Report to Civic Works Committee

To:	Chair and Members		
	Civic Works Committee		
From:	Kelly Scherr, P.Eng., MBA, FEC		
	Deputy City Manager, Environment & Infrastructure		
Subject:	Pottersburg Sanitary Trunk Sewer Re-Alignment Municipal Class Environmental Assessment – Notice of Completion		
Date:	June 22, 2021		

Recommendation

That on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions **be taken** with respect to the Pottersburg Sanitary Trunk Sewer Re-Alignment Environmental Assessment:

- (a) The Pottersburg Sanitary Trunk Sewer Re-Alignment Environmental Assessment Executive Summary attached as Appendix 'A', **BE ACCEPTED**;
- (b) A Notice of Completion **BE FILED** with the Municipal Clerk; and
- (c) The Municipal Class Environmental Assessment Schedule B Project File for the Pottersburg Sanitary Trunk Sewer Re-Alignment **BE PLACED** on public record for a 30-day review period.

Executive Summary

Purpose

The purpose of this report is to identify the preferred alternative for the Pottersburg Sanitary trunk Sewer Re-Alignment Schedule 'B' Municipal Class Environmental Assessment (EA), and recommend filing the Notice of Completion for the study to initiate the statutory 30-day public review period.

Context

The existing Pottersburg Creek Trunk Sanitary Sewer between Clarke Road and Dundas Street (location map attached as Appendix 'B') crosses the Pottersburg Creek several times at a shallow depth with segments of the sewer in poor condition. Additionally, portions of the existing Pottersburg Creek Trunk Sanitary Sewer are located on private property, limiting access to the sewer. The existing sewer is in need of replacement. A Schedule 'B' Environmental Assessment was initiated to identify the preferred alignment for the replacement of the sanitary trunk sewer.

Linkage to the Corporate Strategic Plan

This recommendation supports the following 2019-2023 Strategic Plan areas of focus:

- Leading in Public Service:
 - Trusted, open, and accountable in service of our community;
 - Exceptional and valued customer service; and
 - $\circ\;$ Leader in public service as an employer, a steward of public funds, and an innovator of service.
- Building a Sustainable City:
 - London's infrastructure is built, maintained, and operated to meet the longterm needs of our community

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

• Appointment of Consulting Engineers Infrastructure Renewal Program – Civic Works Committee Report June 19, 2018.

2.0 Discussion and Considerations

2.1 Background

The existing Pottersburg Sanitary Trunk Sewer begins at the Clarke Road Pumping Station, and outlets at the Pottersburg Wastewater Treatment Plant at 1139 Hamilton Road. It was constructed in 1954 along the Pottersburg Creek, crossing it several times at a shallow depth, including nine times between Clarke Road and Dundas Street. Additionally, portions of the existing Pottersburg Creek Trunk Sanitary Sewer are located on private property, limiting access to the sewer. The existing sewer between the Clarke Road Pumping Station to Dundas Street/First Street intersection is in need of rehabilitation or replacement; however, due to its alignment, localized rehabilitation or replacement in its existing alignment is not feasible.

3.0 Key Issues and Considerations

3.1 **Preferred Alternative**

The preferred solution alternative ensures that the new Pottersburg Sanitary Trunk Sewer alignment:

- integrates with the City's long-term wastewater system needs,
- maintains or improves existing local wastewater servicing,
- minimizes social, cultural, and financial impacts to residents, local businesses, and the public,
- considers the environmental impact on Pottersburg Creek and surrounding lands including the reduction of creek crossings,
- removes access and maintenance barriers, and
- considers the total life cycle cost of the project.

The EA prepared a long list of five alignment alternatives, three of which passed on to the short list evaluation and were ranked based on their natural environment, social cultural, technical, economic, and legal implications. The preferred alignment is recommended as the alternative which ranked the highest in the evaluation and is best suited to meet the needs of the replacement of the Pottersburg Sanitary Trunk Sewer. The evaluation process concluded that Alignment 1B (shown in Appendix 'B') is the preferred alignment.

