



Infrastructure Services Staff Report

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Report Title: East Side Lands Sanitary Servicing Environmental Assessment Recommendation
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Reviewed By: Jared Puppe, Director of Infrastructure Services
Final Review: Senior Management Team

Recommendation:

That the Council of the Township of Woolwich, considering Report IS08-2024 respecting the East Side Lands Sanitary Servicing Environmental Assessment Recommendation:

1. Endorses the recommended Alternate #7 preferred solution for the trunk sewer servicing and associated future sanitary lift/pumping station locations to service the Breslau East Side Lands; and
2. Authorizes the Director of Infrastructure Services to issue the notice of study completion for the East Side Lands Sanitary Municipal Class Environmental Assessment project, and file the Project File Report with the Municipal Clerk for a minimum 30 day public review period.

Background:

The Region of Waterloo's East Side Lands are coarsely defined by Highway #7 to the North, the Grand River to the West, Shantz Station Road / Speedsville Road to the East and Highway #8 / Highway #401 to the South. Located within the municipal boundaries of the Township of Woolwich, the City of Cambridge, and the City of Kitchener, these Lands are comprised of approximately 4,000 hectares (ha) that are favourably positioned for future employment development due to the proximity to the Region of Waterloo International Airport, Highway 401 and the Metrolinx Rail Corridor.

The East Side Lands have been planned as an area to accommodate future growth within the Region, dating from the 2003 Regional Growth Management Strategy and

confirmed through the approval of the Regional Official Plan (ROP6) in 2015, amended in 2022.

Sanitary capacity for the East Side Lands was first reviewed through the Region of Waterloo's 2007 Wastewater Treatment Master Plan as well as the 2014 East Side Lands Stage 1 Master Environmental Servicing Plan, which concluded that the ultimate servicing corridor for the East Side Lands would direct flows through Cambridge to the Kitchener Wastewater Treatment Plant (WWTP) via a gravity sewer system that will cross above the Grand River.

The Region of Waterloo initiated an Environmental Assessment (EA) in 2015 that was completed in 2017, and finalized in 2018, that was focused on the sanitary servicing for the East Side Lands. The purpose of this Study was to identify the preferred sanitary servicing strategy and conveyance alignment to allow sanitary flows generated by future development within the East Side Lands to be conveyed to the Kitchener WWTP under the ultimate scenario. The preferred sanitary alignment ultimately routed flows through the Pioneer Tower area of Kitchener and over the Grand River to the Kitchener WWTP.

The City of Cambridge initiated an EA in 2016 that built upon the approved 2014 East Side Lands (Stage 1) Master Servicing Plan. The EA was undertaken to determine the preferred alignment for a new north-south collector road for the City's North Cambridge Business Park. As part of the study the final sanitary trunk sewer alignment through the business park as well as an interim sanitary solution for the Stage 1 East Side Lands area was determined until the ultimate servicing outlet to the Kitchener WWTP could be completed. The interim solution consisted of installing a temporary sanitary pumping station (Freeport SPS), which pumps sanitary flows into the gravity sewer located in Cambridge that ultimately drains to the Preston WWTP. Cambridge's business park EA was completed in 2017.

Subsequently, The Township of Woolwich completed a study that reviewed and discussed options for the sanitary trunk sewer that is proposed to traverse the Stage 1 East Side Lands. Two scenarios were reviewed, a deep gravity only sewer, and a shallower sewer with mechanical lift/pump stations. As a result of the study, the Township, in concert with the Region of Waterloo Airport, confirmed that the shallower concept with associated mechanical lift/pump stations was the preferred solution.

