St. Clair Township
Courtright Wastewater Treatment Plant
Class Environmental Assessment

Public Information Session #2

July 17, 2024

St. Clair Township
Courtright Wastewater Treatment Plant
Class Environmental Assessment

Introductions

- St. Clair Township Staff
- Jacobs Staff

Welcome to Public Information Session #2

Please sign in.

The Township is undertaking an Environmental Assessment to expand its existing Courtright Wastewater Treatment Plant to accommodate future residential and industrial growth. Improvements will be needed at the existing plant to accept additional industrial sanitary flows anticipated to be generated in the next 3 years, and to accommodate anticipated future growth over the next 20 years.

The Schedule C Municipal Class Environmental Assessment will look at how the Township is currently managing and treating wastewater at the Courtright Wastewater Treatment Plant and identify how we will expand treatment capacity to continue to meet the demands of our growing community until 2042.

This is the second of two public information sessions that you will have the chance to have your say and help shape the environmental assessment.

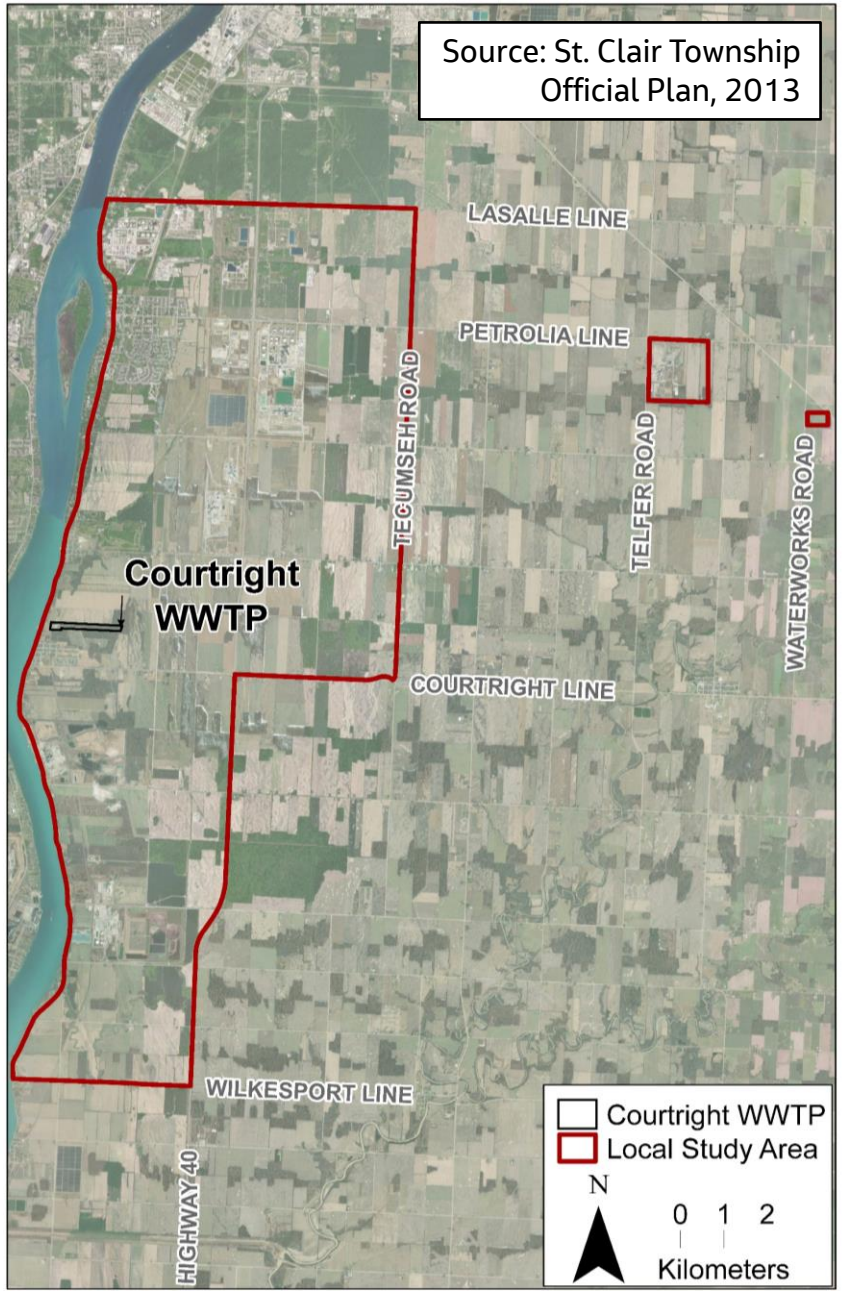
Class Environmental Assessment

Class Environmental Assessment Purpose

The purpose of the Courtright Wastewater Treatment Plant (WWTP) Schedule C Municipal Class Environmental Assessment is to review future wastewater treatment needs and provide a sustainable solution to provide treatment capacity to 2042.

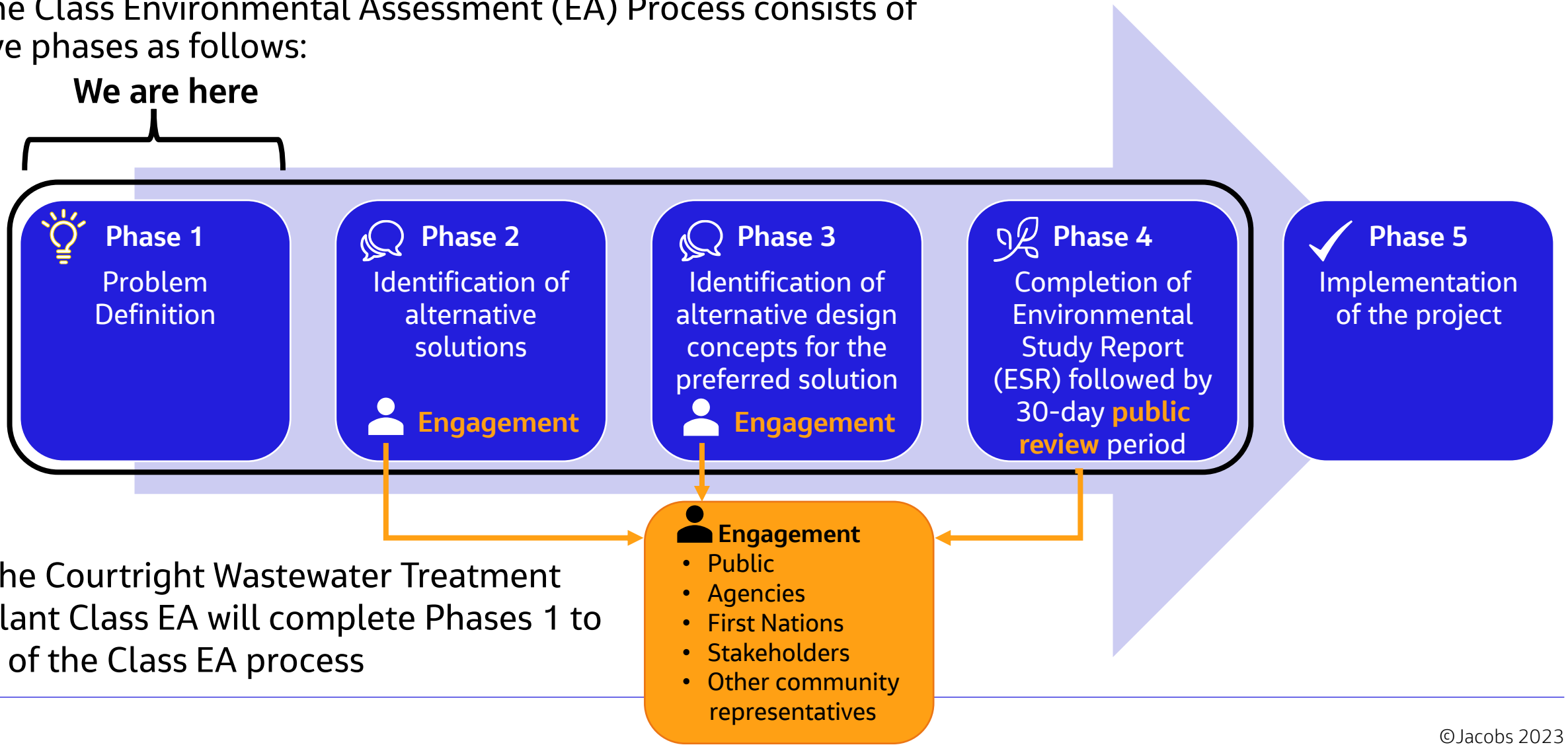
Study Area

The Courtright WWTP collects and treats wastewater from the communities of Corunna, Mooretown and Courtright, as well as outlying industrial development as displayed in the figure.



