



Report to Council

Department: Infrastructure Services
Division: Environmental Services
Date: March 3, 2025
Prepared by: Rob Mackie, C.E.T., Manager, Environmental Services
Report Number: Environmental Services-2026-01
Subject: Lakeshore Fringe Area Sanitary Study Report
Number of Pages: 56

Recommendation(s)

That Environmental Services 2026-01 entitled, “Lakeshore Fringe Area Sanitary Study Report” prepared by Rob Mackie, Manager, Environmental Services dated March 3rd, 2026, be received.

Purpose

This report is being provided to Council to present the findings of the Lakeshore-Essex Fringe Area Sanitary Servicing Study prepared by Stantec Consulting Ltd.

Background and Discussion

At its Regular Meeting of Council on August 12th, 2024, Council Resolved the following:

R-24-08-336

That Council appoint Stantec Consulting Ltd. To provide engineering services to complete the feasibility study to service the Essex Fringe area of the Municipality of Lakeshore with wastewater servicing in accordance with the complete request under Section 22 of the Town of Essex Procurement By-Law 2129 for a total cost of \$27,500 including non-refundable HST, to be paid for fully by the Municipality of Lakeshore

Moved by Deputy Mayor Shepley

Seconded by Councillor Garon

The Lakeshore-Essex Fringe Area is a group of residential and agricultural areas that are not currently serviced with municipal sewer collection or treatment systems. These areas are generally located north and northwest of the Town of Essex, within the Municipality of Lakeshore, as shown in **Figure 1**. The largest fringe area is located to the north and west of Essex Town Centre along County Road 34 and includes adjacent side streets. These residences are serviced by privately owned onsite septic systems typically consisting of a holding tank and leaching bed. The Municipality of Lakeshore Water and Wastewater Master Plan identified that malfunctioning septic tank systems were a source of pollution in local watercourses throughout un-serviced areas. To address environmental concerns and allow growth on the Fringe Area the Town of Essex initiated this study on behalf of the Municipality of Lakeshore to evaluate the feasibility of connecting the Fringe Study Area to the Town of Essex Sanitary sewer and wastewater treatment system(s).

Figure 1- Study Area



In 2015, the Town of Essex retained Stantec Consulting Ltd to develop a hydraulic model of the Essex Sanitary Sewer System. For this study, the 2015 model was utilized to evaluate the feasibility of developing and connecting the Lakeshore-Essex Fringer area to the existing sanitary network. This model was used as a basis for the analysis which also included adding developments in the northeastern portion of the Town Centre which have occurred between 2015 and 2025, as well as adding known potential developments along Talbot Road North.

Current available treatment capacities were established for both the Essex PCP and the North East Lagoons, as shown in **Figure 2**. Available conveyance of pipe capacity was also established for the trunk sewer mains within the collection system.

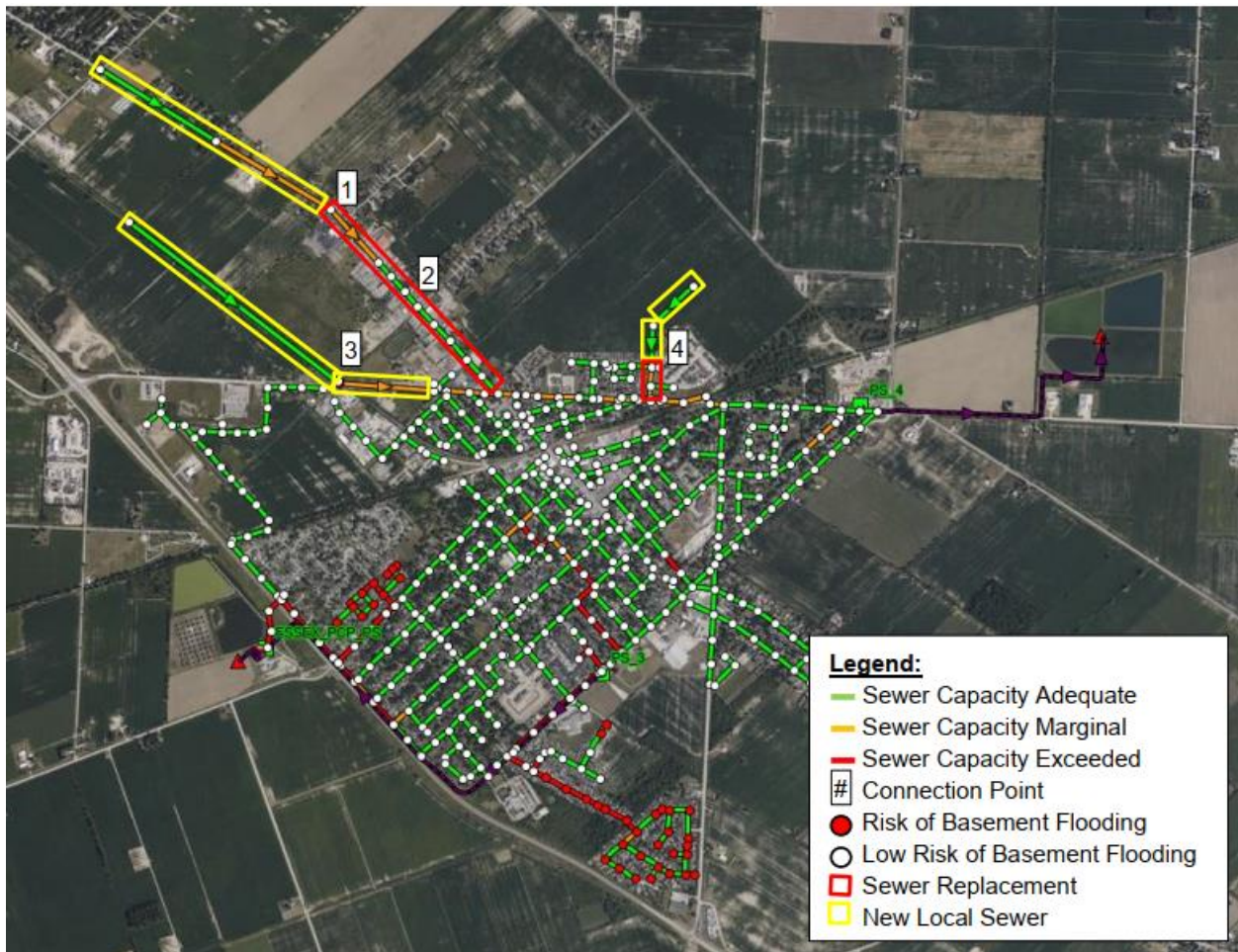
Figure 2- Available Treatment Capacities