The City of Cambridge has currently completed construction of two of the four stages required to extend the East Side Lands Stage 1 trunk sewer through their North Business Park area to the Fountain Street/Kossuth Road intersection. The remaining two trunk sewer phases are slated to be constructed and in service by the end of 2027. The East Side Lands Stage 1 trunk sewer provides the sanitary outlet for the Breslau Stage 2 East Side Lands. Understanding the need to secure sanitary capacity in Cambridge's trunk sewer, the Township, in partnership with the Region of Waterloo Airport, requested that the sewer size be increased to allow for additional sanitary capacity. The increase in the trunk sewer size has provided approximately 500 litres/second of capacity for the Stage 2

lands within the Stage 1 trunk sewer. Since the final outlet for the East Side Lands area is currently in the detailed design phase, with construction timing contingent on sewer monitoring, sewage in the trunk sewer is currently directed to the temporary Freeport SPS. The temporary Freeport SPS is currently sized to accommodate ~75 litres/second of flow, which creates a capacity issue in the system until such time that the downstream sewer is constructed by the Region of Waterloo and connected to the Kitchener WWTP. Prior to Cambridge accepting any sewage from Breslau, a cross border sanitary servicing agreement must be formalized between Cambridge and the Township of Woolwich.

This sanitary servicing EA is being undertaken to determine the preferred location and alignment of the downstream trunk sewer and if/where any sanitary lift/pumping stations would be required. The trunk sewer is planned to connect into the new Cambridge sanitary trunk sewer at the Kossuth Road and Fountain Street intersection.

An overall wastewater servicing strategy is required to determine appropriate trunk sewer alignments within the Stage 2 East Side Lands to support developments that have already been allotted wastewater capacity and to provide sanitary servicing to support the recently expanded ROPA 6 lands within the Breslau area for future development. Staff also understand that a major employer, located within the East Side Lands area, will require municipal servicing to accommodate a major expansion to their existing facilities. This is a significant economic growth opportunity within Woolwich and the Region as a whole. Another important driver is the expansion of the Region's terminal building, which also requires increased wastewater capacity and an appropriate sewer outlet. The airport currently hauls all of their wastewater off site, which is not sustainable with the additional ridership that the airport is forecasting in the near future.

An overview map, which highlights the study area assessed and the proposed trunk sewer alignments and associated vertical infrastructure required to service the overall sewer shed, is included as Appendix 1.

Municipal Class Environmental Assessment

Given the scope and nature of the environmental, social and financial issues related to the proposed Breslau Sanitary Infrastructure, the study is being carried out as a Schedule 'B' Municipal Class Environmental Assessment. The Schedule 'B' process has been followed for this project, which requires the first two phases of the EA planning process to be completed:

- **Phase 1 – Problem definition;**
- **Phase 2 – Identification and evaluation of alternative solutions to determine a preferred solution;**
- Phase 3 – Determine alternative design concepts for the preferred solution;
- Phase 4 – Preparation of the environmental study report;
- Phase 5 – Implementation of the preferred alternative.

Currently, the project team is nearing the end of Phase two and is seeking Woolwich Council's endorsement of the preferred sanitary trunk sewer alignments and sanitary lift/pumping station locations in order for the project to proceed to the design and implementation phase. The next phases of the project will involve detailed design, geotechnical investigation, refining costs, addressing property requirements, and ultimately constructing the initial sanitary trunk sewer to the current northern construction limits of the project (Menno Street).

Public consultation is a key component of the Municipal Class Environmental Assessment process. The public were invited to provide comments on the project through the Notice of Study Commencement and two Public Consultation Centres (PCC), which were advertised in the Woolwich Observer on March 14th/21st, 2024 and June 20th/27th, 2024. Woolwich residents affected by this study were generally those who reside/own property within the settlement of Breslau or are located along the various route options that were being considered. As such, all property owners within and around the settlement of Breslau were mailed the notice of study commencement for the project. All project notices, including the slide shows presented at the PCCs are available on the Township's engagement website for review and comment by the public.

The PCC to present the initial study findings and trunk sewer alignment options was hosted virtually starting on March 13, 2024. Although PCC #1 material is still available for consumption on the engagement page, Staff did ask for comments to be submitted by March 27th. The Township received less than 10 comments through the first PCC. Although website data from the virtual PCC identified almost 150 individuals visited the engagement site to review the PCC materials, Staff received very little feedback from the public, and most questions were related to specific property impact inquiries.