Class Environmental Assessment Process

The Class Environmental Assessment (EA) Process consists of five phases as follows:



The Courtright Wastewater Treatment Plant Class EA will complete Phases 1 to 4 of the Class EA process

Public Engagement

St. Clair Township wants to provide an opportunity to offer suggestions, comments and ideas for the Class Environmental Assessment (EA) process. The Township is interested in feedback from community members, Indigenous groups, conservation authorities, utilities, and government agencies.

There have been two (2) public information sessions during the Class EA process. The first one was held March 2023 and presented the background information, existing conditions, and future needs for the Courtright WWTP. The purpose of this second session is to present the preferred alternative and alternative design concepts of this Class EA.

For the most up-to-date information related to the Class EA, please refer to the Township website: https://www.stclairtownship.ca/

Following completion of the Environmental Study Report (ESR), it will be posted to the Township website for a 30-day public review.

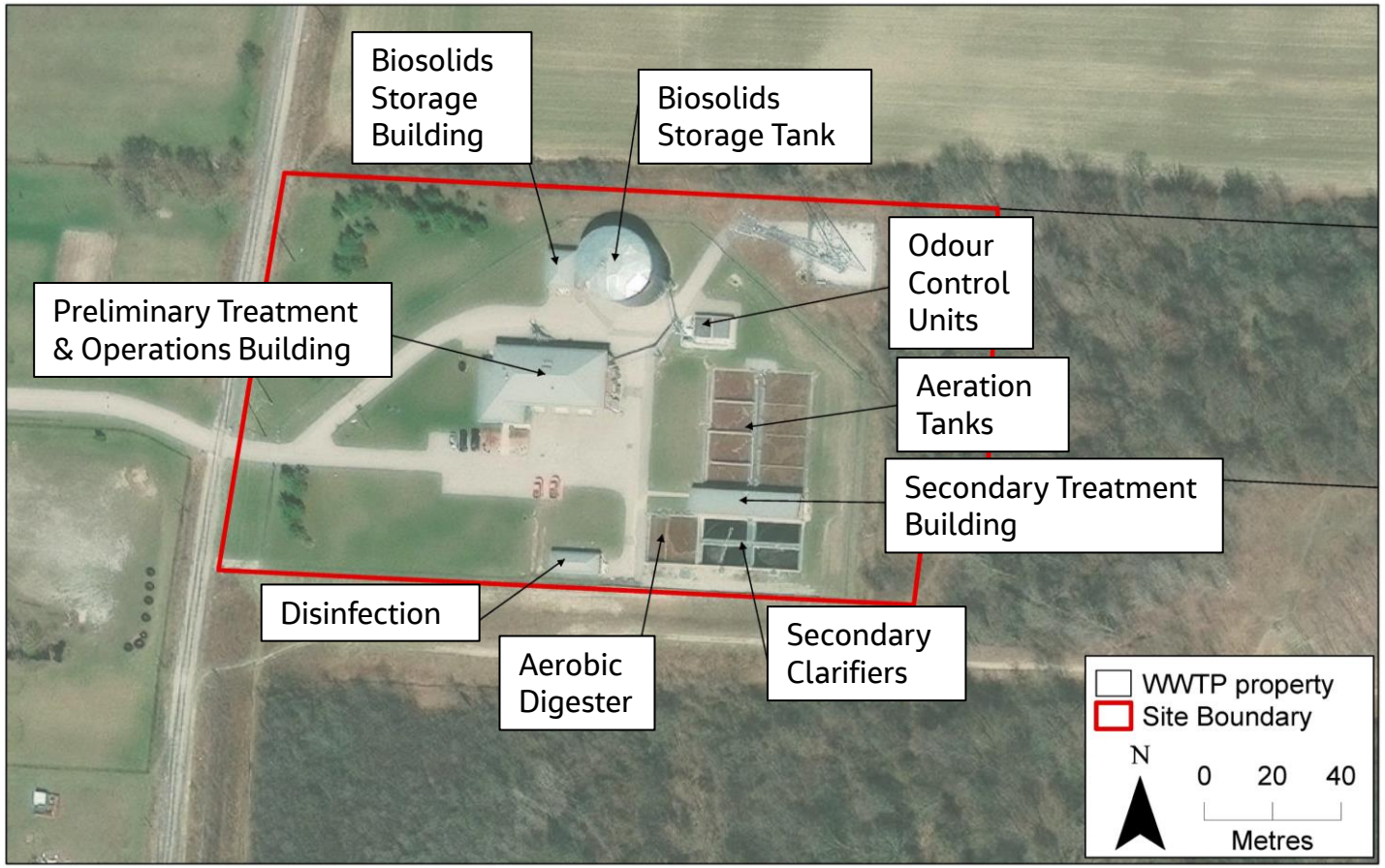
Courtright Wastewater Treatment Plant (WWTP)

