Saugeen Shores Water Treatment Plant Expansion - Schedule ‘C’ Class Environmental Assessment

WELCOME

Public Information Centre #2
Southampton Town Hall
201 High Street, Southampton, Ontario

Purpose of Public Information Centre #2

The purpose of today's Public Information Centre (PIC) is to:

- **Provide an update** on the Saugeen Shores Water Treatment Plant long-term planning process.
- **Share key findings** regarding near-term plant optimization and future expansion options.
- **Gather community feedback** to help inform the preferred upgrade strategy.

We value your input!

Information of this EA can be found at https://engage.saugeenshores.ca/WTP

Your input will help to shape the decision-making process for this project

Class Environmental Assessment (EA) Process

The Town is undertaking a Schedule C Class EA to meet the requirements of Ontario's EA Act, requiring the completion of Phases 1 to 4 of the Municipal Class EA process in accordance with the Municipal Engineers Association's Municipal Class EA document dated 2024.

Phase 1

Problem Definition

Define the Problem or Opportunity

Phase 2

Identification and Evaluation of Alternative Solutions

Public Information Centre #1

Phase 3

Identification and Evaluation of Alternative Design Concepts

Public Information Centre #2

Establish Preferred Design Solution

Phase 4

Completion of Environmental Study Report (ESR), incorporating stakeholder feedback, followed by a 30-day Public Review period

Design and Construction

Implementation of the project – detailed design, construction and ongoing monitoring

We are here

Next Steps & Expected Timeline:

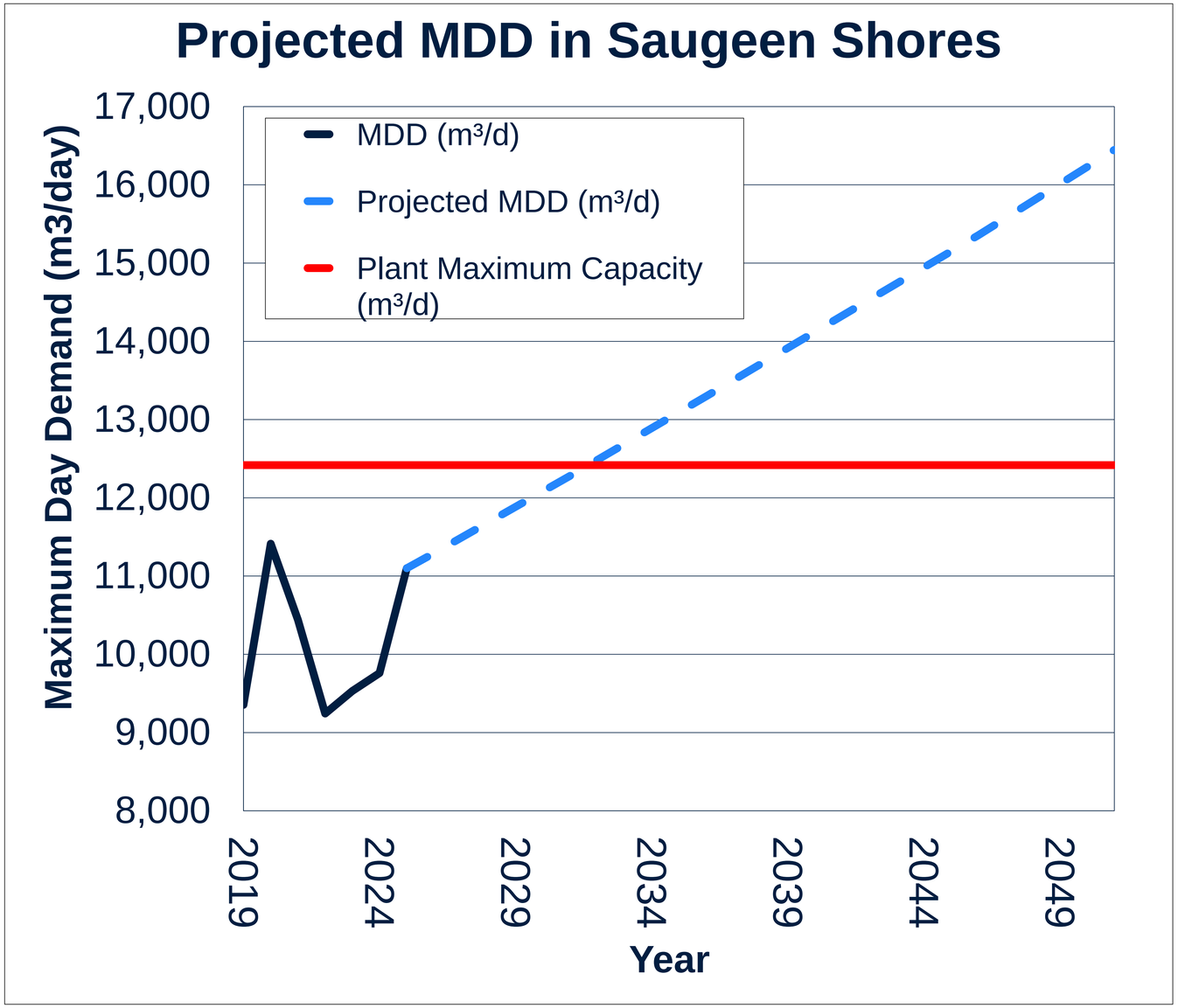
- Completion of Class EA and Town Project Approvals – Winter 2026
- Project Design and Agency Approvals – 2027-2029
- Construction and Commissioning – 2029-2031