The second PCC for the project presented two potential gravity trunk sewer alignments that would service the majority of the East Side Lands in Woolwich. Since both trunk sewer alignments serviced similar areas, the project team thought that obtaining public feedback on the two alternatives may help to identify the preferred alternative. Similar to the first PCC, the second PCC was also held virtually where interested parties could download the PCC content and provide comments to the project team. Notices were posted in the Woolwich Observer on June 20th and 27th. Similar to PCC #1, the material for PCC #2 is still available for download and review as of the date of this meeting. Only one question was submitted during the initial commenting period for PCC #2, which was related to sanitary servicing of an existing property in Breslau. Data from the engagement website identified almost 140 individuals visited the site to review the PCC #2 material. The project team also received comments from properties that have interest in undertaking development in the future.

In concert with the public consultation efforts, the project team engaged other stakeholder agency groups and communities, which included: the Region of Waterloo, Grand River Conservation Authority (GRCA), Federal and Provincial Ministries, and Aboriginal Communities. The Ministry of the Environment, Conservation and Parks (MECP)

provided direction on which Aboriginal Communities were to be consulted through the project. The communities identified to be consulted included the Mississaugas of the Credit and Six Nations of the Grand River [both elected and Haudenosaunee Confederacy Chiefs Council (HCCC)/Haudenosaunee Development Institute (HDI)]. Identified communities were sent all of the project notifications, including the notice of study commencement. The communities were also sent draft copies of the archaeological, cultural heritage, and ecological reports, and were asked to articulate any concerns with the findings or recommendations. The Township received responses from the Mississaugas of the Credit as well as Six Nations of the Grand River (elected council) in relation to the draft reports. Comments from Aboriginal Communities were incorporated into the final versions of the reports, where possible. Due to funding requests that did not coincide with the Township's engagement framework, HCCC/HDI did not provide specific project comments to the Township.

Comments:

The Municipal Class EA study has followed the planning and design process of the October 2000, as amended in 2007, 2011, 2015 & 2023 Municipal Engineers Association (MEA) Municipal Class Environmental Assessment document for roads, water and wastewater projects. The Township is completing the Municipal Class EA planning process applicable to Schedule 'B' projects. Schedule 'B' projects include new facilities and major expansions to existing facilities that are considered to have a potential for significant environmental impacts. These projects are approved under the Environmental Assessment Act once the required phased process is complete which includes filing the Project File Report providing a 30 day public review period that is followed by an additional 30 day internal review period by the Ministry of Environment, Conservation, and Parks.

To aid Township Staff in understanding the potential impacts related to the broad environment surrounding the proposed Breslau sanitary servicing works, the following studies were completed by Associated Engineering and their consulting team as part of the EA.

Archaeological

An archeological stage 1 assessment was completed as part of the EA, which reviewed areas of potential archeological significance within the study area along the proposed trunk sewer routes and sanitary station locations. Although the majority of the proposed trunk sewer alignments are contained within existing Township and Region of Waterloo right of ways, areas where additional archaeological investigation will be required were identified through the stage 1 assessment. Areas identified for additional study are recommended to be reviewed by pedestrian survey, or test pitting at 5m intervals to confirm if they contain any archaeological potential. Areas identified for stage 2+ assessment are proposed to be reviewed in greater detail through the detailed design process.

The stage 1 archaeological assessment was shared with all Aboriginal Communities identified through the project to ensure that comments from the communities were reviewed and addressed at an early stage in the archaeological review process. Aboriginal communities identified through the EA process will also be invited to partake in any archaeological stage 2+ field work as part of the detailed design assignment.