The Courtright WWTP has a current rated capacity of 6 million litres per day. This is equal to 100 backyard swimming pools per day.

Wastewater arriving at the Courtright WWTP undergoes multiple stages of treatment: preliminary, secondary, and disinfection. The final treated effluent (high quality treated wastewater) is discharged to the St. Clair River.

Solids that are removed from the wastewater treatment processes are stabilized through aerobic digestion and stored on-site. The digested solids are hauled by truck off-site for land application under the Nutrient Management Act.

Odours are managed through liquid-phase odour control (constructed in 2015) and a biofilter system to treat odorous air from preliminary treatment (constructed in 2019).



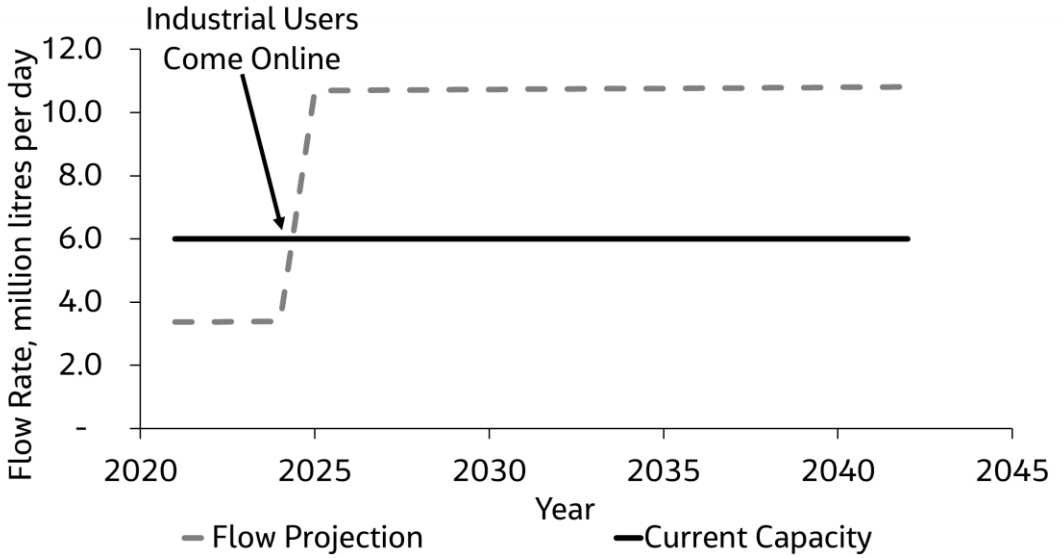
Future Design Basis & Constraints

The Courtright Wastewater Treatment Plant (WWTP) service population is projected to be 9,200 by 2042. In addition to residential wastewater flows from population growth, new industrial flows are expected to be introduced within the next three years.