Phase 1 and 2 Findings

PIC #1 was conducted on January 14th 2026 and presented the following:

- **Phase 1 – Defining the Need**
  - Additional water treatment capacity is required to support the Town's long-term grow**th.**
- **Phase 2 – Evaluating Alternative Solutions**
  - The Class EA evaluated alternative ways of addressing the future capacity shortfall. The preferred solution was a two-stage approach:
    - **Stage 1 – Optimize the Existing WTP**
      Maximize treatment capacity using the existing plant and infrastructure.
    - **Stage 2 – Expand the Existing WTP**
      Provide additional treatment capacity when required to meet long-term demands.

Projected Water Demands



- **Growth Will Continue to Increase Water Demands**
- Saugeen Shores' serviced population is projected to grow from approximately **15,400 in 2026** to approximately **24,800 by 2051**.
- Maximum Day Demand (MDD) is projected to increase from approximately **11,300 m³/day in 2026** to approximately **16,450 m³/day by 2051**.
- Without further improvements, projected demand would reach the existing WTP's assessed capacity of approximately **13,270 m³/day around 2036**.
- **This confirmed the need to determine how much additional capacity could be achieved by optimizing the existing WTP before undertaking a major expansion.**

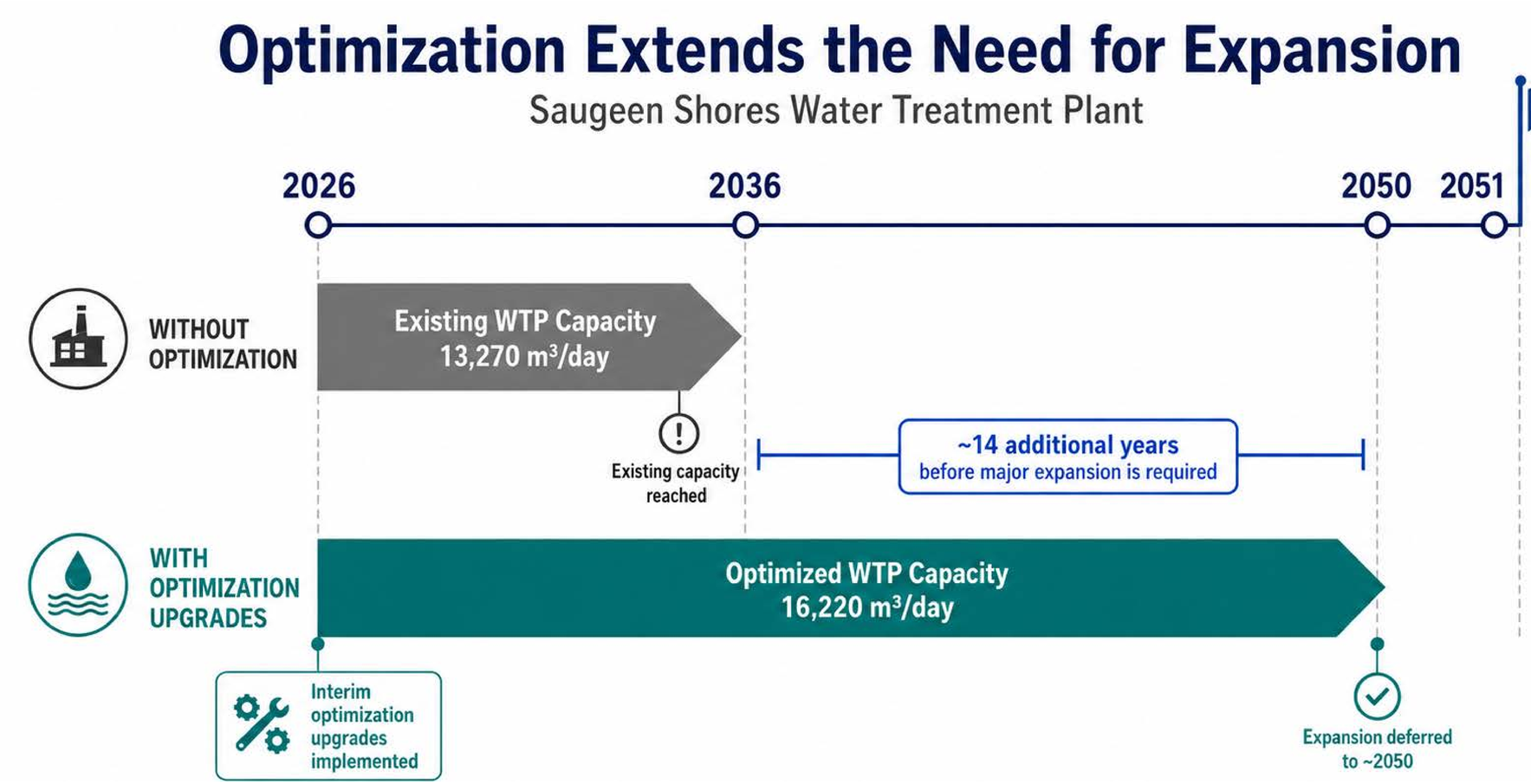
Phase 3 Assessment

.**Phase 3 – Evaluation of Design Concepts**

- The key question is: **How much additional capacity can optimization provide and when will expansion be required?**

- Since PIC #1, the Project Team has investigated:
  - How much additional capacity can be achieved through optimization;
  - When a future expansion would be required; and
  - Where that future expansion could be accommodated.