Cultural Heritage

A cultural heritage resource assessment was completed to determine existing cultural heritage features within the study area. Three properties were identified as having cultural heritage significance within close proximity to the proposed trunk sewer alignments and sanitary stations. Recommendations from the cultural heritage assessment suggest that vibratory monitoring around these properties should be undertaken to ensure that the properties are not adversely impacted during construction. A culvert that carries the Randall Drain below Fountain Street North was also identified as having potential cultural heritage significance since it was constructed in 1930. A specific Cultural Heritage Evaluation Report (CHER) was undertaken for this structure which showed that the structure does not have cultural heritage value or interest. Since the majority of the proposed trunk sewer alignment is contained within existing Township and Regional right of ways, cultural heritage impacts are anticipated to be minimal. Vibration monitoring of identified properties that have cultural heritage significance/potential will be undertaken prior to and during construction, where necessary.

Natural Environment

An Environmental Impact Study (EIS) was completed to identify Species At Risk (SAR) located within the study area and to provide recommendations on mitigation of impacts to SAR. The project study area contains Regionally Significant Woodlands, several Provincially Significant Wetlands (PSW) collectively identified as the Breslau Wetland Complex and an Environmentally Sensitive Policy Area designated by Woolwich Township, all of which are designated as Core Environmental Features by the Region of Waterloo. The majority of the subject lands are also located within the Grand River Conservation Authority's Regulation Limit, as the area contains three small tributaries to a regulated watercourse (Hopewell Creek) as well as the PSWs. As part of the environmental work completed, the project team performed field surveys to define the areas flora and fauna, including aquatic habitat (where required). The study area screening identified suitable habitat for 30 Species at Risk and 24 Species of Conservation Concern (SCC), although only 5 SAR and 3 SCC were observed during the field work to be present within the study area. The five SAR identified within the study area are Eastern Meadowlark, Henslow's Sparrow, Bank Swallow, Midland Painted Turtle, and Snapping Turtle. The three SCC identified within the study area are Eastern Wood-Pewee, Wood Thrush, and Barn Swallow. Additional screening is also recommended to confirm the presence of bat nesting habitat in trees identified for

removal during construction. The EIS provides mitigation recommendations to protect any species found within the study area. The recommendations contained in the EIS, as well as recommendations from the GRCA, will be implemented into the project as part of the detailed design. Some examples of mitigation measures include temporary tree protection fencing, vegetation removals to occur outside of identified breeding and nesting seasons, inclusion of additional native tree planting to compensate for required tree removals, and ensuring that trees damaged during construction are pruned appropriately.

Trunk Sewer Routes

The project team reviewed 11 potential alternate routes along four general trunk sewer alignments through the EA process. All trunk sewer alignments were considered to outlet to the East Side Lands Stage 1 Cambridge trunk sewer which is currently proposed to terminate at Kossuth Road and Fountain Street. Appendix 2 shows the routes explored by the project team, which are described below. Trunk sewer alternative one generally followed Fountain Street to the north and turned west onto Woolwich Street South, extending to approximately Andover Street. Alternative alignment two ran north along Fountain Street to and along the future Breslau Connector Road, and then north along Greenhouse Road. Alternative three contained four routes that generally ran through the western portion of the study area, as far east as Cober Road. Alternative four contained five routes that generally ran through the eastern portion of the study area, up to Shantz Station Road.

The project team refined the list of 11 potential alignments down to seven distinct alternatives, which were subject to evaluation through the decision matrices. The decision matrices generally compared each of the seven alternatives based on anticipated impacts to the natural environment, social environment, technical requirements, as well as financial constraints. Each of the four broad categories had specific components that allowed the project team to compare each alternative in more detail, which allowed for a preferred alternative to be identified. The natural environment component reviewed impacts to natural features such as wetlands, watercourses, and woodlots, whereas the social environment criteria focused on impacts to archaeological and cultural heritage features. The technical environment review focused on planned future works, minimizing impacts to existing infrastructure/roadways, as well as considering operational issues in the near term and future, as well as trying to reduce difficult construction conditions. The financial environment review focused on the initial capital cost of construction, life cycle costs, as well as economic development opportunities.