The preferred alignment has the benefit of reducing the overall number of Pottersburg Creek crossings from nine to four. Three are required to extend local sanitary sewers to the new trunk sewer alignment. These are located on Culver Drive, Second Street, and Third Street. The fourth creek crossing is on Parkhurst Avenue to install the trunk sanitary sewer. The options to cross the Pottersburg Creek included evaluation of open cut sewer extension along with trenchless sewer construction. Trenchless construction is feasible for the Parkhurst Avenue crossing; however, trenchless construction was ruled out for the other three crossings as the depth of the sewer is too shallow to facilitate trenchless construction under the Pottersburg Creek. For both Second Street and Third Street crossings, the preferred alignment includes a crossing route on the east of the bridge. For Culver Drive, the preferred location of the sewer installation is on the south side of Culver Drive, within Culver Park. Three easement requirements were identified as part of the preferred alignment. They are as follows:

1712 Dundas Street: This easement follows the northern limits of the property through an existing parking lot adjacent to the railway tracks to facilitate the construction of the sanitary trunk sewer from Third Street to Evangeline Street. This easement is beneficial to the City as it avoids additional construction on Dundas Street from Burdick Place to Second Street reducing construction costs and impacts to businesses on Dundas Street. This easement also allows the City to take advantage of a trunk sewer alignment which overlaps with planned infrastructure lifecycle renewal needs on Evangeline Street, Leonard Street, and Burdick Place, allowing for coordination and cost sharing of construction. This easement is approximately 20m wide by 160m long.

444 Second Street: An easement is required to facilitate the construction of a local sewer crossing at the Pottersburg Creek along the east side of the Second Street bridge within an existing Hydro One corridor. The easement required is approximately 9m wide by 50m long. No Hydro towers are anticipated to be impacted by this work.

524 Third Street: An easement is required to facilitate the construction of a local sewer that crosses Pottersburg Creek along the east side of the Third Street bridge. This easement is located in the northwest corner of the property closest to the Third Street bridge crossing the Pottersburg Creek. The easement required is approximately 8m wide and 18m long.

Further detail is provided in the Executive Summary, contained in Appendix 'A'.

3.2 Public/Stakeholder Consultation

Due to Covid protocols and restrictions, a traditional in-person Public Information Centre was not possible. Instead, a series of three presentation videos were posted on the City's Get Involved website for public viewing. Notifications were published in The Londoner preceding the posting of the videos, along with a letter which was mailed out to stakeholders and all properties within the study area. Formal comments for the online Public Information Centre were accepted between April 1 2021 to April 30 2021 for a period of 30 days.

Notifications for the project were sent to applicable Federal, Provincial, County, Ministry, and Municipal stakeholders along with engagement with local First Nations.

3.3 Agency Comments

At the time of the publishing of this report, no formal comments have been received by agencies. If any comments are received prior to the publishing of the Notice of Completion, they will be addressed in the Project File.

3.4 First Nations Engagement

The City distributed all EA notices, including Notice of Commencement and PIC invitation to all area First Nations communities. Chippewas of the Thames First Nation expressed interest, requesting to be included in further updates of the projects, and to be notified if a Stage 2 Archeological Assessment was required for any part of the project. The Oneida Nation of the Thames also expressed their interest in the project. An online video conference meeting was held between Oneida Nation of the Thames and the project team to discuss the project.

3.5 Natural Heritage, Archeological, and Cultural Considerations

An assessment of the Natural Heritage was performed as part of this EA, which identified that an impact assessment will be required as a result of the work adjacent to, or within Unevaluated Vegetation Patches, Significant Valleyland, Significant Wildlife Habitat, UTRCA Regulated Areas, Fish Habitat, and Species at Risk. To meet these requirements, Environmental Impact Assessment will be undertaken during the detailed design phases to protect, mitigation, and restore the impacted areas appropriately.

A Stage 1 Archeological Assessment was conducted and found that a small portion of Culver Park was subject to a Stage 2 Archeological Assessment. This area is an existing parkland owned by the City of London and was identified as a previously undisturbed area. For this reason, the Culver Park area is subject to a Stage 2 Archaeological Assessment to further screen for potential significance during the detailed design stage.

Communication with Environmental and Ecological Planning Advisory Committee has been undertaken. EEPAC expressed interest in the creek crossing restorations which will be advanced during the detailed design phase of this project. The project team will continue to keep EEPAC updated as the project progress and will respond to additional questions as they arise.