The Courtright WWTP current capacity is 6 million litres per day (as shown by the solid black line). Projected flows are shown by the dashed line. The plant would be operating at 180 percent of its current capacity when the industrial users come online.

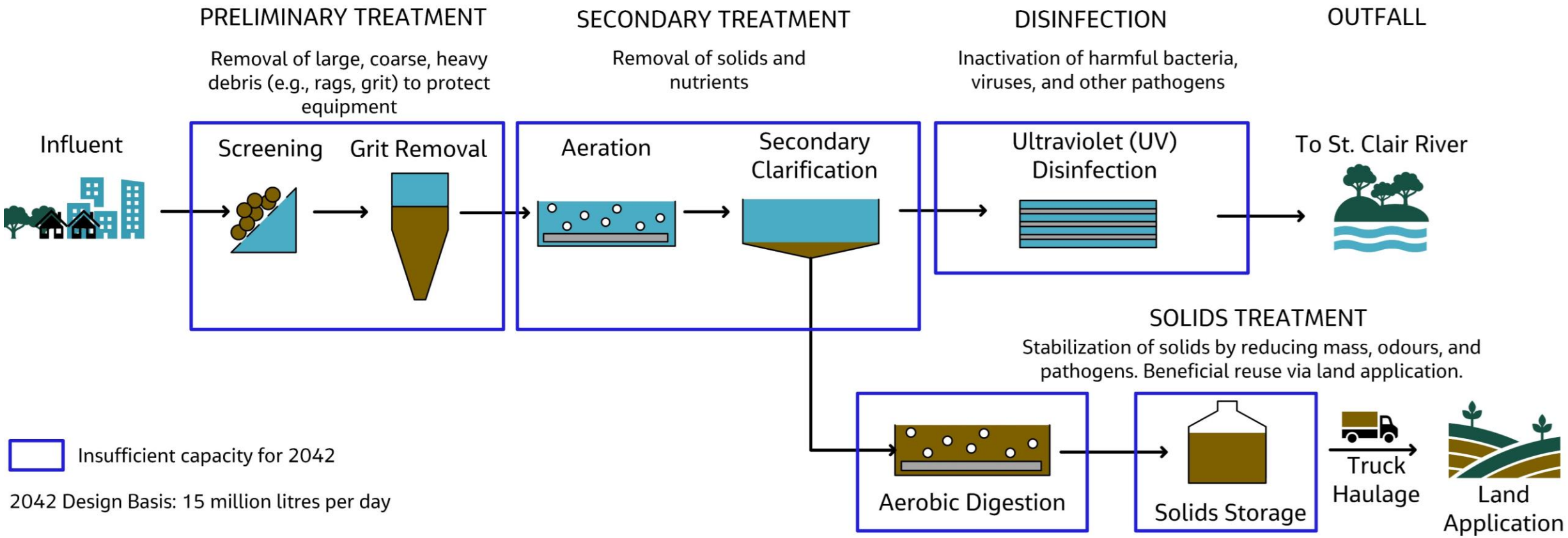
The future design basis is for 15 million litres per day capacity, with new industrial flows projected to make up approximately 50 percent of this demand.

The following processes are projected to require upgrades during the planning period, all due to capacity limitations:



Process	Timeline for Upgrade
Screening	When new industrial users come online
Grit Removal	When new industrial users come online
Aeration	When new industrial users come online
Secondary Clarification	When new industrial users come online
Disinfection	When new industrial users come online
Aerobic Digestion	When new industrial users come online
Solids Storage	When new industrial users come online

Future Design Basis & Constraints



Decision-Making Process

Alternatives were assigned scores in various criteria organized into four categories. Detailed evaluation criteria categories and examples:

Natural Environment

- Water, soil, and air quality
- Terrestrial and aquatic habitats
- Floodplain

Social/Cultural Environment

- Noise
- Odour
- Transportation
- Health and safety
- Archaeological resources
- Cultural Heritage Resources

Technical Environment

- Performance record
- Constructability
- Energy requirements
- Operational compatibility
- Regulatory constraints