The first four alternatives reviewed through the project all required that a large deep sanitary pumping station would need to be installed near the Township's southern border with Cambridge, located near the Kossuth Road/Fountain Street intersection. The sanitary station requirement stemmed from the fact that the depth of the sewer through the first four alternatives was proposed to be deeper than the receiving sewer at the

Cambridge border. The remaining alternatives explored, alternatives five through seven, were optimized to operate utilizing gravity only, and thus serviced only specific areas of the Townships East Side Lands. Since the gravity trunk sewer routing explored did preclude some properties from directly connecting to the proposed trunk sewers, additional smaller sanitary lift/pumping station locations were identified to service the remaining East Side Lands Stage 2 area. Alternate seven was specifically created in an effort to combine alternatives five and six and optimize them into a solution that allowed flexibility around the final routing and timing of construction, with the intent that the solution would provide maximum flexibility for implementation moving forward.

The project team is recommending that the Township endorse alternative seven. This alternative negates the need for a large, deep 600+ litre/second sanitary station near the Kossuth Road and Fountain Street intersection, and instead utilizes two smaller sanitary lift stations positioned in strategic locations within the Stage 2 East Side Lands.

The proposed smaller sanitary lift stations would be implemented once development pressures require the sanitary capacity, which allows staging of the sanitary infrastructure, instead of installing a very large station on day one. The trunk sewer associated with alternative seven would connect directly into the Cambridge trunk sewer on Fountain Street, without the need for a sanitary station on day one, and would still service the majority of the Airports proposed development, as well as residential and industrial/commercial development within the East Side Lands.

Vertical Infrastructure Station Locations

Through a thorough review of the study area, the project team identified that the majority of the area could be serviced via gravity, thus negating the requirement for a large sanitary pumping station at, or near, the Fountain Street Kossuth Road intersection. Through alternative 7 not all of the study area lands can be serviced via gravity though, and as such, sanitary pumping/lift stations will be required to service the remainder of the study area. The project team has identified that two sanitary lift/pumping stations will be required to permit servicing for the remainder of the study area. The first station is proposed to service the existing industrial/commercial area on Woolwich Street South, as well as the new Madison West residential subdivision, including the recently acquired Region of Waterloo land parcel proposed to house a new GO Station and affordable housing. Preferably the location of the new sanitary station would be in close proximity to the proposed gravity trunk sewer, and as such the project team reviewed three potential alternate site locations to house the proposed station. The first potential location explored for the station was at 5111 Fountain Street, approximately 300m north of where the trunk sewer is proposed to turn onto Fountain Street, and would require a shallow local sewer along Fountain Street to connect to the proposed trunk sewer. The second alternative site reviewed was located at the corner of Jetliner Court and Fountain Street, on the Region's hanger site. Alternative two is in close proximity to the proposed trunk sewer, and services the majority of properties on Fountain Street, except properties to the west, where the land slopes towards the Grand River quite quickly. The third location

explored was located adjacent to Otter Court on the west side of Fountain Street. This location required an additional trunk sewer be installed between Jetliner Court and Otter Court. The site also has slope stability concerns due to the close proximity to the Grand River. Appendix 3 shows the locations explored to house the proposed sanitary station. Ultimately, the project team is recommending that alternative two, the station proposed at Jetliner Court, is the preferred site location.

Although the second sanitary station is anticipated to be located near the intersection of Shantz Station Road and Menno Street, the planning horizon is too far away to confirm a preferred location for the future station, since many factors can change prior to the need for the station to be implemented. The second station will need to be reviewed through a future EA or potential development application.

Interdepartmental Impacts:

Approving the trunk sanitary sewer alignments and associated future vertical sanitary stations for the Woolwich East Side Lands will feed directly into the Breslau Secondary Plan update, which the Township's Development Services team is currently overseeing. The Breslau Secondary Plan will provide a framework for how development is planned to occur in the Breslau area in the future to the 2051 planning horizon.