4.0 Financial Impacts/Considerations

The preliminary cost estimate to complete reconstruction and realignment of the Pottersburg Sanitary Trunk Sewer and associated necessary local sewer extensions under the preferred alternative is approximately \$22 Million. Due to the size and scope of this project, construction is anticipated to be undertaken in six phases between 2022 and 2028. The first phase, with limits identified as Dundas Street from First Street to Burdick Place, Spruce Street from Dundas Street to Pottersburg Creek, and Burdick Place from Dundas Street to Pottersburg Creek is anticipated to be constructed in 2022. This work has been incorporated into the City's exiting Infrastructure Renewal Program funded through multi-year Water and Wastewater budgets between 2022 and 2028.

Conclusion

The Pottersburg Sanitary Trunk Sewer Re-Alignment Environmental Assessment was undertaken to determine the most suitable alignment for the replacement of the Pottersburg Sanitary Trunk Sewer between Dundas Street and Clarke Road, which is in poor condition. The preferred alignment alternative provides a strong technical solution which ensures the serviceability of this trunk sewer throughout its lifecycle. Staff recommend that the preferred alignment identified in the EA be posted for the 30-day public review period.

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CC: Kula Chambara		

- CC: Kyle Chambers
- Appendix 'A' Executive Summary

Appendix 'B' – Location Map and Preferred Alignment



Executive Summary

E1 Project Objectives and History

The objective of the Schedule 'B' Municipal Class Environmental Assessment (EA) for the Re-Alignment of the Pottersburg Sanitary Trunk Sewer (STS) is to determine the most viable alignment for the trunk sewer replacement, along with any supporting works needed, that considers natural environment, social cultural, technical, economic, and legal implications so that the sewer may be replaced and re-aligned.

The City of London initiated this project in 2018 as part of its ongoing efforts to improve the performance of the City's sanitary sewer infrastructure. The existing Pottersburg STS is a collector trunk sewer for the surrounding area that additionally acts as a bypass overflow for the Clarke Road Pumping Station (PS), however there have been no recorded overflow events to date. The existing STS alignment crosses the Pottersburg Creek several times at a shallow depth and was noted to be in poor condition between the Clarke Road PS and Dundas Street. As portions of the sanitary trunk sewer are located on private property and cross Pottersburg Creek in several locations, on-going maintenance and localized repairs of the sewer has been challenging. Therefore, the section of the STS north of Dundas Street has been recommended for replacement and re-alignment.

The Pottersburg STS also acts as a collector trunk sewer for local sanitary systems for various residential and commercial areas along the existing alignment. As part of this assignment, secondary construction outside the STS re-alignment was also considered in order to ensure continual services to all properties.

The study area for the Class EA, presented in Figure E1, encompasses the Pottersburg neighbourhood in the East End of the City of London, bounded by Dundas Street to the South, and the CN and CP railway junction to the west, and Clarke Road to the west.

This Pottersburg Sanitary Trunk Sewer Re-Alignment Class EA followed a Schedule 'B' process to satisfy Phase 1 (Problem / Opportunity Statement) and Phase 2 (Alternative Solutions) of the planning process.





E2 Class Environmental Assessment Process

This Class EA study was completed as a Schedule 'B' undertaking in accordance with the requirements of the Municipal Class EA process (October 2000, as amended in 2007, 2011 and 2015). The Class EA process includes public and review agency consultation, evaluation of alternatives, an impact assessment of recommended alternatives, and identification of measures to mitigate potential adverse effects.

E2.1 Phase 1 of the Class Environmental Assessment Process – Problem and Opportunity Statement

The initial phase of the Municipal Class EA process is the development of a Problem / Opportunity Statement which documents the factors leading to the conclusion that an improvement or change is required. Phase 1 answers the question:

What is the justification for "this project" to be undertaken?

Taking into consideration the problems the Pottersburg STS is currently facing, the following Problem and Opportunity statement was developed:

The purpose of this EA is to determine the most viable alignment for the new Pottersburg STS that:

- Integrates with the City's long-term wastewater system needs;
- Maintains or improves existing local wastewater servicing;
- Minimizes social, cultural, and financial impacts to residents, local businesses, and the public;
- Considers the environmental impact on Pottersburg Creek and surrounding lands;
- Removes Pottersburg STS access and maintenance barriers; and
- Considers the total life cycle cost of the project.