Economic Environment

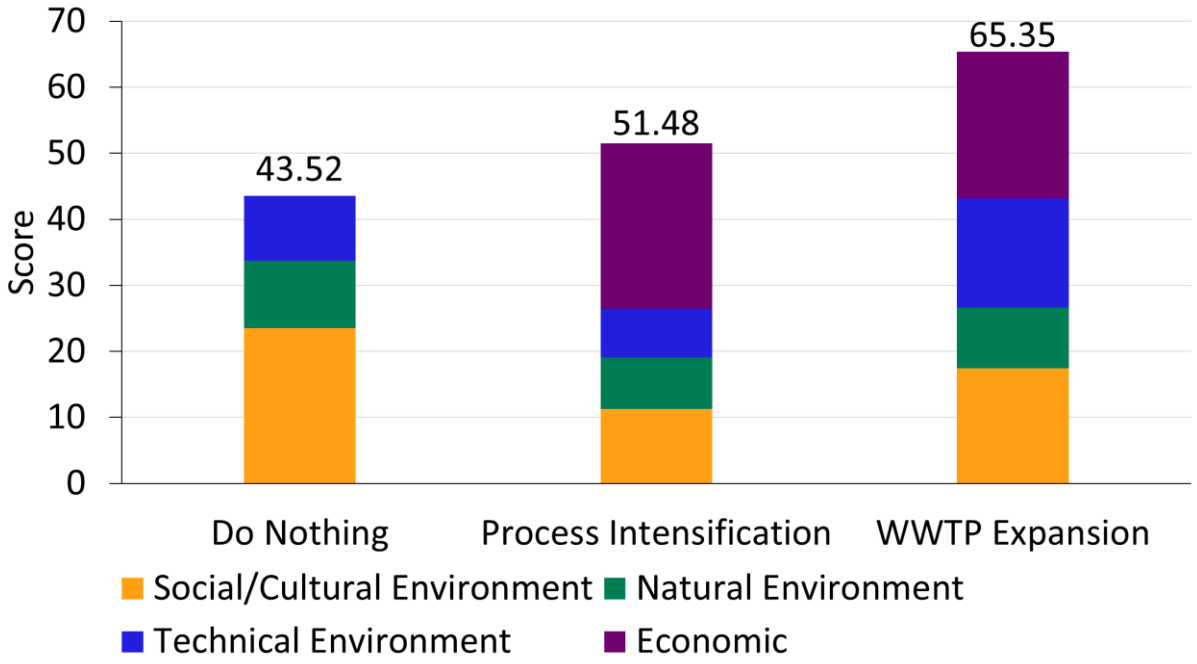
- Capital cost
- Operations and maintenance cost
- Lifecycle cost

Alternatives Development & Detailed Evaluation

Process	Alternative 1: Do Nothing	Alternative 2: Process Intensification	Alternative 3: WWTP Expansion
Liquids Treatment	Maintain existing capacity	Retrofit two existing aeration basins to integrated fixed-film system (IFAS). Construct two new secondary clarifiers.	Construct two new extended aeration treatment trains (aeration basin + secondary clarifier)
Solids Treatment	Maintain existing capacity	Construct a new solids thickening process to minimize the volume for storage	Construct two new solids storage tanks

