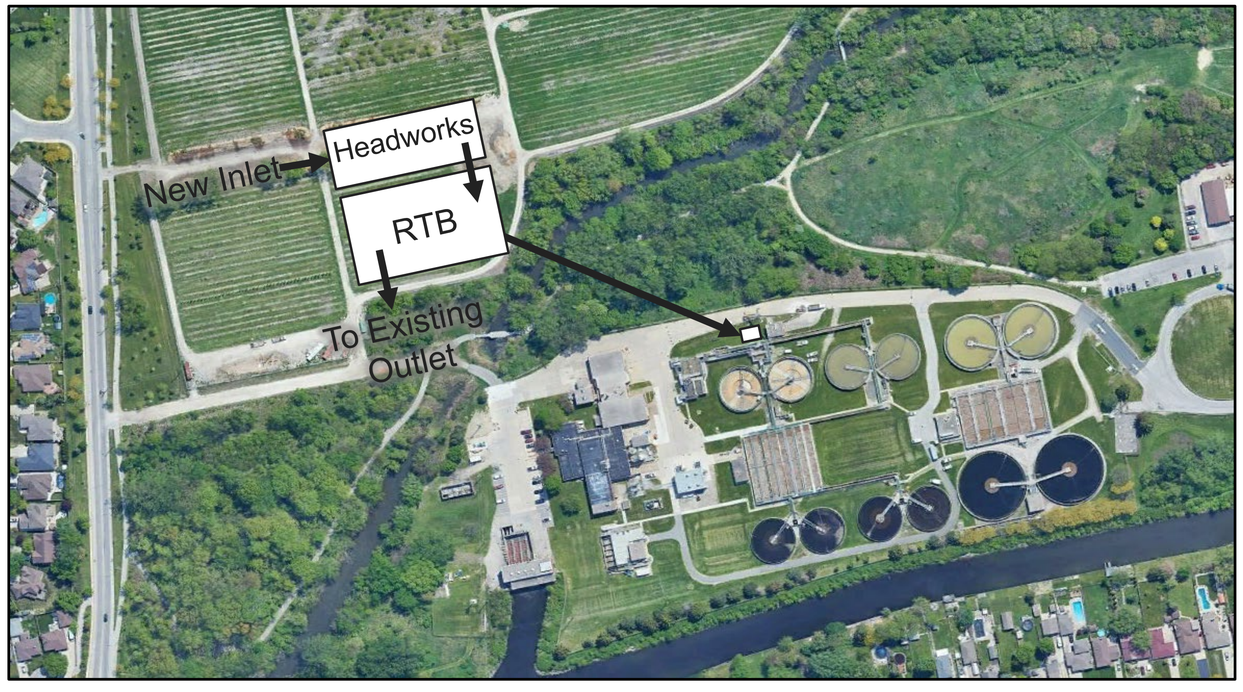
Alternative	Design Concepts	Technical	Social	Natural Environmental	Economic	Result
Site	Multiple Facilities	Poor	Poor	Fair	Poor	Poor
	One Facility	Very Good	Good	Good	Fair	Good
Facility Type	Storage	Poor	Good	Fair	Poor	Poor
	Retention Treatment Basin	Very Good	Good	Good	Fair	Good
Sizing	273 MLD (± 13 MLD)	Poor	Good	Good	Fair	Fair
	320 MLD (± 13 MLD)	Very Good	Good	Good	Fair	Good
Pumping Configuration	Influent Pumping Station	Very Good	Good	Good	Good	Good
	Effluent Pumping Station	Poor	Good	Fair	Poor	Fair
Screening Technologies	Multi Rake Screens	Good	Good	Good	Fair	Good
	Step Screens	Fair	Good	Good	Fair	Fair
	Grinder	Poor	Good	Fair	Poor	Poor
	No Screening (Screw Pump)	Poor	Good	Poor	Good	Fair
Pumping Well	Wet Well	Poor	Good	Good	Good	Fair
	Dry Well – Wet Well	Very Good	Good	Good	Fair	Good
Grit Removal Technologies	Aerated Grit Removal	Fair	Good	Fair	Fair	Fair
	Vortex Grit Removal	Good	Good	Good	Good	Good

Recommended Conceptual Design

Expansion Phase 1 - Construct a WWF Management Facility

Recommended conceptual design:

- Construct one facility near the LRPCP
- Expansion to include the construction of a new headworks facility for the LRPCP and a Retention Treatment Basin (RTB)
- Size for Peak Flow of 320 ± 13 MLD (3.71 ± 0.15 m^3/s)



Headworks facility to include:

- Influent Pumping Station with Dry Well – Wet Well Configuration
- Multi Rake Screens
- Vortex Grit Removal

Alternative Design Concepts

Expansion Phase 2 - Upgrade the Existing LRPCP

The following alternative design concepts were considered for the Phase 2 Expansion:

1. Aeration Tank Capacity Upgrade Alternatives

- Expanding Existing Aeration Tank
- Integrated Fixed Film Activated Sludge (IFAS) Retrofit
- Membrane Aerated Biofilm Reactor (MABR) Retrofit
- Moving Bed Biological Reactor (MBBR) Pretreatment
- Hydro-Cyclone Sludge Densification
- Combination of Above