Optimization Significantly Extends WTP Capacity



- **The membrane treatment system is the principal limitation** on the existing plant capacity.
- Replacing the existing membrane modules, together with related operational improvements, can increase the WTP's firm capacity to approximately **16,220 m³/day**
- Potential **22%** without a major expansion of the WTP.
- Optimized capacity is expected to meet Maximum Day Demand until approximately **2050**

Optimization can substantially defer the need for major WTP expansion.

Optimization Upgrades

Process	Optimization Need
Raw Water Straining	• Replace or modify the existing strainers to improve screening performance and reliability. • Reduce particulate loading on the membranes and improve maintenance access. • Protection of new membrane investment
Membrane Treatment	• Increase the available membrane treatment capacity. • Improve membrane cassette availability, cleaning performance and maintainability. • Maintain appropriate operational redundancy while increasing reliable plant output.
Chlorine Disinfection	• Improve the existing disinfection process to support the increased treatment capacity. • Potential measures include improved baffling and/or optimization of chlorine residual. • UV disinfection may also be considered as an alternative means of removing the existing CT constraint.

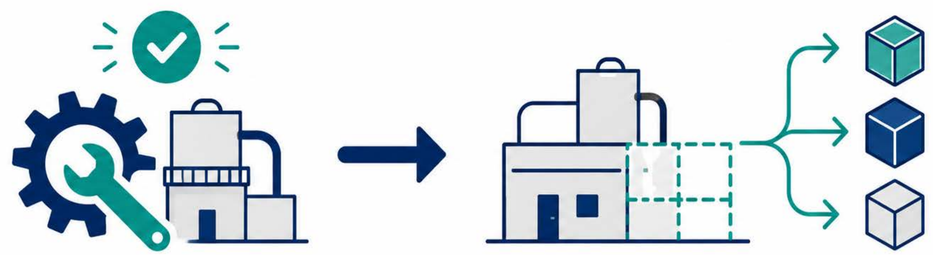
Optimization upgrades are separate from the future expansion EA. The proposed upgrades are within the existing WTP property and will not increase the plant beyond its existing rated capacity. As such, they are **exempt from Municipal Class EA requirements**, although applicable drinking-water and other regulatory approvals will still be required.