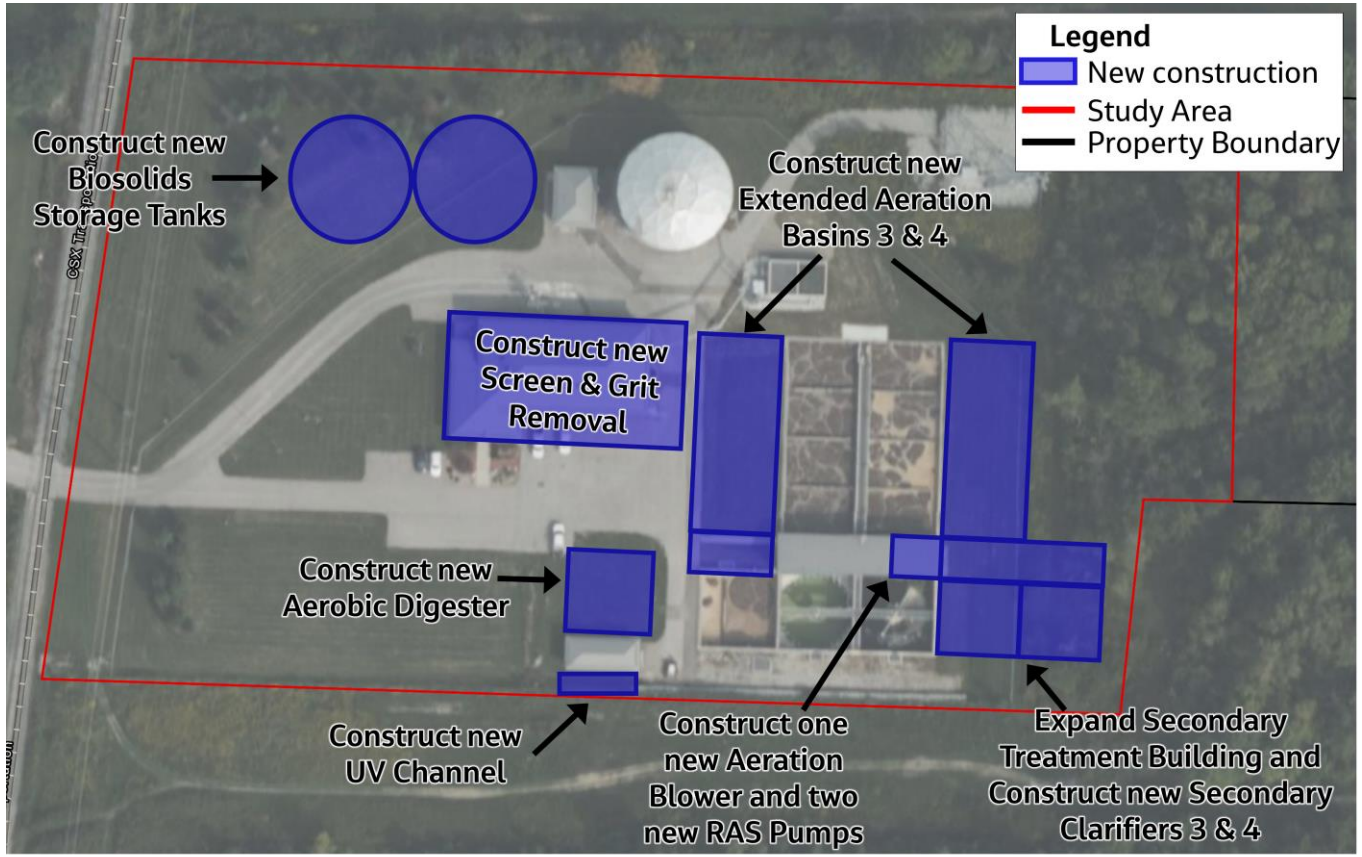
Alternative 3: WWTP Expansion was selected as the preferred alternative due to the following benefits:

- Operations staff familiarity with the selected technologies
- Confidence in treatment performance due to Courtright WWTP history with extended aeration technology
- Compatible and straightforward to integrate with existing treatment processes
- Flexibility for future capacity expansion
- Similar lifecycle costs compared to Process Intensification (within 10%)