Facility	Existing Average Daily Flow (m3/d)	Rated Capacity (m3/d)	Remaining Capacity (m3/d)	Equivalent Population	Equivalent Households
Essex PCP	1,910	4,590	2,680	5,956	1,985
Essex NE Lagoons	1,356	2,910	1,554	3,453	1,151

Utilizing potential development flows from both Municipalities, as shown in the attached report, Stantec Consulting Ltd undertook a Sanitary Sewer Servicing Analysis, where alternative design solutions were identified and evaluated leading to a selection of the recommended design. Based on this analysis, the preferred solution was determined to be Alternative No 1B: Connect the Fringe Study Area to the Existing Sewer Network at Multiple Locations as shown in **Figure 3**. This alternative would require upgrading the existing sanitary sewer mains to increase the hydraulic capacity of the sewers on Galos Drive and Talbot St N. In addition, it would require the installation of new trunk sewers along Talbot St N, Maidstone Ave E and Galos Drive. Additional Pump Station upgrades would also be required, a new pumping station on Talbot St N and upgrades to the existing Pump Station 4 on Maidstone Ave E. Lastly, due to existing capacity constraints at the North East Lagoons, a major upgrade of converting the lagoons into a Mechanical plant

would be required, which would also require a Schedule C Municipal Class EA. A map depicting the location of the proposed sewer upgrades are identified in Figure 4.

Figure 3- Proposed Sewer Upgrades



An opinion of probable cost was established by Stantec Consulting, based on 2025 construction and vendor rates. These costs are displayed in **Figure 4**.

Figure 4- Opinion of Probable Cost

Description	Opinion of Probable Cost
Galos Drive Sewer Replacement	\$500,000
Talbot Road Sewer Replacement	\$2,500,000
Trunk Sewer On Talbot Road N	\$4,300,000
Trunk Sewer Galos Drive	\$1,800,000
Trunk Sewer on Maidstone Ave E	\$4,000,000
Allowance for Smaller Local Sewers	\$2,500,000
Pump Station 4 Upgrades	\$1,250,000
New Talbot Road Pump Station	\$2,650,000
Waster Water Treatment Plan Upgrade	\$36,500,000
Sub Total	\$56,000,000
Engineering and Construction Allowances	\$27,700,000
Total Capital Cost (Excluding Taxes)	\$83,700,000

The anticipated total cost to fully service the Fringe Study Area is approximately \$83,700,000. A significant portion of these costs is associated with the upgrading the Essex NE lagoons into a mechanical treatment plant. Which would not be necessary in the immediate future and only be required as the facility approaches capacity.

In addition, Council has approved the initiation of the Servicing Master Plan in February of 2026. This master plan will provide a strategy for our water and wastewater services and will ensure the water and wastewater systems will meet current and future demands while also providing a safe, cost-effective and reliable service to our community. This plan will consider this technical report's recommendation and update the findings into the comprehensive long-range plan.

There is no formal agreement with the Municipality of Lakeshore to allocate treatment capacity or make improvements to the Essex Sanitary Collection System. Should the Municipality of Lakeshore wish to proceed with implementation of servicing, the Municipalities would need to develop engineering and financial strategies for each respective Council to consider. The Municipality of Lakeshore has communicated to Essex that servicing this area will likely be a long-term priority and that Lakeshore will provide more information on their intent once administration presents the study findings to their Council.

Financial Impact

There is no financial impact as a result of this report and the study was paid for by the Municipality of Lakeshore.

Consultations

Kevin Girard, P. Eng, Director, Infrastructure Services

Link to Strategic Priorities

- Embrace asset management best practices to build, maintain, and continuously improve our municipally owned infrastructure.
- Leverage our Town's competitive advantages to promote jobs and economic investment.
- Take care of our natural environment and strengthen the sense of belonging to everyone who makes Essex "home".
- Deliver friendly customer service in an efficient, effective, and transparent manner while providing an exceptional working environment for our employees.
- Build corporate-level and community-level climate resilience through community engagement and partnership and corporate objectives.

Report Approval Details

Document Title:	Lakeshore-Essex Fringe Area Sanitary Servicing Study - Environmental Services-2026-01.docx
Attachments:	- 165620319_Fringe_Area_Sanitary_Servicing_Study_Technical_Memo.pdf
Final Approval Date:	Feb 10, 2026

This report and all of its attachments were approved and signed as outlined below:



Kevin Girard, Director, Infrastructure Services - Feb 10, 2026 - 2:16 PM



Kate Giurissevich, Chief Administrative Officer - Feb 10, 2026 - 2:38 PM