Implications for Future Expansion

Major Expansion Can Be Deferred - The optimization upgrades are expected to provide sufficient treatment capacity until approximately 2050, bringing the existing WTP close to the end of the 2051 planning horizon. As a result:

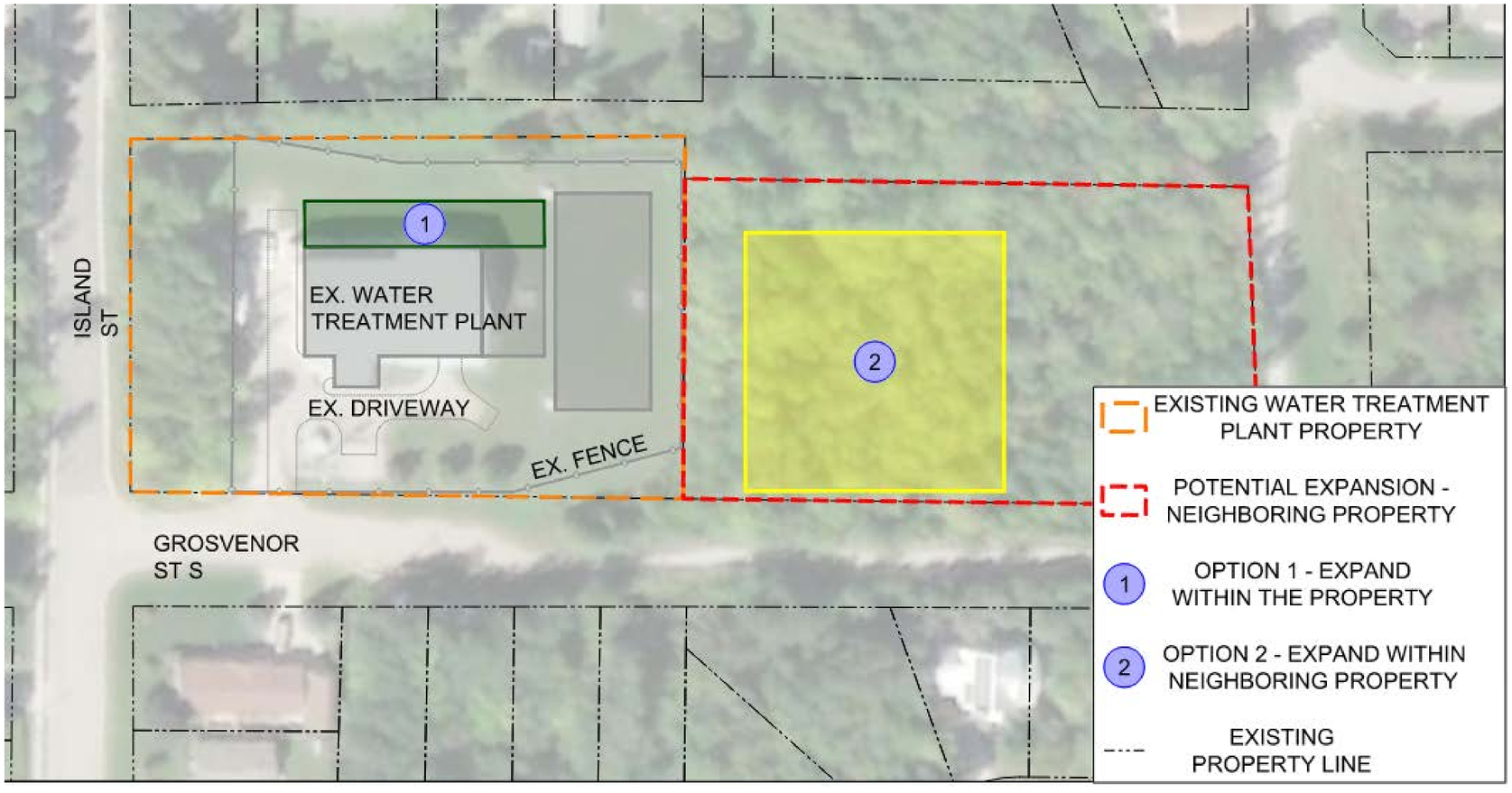
- **No immediate expansion needed:** Major WTP expansion is not required in the near or medium term.
- **Technology selection:** Choosing specific treatment technology today locks the Town in 20+ years too early. Technologies, regulations and costs will evolve significantly overtime. Consequently, technologies choices will be made closer to the actual expansion date.

Optimize now.
Preserve flexibility for the future.



Phase 3 of this EA therefore focuses on confirming that future expansion is feasible and identifying an the expansion approach.