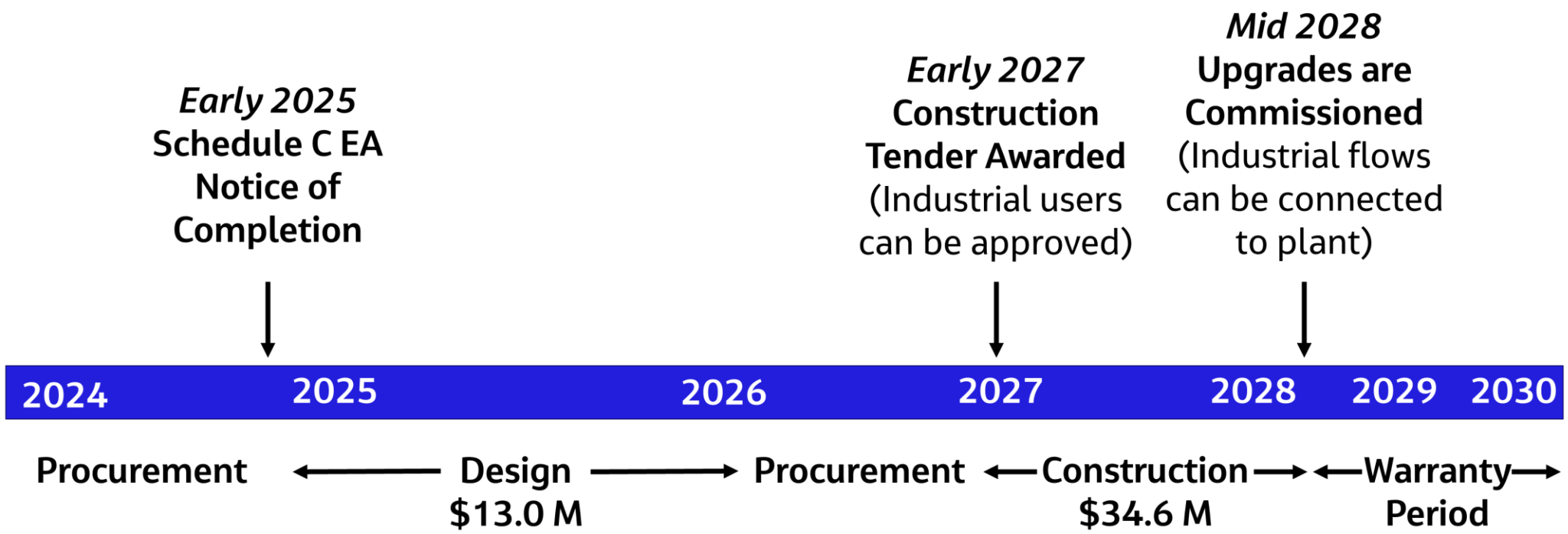
Preferred Design Concept

Process	Preferred Design Concept
Screening	Construct one new screen in existing bypass channel
Grit Removal	Construct one new vortex grit removal system
Secondary Treatment	Construct two new extended aeration treatment trains (aeration basin + secondary clarifier). Construct one new aeration blower and two new return activated sludge (RAS) pumps.
Disinfection	Construct one new UV disinfection channel
Aerobic Digestion	Construct one new aerobic digester
Solids Storage	Construct two new solids storage tanks



Implementation Plan

Phase	Capital Expenditure	Timeline
Design	$13.0M	Early 2025 to Mid 2026
Construction	$34.6M	Early 2027 to Mid 2028



Mitigation Measures

The following mitigation measures will be taken to minimize impacts resulting from the Class EA recommendations:

- **Odour:** Existing odour control and treatment facilities will continue to operate. Several new odour sources will result from the upgrades, including screening, grit removal, secondary treatment, and solids storage tanks. Additional odour mitigation measures will be investigated in design.
- **St. Clair River:** A desktop assimilative capacity study was completed to confirm treated effluent contaminant limits that will maintain the health of the St. Clair River at the increased flow rate. Treatment technologies were selected so that the effluent quality will continue to meet or exceed the effluent objectives.
- **Noise:** The selected technologies will be designed with appropriate noise mitigation measures to prevent off-site noise impacts on the surrounding community, and measures will be taken during construction to minimize noise.
- **Traffic:** During construction, a small increase in traffic to and from the project site is anticipated to transport crews and equipment. No impact on traffic is expected during operations.
- **Archaeology & Cultural Heritage:** A Stage 1 & 2 Archaeological Assessment have been conducted in the new proposed footprint and have not resulted in identification of any archaeological materials. No further assessment is required within the study area.

Next Steps

Thank you for your interest in the Courtright Wastewater Treatment Plant Class Environmental Assessment.

Your feedback is an important part of the Environmental Assessment process.

- Join the project mailing list to receive project updates. Please provide your contact information (name and email) to the contacts below.
- Please refer to the Township website for the most up-to-date information related to the Class EA: https://www.stclairtownship.ca/

A dedicated email address has been set up for this study. To provide your comments or request more information, please contact: CourtrightClassEA@jacobs.com, alternatively you can reach the Township and Consultant contacts below.

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Thank you

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Reinventing tomorrow.