E2.2 Phase 2 of the Class Environmental Assessment Process – Identification and Evaluation of Alternative Solutions

The second phase of the Municipal Class EA process involved the identification and evaluation of all feasible solutions to the problem. Evaluations were undertaken to address the potential advantages and disadvantages of each potential STS alignment and creek crossing. The development and evaluation of alternatives, with the goal of determining the recommended STS alignment, followed the approach outlined below:

- 1. Defined opportunities and constraints within the Study Area, by developing a preliminary list of **long-list of sewer alignment alternatives**. These long-list alternatives addressed key deficiencies and servicing considerations to best satisfy the previously defined problem and opportunity statement. The appropriateness and feasibility of these long-list alternatives were assessed through a high-level evaluation to determine which alternatives will be carried forward.
- 2. Determined the **short-list of sewer alignment alternatives**, through the screening of the long-list alternatives. These short-list alternatives underwent a





detailed evaluation using the *Reasoned Argument Approach*, defined in Section E4. The intent of the detailed evaluation was to objectively assess and compare each alternative such that the recommended strategy is preferred and has the fewest negative impacts to the City.

3. For the recommended sewer alignment alternative, a list of creek crossing alternatives was developed for each proposed Pottersburg Creek sewer crossing. For each of the crossing locations, the creek crossing alternatives underwent a detailed evaluation using a criteria and process defined in the following sections. The intent of the detailed evaluation was to objectively assess and compare the crossing alternatives such that the recommended crossing strategy is technically feasible and has the fewest negative impacts to the City.

E2.3 Overview of Public Consultation

The table below provides an overview of the Study's Public Consultation process.

Public Consultation	Date	Content / Objective
Notice of Commencement and Project Sheet	January, 2020	Statutory Notice
Public Information Center 1	April 1, 2021 – April 30, 2021	Project introduction, presentation of the study objectives, evaluation criteria, the evaluation of alternatives and creek crossing options, and preliminary preferred recommendations
Notice of Completion and 30-Day Review	June 16, 2021 – July 30, 2021	Statutory Notice Public Review of Project File Report

Table E1: Overview of Public Consultation Process



E3 Overview of Analysis Works

The table below provides a brief overview of the assessment and analysis works completed in support of the EA:

Table E2: Overview of assessment and analysis works

Works Completed		Objective / Key Element	
Technical Analysis	Site Visit of Study Area and Various Locations	Supplement other data sources and confirm viability/suitability of alternatives.	
	Operations & Stakeholder Consultation	Information collection, confirmation of existing conditions, identification of	
	Review of Historic /Ongoing Studies	validation of study findings.	
	Preliminary Sewer Design and Costing Analysis	Support the technical feasibility review and financial analysis.	
Archaeological Investigation	Stage 1 Archaeological Assessment Report	Confirmation of the presence of archeological potential along the proposed alignment routes.	
Natural Environment Assessment	Desktop Assessment of Natural Environment Constraints Report	Identification of known and potential areas of environmental significance and Species-At-Risk (SAR) along the potential sewer alignments, with a focus on creek crossings.	
Geotechnical Investigation	Geotechnical Assessment Report	Assessment of geotechnical conditions within the Study Area, with focus on creek crossings. Geotechnical recommendations for the proposed creek crossings along each proposed alignment were made.	

E4 Evaluation Approach

The following methodology was used to screen and evaluate the Pottersburg STS alignment alternatives.

Long-List Evaluation

The long-list alternatives were evaluated based on three key categories:

- Problem Statement;
- Technical Viability, and;
- Reasonability.

Alignment alternatives that met all three screening criteria were carried forward as shortlist alternatives for more detailed evaluation. Alternatives that received one "no" response were eliminated from further consideration.



Short List Evaluation

The short-list of alternative alignments was evaluated using five key factors:

- Technical Impacts;
- Environmental Impacts;
- Social and Cultural Impacts;
- Financial Impacts; and
- Legal/Jurisdictional.

For each evaluation criteria the alternatives were provided a "Low", "Medium" or "High" ranking enabling a comparative review of each alternative. The ratings represent the following:

- High: alternative generates relative beneficial impacts and/or have no substantial technical challenges.
- Medium: alternative presents a mix of positive and negative elements with some impacts.
- Low: alternative presents permanent negative impacts and/or presents significant technical challenges.

Having ranked each alternative accordingly, the evaluation and selection of a technically preferred solution was guided by the *Reasoned Argument Approach*. This approach provided an objective, clear and thorough rationale of the trade-offs between the various evaluation factors and criteria and identify the reasons why one option best meets the servicing needs of the new Pottersburg STS.