Long-Term Expansion Concepts



Option 1 – Expansion on the existing site

- Expand treatment facilities within the existing WTP property
- Integrate new facilities with the existing plant and infrastructure
- Construction and staging constrained by the active WTP site

Option 2 – Expansion in neighbouring property

- Expand treatment facilities onto the lands immediately north of the existing WTP
- Connect the expansion to the existing treatment plant
- Provides additional space and flexibility for construction and future expansion

Phase 3 Decision Criteria

Natural Environment

- Natural Heritage Features and Species at Risk
- Surface Water, Fisheries and Shoreline Environment
- Site Disturbance and Vegetation Removal
- Stormwater, Drainage and Erosion

Social/Cultural Environment

- Archaeological and Cultural Heritage Resources
- Property and Land Requirements
- Compatibility with Surrounding Land Uses
- Noise, Visual and Construction Impacts

Technical / Operational

- Integration with Existing WTP Infrastructure
- Hydraulics and Process Configuration
- Available Space and Future Expandability
- Plant Reliability and Operational Flexibility
- Operations, Maintenance and Operator Access

Implementation

- Construction Staging and Continuity of Water Supply
- Constructability and Site Access
- Site Conditions and Infrastructure Requirements
- Approvals and Implementation Risk

Financial

- Capital Cost
- Operating and Maintenance Cost
- Life-Cycle Cost / Long-Term Value

What matters most to you? Is there anything we should add?

Assessing Impacts

- For each option was assigned an impact rating using the Scale shown
- Impacts ratings were assigned based on:
  - **Natural Environment** – key features, vegetation, habitat, SAR considerations
  - **Archaeology / Cultural Heritage** – screening findings and any further work that would be required
  - **Drainage / Surface Water** – constraints relevant to future site development
  - **Other Site Constraints** – setbacks, adjacent uses, access, etc.
  - **Relative cost estimates**

Impact Rating Scale

Rating	Description
● Most Preferred	No Impact or represents a benefit with respect to criterion
◕ Highly Preferred	Minor impacts that can be readily mitigated
◑ Moderately Preferred	Moderate impacts that can be mitigated
◔ Less Preferred	Moderate impacts with little potential for mitigation
○ Least Preferred	Significant impacts with no potential for mitigation

Site Specific Studies

- **Natural Heritage Assessment:**
  - The woodland is not classified as an Area of Natural or Scientific Interest, Significant Woodland, Key Natural Feature, Supporting Feature, wetland, fish habitat, or ecological corridor.
  - The woodland may provide Species at Risk bat habitat, possible bat maternity colony Significant Wildlife Habitat, and candidate Eastern Wood-Pewee habitat.
  - If the north property is advanced in the future, targeted natural heritage surveys would be required to confirm the presence or absence of these habitat functions and establish appropriate avoidance, mitigation, and approval requirements.
- **Stage 1 Archaeological Assessment:**
  - Most of the north property retains archaeological potential.
  - A Stage 2 test-pit assessment at 5 m intervals would be required before construction or other disturbance, while the previously disturbed portions do not require further assessment.

Evaluation of Long-Term Expansion Concepts

Criteria Category	Option 1 (Expand on Existing Site)	Option 2 (Expand on Neighbouring Property)
Natural Environment	◕	◑
Social/Cultural Environment	◕	◑
Technical/Operational	◑	◕
Implementation	◕	◕
Financial	◑	◕

Both expansion concepts are feasible. Staying at the current site uses existing infrastructure and limits land disturbance but faces space limits and construction challenges. Moving north needs more land development, but offers better layout options, easier construction, smoother operations, and more room for future growth.

Future Expansion Considerations

- Both expansion options are feasible. The choice will depend on future technology selection and site conditions. Additional work to confirm the preferred site will be undertaken closer to the expansion date to identify impacts and determine mitigation measures for both construction and operations.
- Examples of key additional studies that will be undertaken are:
  - **Detailed Natural Heritage Field Assessment:** To evaluate local wildlife, habitats, and ecosystems.
  - **Stage 2 Archaeological Assessment:** To check the physical ground for historical artifacts.
  - **Geotechnical and Hydrogeological Studies:** To analyze soil stability and groundwater conditions.

Next Steps

Following this Public Information Centre, the Project Team will:

- Review and consider feedback on this PIC received from the public, agencies and stakeholders
- Complete the Environmental Study Report (ESR)
- Issue the ESR for the required 30-day Public Review Period
- Advance the near-term WTP optimization upgrades separately from the future expansion planning

Thank you for participating.
Comments can be submitted to the Project Team or through Engage Saugeen Shores.