Financial Impacts:

The Township's East Side Lands have been identified as a key growth area for the municipality and the Region as a whole, with the potential for major economic development once the area obtains shovel ready status through the installation of municipal services. The East Side Lands Sanitary Servicing Environmental Assessment (EA) project is the first major step to unlocking the economic potential for the East Side Lands within the Township of Woolwich, and will also provide wastewater capacity for employment and future residential buildout as well. Council's endorsement of this EA will set the general trunk sewer alignments within the Township's East Side Lands and allow for detailed design to proceed, with the intent to have the western leg of the trunk sewer installed to Menno Street in Q4 2027. Staff will include anticipated construction costs for the installation of the trunk sewer starting in the 2026 budget for Council approval. Staff will ensure funding sources are confirmed prior to issuing the tender for the construction works.

In order for the project to proceed to implementation of the preferred alternative the following items need to be addressed through detailed design:

- Geotechnical investigation along preferred trunk sewer routing;
- Additional studies to inform the final trunk sewer alignment (archaeological stage 2+, baseline vibration monitoring, bat nesting survey, etc.)
- Prepare detailed design for the trunk sewer alignment;

- Enter into an agreement with the Region of Waterloo to allow the trunk sewer to traverse their property;
- Enter into a cross-border agreement with the City of Cambridge;
- Prepare a legal survey to define any new areas required for easements; and,
- Obtain required permits (GRCA major permit, DFO review).

Additional Work Required Prior to Construction

Detailed Design and Tendering	\$ 350,000
Geotechnical Investigation	\$ 150,000
Legal Survey (Easements)	\$ 30,000
<u>Permitting (GRCA/DFO)</u>	<u>\$ 20,000</u>
Grand Total	\$ 550,000

Budgetary values to complete the initial gravity trunk sewer works for the preferred alternative, as well as the cost to complete the remaining sanitary stations including the eastern leg of the trunk sewer have been prepared by Associated Engineering. Due to the anticipated implementation costs to complete the capital works, and the potential funding sources available to complete the work, including development charges, cost sharing agreements and debenture funding, a comprehensive financial plan will be required. Through the detailed design exercise, the project team will refine the construction cost estimates and prepare a detailed financing plan to be presented to Council prior to tendering the trunk sewer construction project.

Upon Council’s approval of this EA, Staff will issue a request for quotation to undertake the required geotechnical investigation works, and will also issue a request for proposal to complete the detailed design works. Sufficient budget was included in the 2024 capital budget to proceed with the geotechnical and detailed design works in 2024. Additional budget to complete the remaining required design work will be included in the 2025 capital budget, for Councils approval.

Community Strategic Plan Impacts:

The East Side Lands Sanitary Environmental Assessment project in Breslau supports the Township of Woolwich’s strategic direction to “*Develop Master Servicing Plans*”, with a goal to “*Cultivate long-term economic prosperity*”. This is being accomplished through the project by defining the future sanitary servicing alignments for the Townships East Side Lands, which will direct how future development occurs in the area, in conjunction with the update to the Breslau Secondary Plan.

Conclusion:

Through the Breslau Sanitary Municipal Class Environmental Assessment project many different trunk sewer and sanitary station alternatives were reviewed and analyzed. The

project team also consulted with the public as well as major stakeholders to determine and mitigate potential concerns for the multitude of alignments and sites assessed. Through a rigorous analysis, the project team is recommending that Alternative 7 be endorsed as the preferred alignment, since it provides sanitary servicing for the majority of the Breslau East Side Lands without the need for a large sanitary lift/pumping station. This alternative allows the most flexibility with respect to timing for determining when each leg of the trunk sewer maybe constructed. Township Staff are recommending that the detailed design and construction of the western leg of alternative seven (Fountain Street to Jetliner Court to Lonsdale Road to Menno Street) start detailed design as soon as possible, with the intent to have the trunk sewer installed along the western alignment and in service by Q4 2027. Township Infrastructure Services Staff plan to include budget to complete the detailed design in the 2025 capital budget, with construction anticipated in 2026 and 2027.

Attachments:

1. Study Area Location Map – Alignment, Catchments, Sanitary Stations
2. Sanitary Trunk Sewer Routes Reviewed – 4 Routes with 11 Alignments
3. Initial Sanitary Lift Station Locations Reviewed