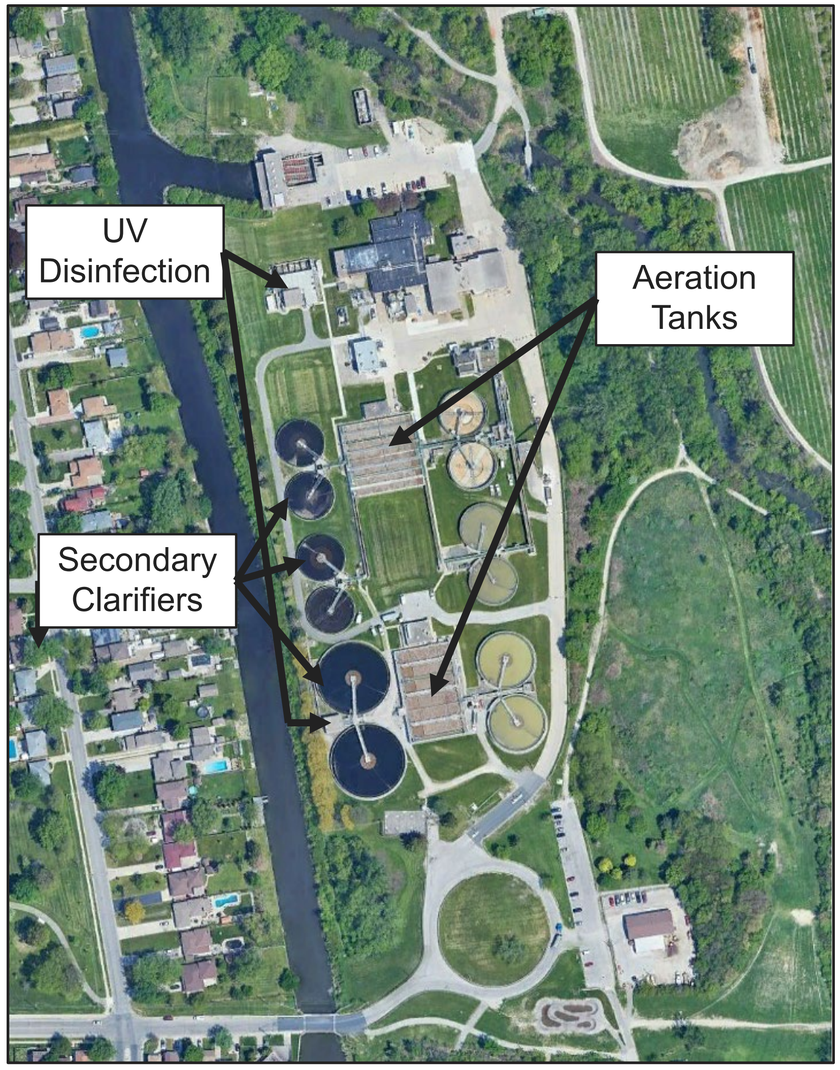
2. Secondary Clarifier Capacity Upgrade Alternatives

- Expanding Existing Secondary Clarifiers
- Re-Rating Existing Secondary Clarifiers

3. UV Capacity Upgrade Alternatives

- Increase the Capacity of Plant 1 UV Disinfection
- Increase the Capacity of Plant 2 UV Disinfection
- Implement a New UV Disinfection Facility

Shaded text indicates the preferred design concept.



Alternative Design Concepts

Expansion Phase 2

Poor
Fair
Good
Very Good

Alternative	Design Concepts	Technical	Social	Natural Environmental	Economic	Result
Aeration Tank	Expanding Existing Aeration Tank	Good	Fair	Good	Good	Good
	IFAS Retrofit	Fair	Fair	Fair	Fair	Fair
	MABR Retrofit	Fair	Fair	Good	Fair	Fair
	MBBR Pretreatment	Poor	Fair	Fair	Fair	Poor
	Hydro-Cyclone Sludge Densification	Fair	Fair	Good	Fair	Fair
	Combination of Above	Good	Fair	Poor	Poor	Poor
Secondary Clarifier	Expanding Existing	Poor	Fair	Fair	Poor	Poor
	Re-Rating Existing	Fair	Good	Good	Good	Good
UV Disinfection	Increase the Capacity of Plant 1	Good	Good	Good	Good	Good
	Increase the Capacity of Plant 2	Good	Good	Good	Good	Good
	New UV Disinfection Facility	Poor	Fair	Fair	Poor	Poor

Recommended Conceptual Design
Expansion Phase 2 - Upgrade the Existing LRPCP

Recommended conceptual design:

- Expand existing aeration tanks
    - Increase volume at Plant 1 ~100%
    - Increase volume at Plant 2 ~33%
- Re-Rate Existing Secondary Clarifiers
- Increase the Capacity of Plant 1 and 2 UV Disinfection
- Implement effluent pumping station through provisions in the nearby Pontiac Pumping Station
- Implement flow distribution chambers as needed to redistribute flow between Plant 1 and 2

Alternative Design Concepts
Expansion Phase 3 – Expand the LRPCP

- Involves adding a Plant 3, also referred to as a tandem or parallel treatment plant
- Recommended in 30+ Years
- New facility to meet long-term treatment capacity requirements and provide engineering redundancy for existing LRPCP
- These works would not be covered under the validity period of this MCEA Process
- It is proposed that these upgrades be undertaken in a series of stages based on timing of growth in the region

- Several treatment technology alternatives and site layouts would be available and may be explored in more detail in a future study

Next Steps

Complete Phase 3 and 4 of the Class EA Process:

- Open house being held to present information and solicit public input on recommended conceptual design for the LRPCP
- Distribute draft Environmental Study Report (ESR) to mandatory and discretionary contacts and agencies for review
- Complete the ESR including modifications as necessary to reflect input from the public and review agencies
- Present ESR to City Council for final approval and adoption
- Place ESR on public record and issue Notice of Completion

	Project Component	Date
Phase 4	Environmental Study Report (ESR)	November 2025
	Council Presentation and Resolution – Preferred Design	December 2025
	Notice of Study Completion	December 2025

Thank You

Please visit the City of Windsor's project website to submit a feedback form.

Little River Pollution Control Plant Expansion Schedule C Municipal Class Environmental Assessment (citywindsor.ca)