E5 Pottersburg STS Re-Alignment Alternatives

A systematic approach was followed to develop alternatives for the sewer re-alignment which consisted of first developing a long list of locations for consideration, and subsequently developing a short-list for detailed evaluation.

The results of screening the long-list of sewer re-alignment alternatives developed shortlist of three sewer re-alignment alternatives. Figure E2 highlights each short-listed sewer alternative, which are further described below. Through the long-list screening process the "Do Nothing" and "Replace Along the Existing Alignment" were screened out for not meeting the screening criteria.

 Alignment 1A: Alignment 1A consists of rerouting the Pottersburg STS through existing road right-of-ways via the following general alignment; north along Clarke Road, across Parkhurst Avenue to Third Street, south along Third Street to Dundas Street, and west along Dundas Street to the existing Pottersburg STS on First Street. This alignment has the benefits of relocating the Pottersburg STS further away from existing natural heritage features, reducing the Pottersburg STS creek crossings from nine to one, and relocating the sewer to a more accessible alignment, location addressing access and maintenance needs. However, this new alignment would require the reconfiguration of local sewers along Clarke Road, Herbert Avenue, Culver Drive, Third Street, Second Street, Burdick Place, Spruce Street, and First Street to re-establish local sewer conveyance, resulting in the



need to reconstruct and/or construct three creek crossings with the new local sewers.

- Alignment 1B: Alignment 1B is similar to Alignment 1A but generally crosses to Evangeline Street from Third Street, utilizing property through 1712 Dundas Street, and continues along Second Street, Leonard St, Burdick PI, and along Dundas Street to First Street. This alignment was identified since it reduces the length of construction required on Dundas Street compared to Alignment 1A. However, land acquisition would be required between the east end of Evangeline Street and Third Street, at the property of 1712 Dundas Street. Like Alignment 1A, benefits include relocating the Pottersburg STS further away from existing natural heritage features, reducing the Pottersburg STS creek crossings from nine to one, and relocating the sewer to a more accessible alignment, addressing access and maintenance needs. However, this new alignment would require the reconfiguration of local sewers along Clarke Road, Herbert Avenue, Culver Drive, Third Street, Second Street, Burdick Place, Spruce Street, and First Street to reestablish local sewer conveyance, resulting in the need to reconstruct and/or construct three creek crossings with the new local sewers.
- Alignment 2: Alignment 2 runs south along Clarke Road to Dundas Street, and then west along Dundas Street to the existing STS on First Street. This alignment provides the most direct route to the existing STS. However, routing south of the Clarke Road PS involves passing under Pottersburg Creek in the same vicinity of an existing railway. Like Alignments 1A and 1B, this alignment has the benefits of relocating the Pottersburg STS further away from existing natural heritage features, reducing the Pottersburg STS creek crossings from nine to one, and relocating the sewer to a more accessible alignment, addressing access and maintenance needs. However, Alignment 2 would require the reconfiguration of local sewers along Clarke Road, Parkhurst Avenue, Herbert Avenue, Culver Drive, Third Street, Second Street, Burdick Place, Spruce Street, and First Street to reestablish local sewer conveyance, resulting in the need to reconstruct and/or construct four creek crossings with the new local sewers. Further, Alignment 2, increases the length of the sewer on Dundas Street, a major arterial road, and would require deeper sewer construction.







E6 Pottersburg STS Re-Alignment Preferred Alternative

Based on the evaluation, the recommended new sewer re-alignment alternative is **Alignment 1B**. A summary of the key benefits for the recommended alignment are provided below:

- It will cost the least to construct out the three alignment alternatives (\$21.8 million).
- It will result in the least amount of neighbourhood disruption because much of the STS alignment is off Dundas Street which is a major arterial road.
- It allows for the greatest opportunity to align STS construction works with preexisting infrastructure renewal needs by not disrupting the newly reconstructed Second Street, reducing impact to Third Street, and by integrating local road reconstruction where the local sewer needs are the highest (Evangeline and Leonard Street).

Potential constraints, as they relate to the recommended Alignment 1B alternative, are as follows:

- The property aquisition at 1712 Dundas Street will add maintenance and access coordination efforts for Alignment 1B.
- Alignment 1B intersects unevaluated vegetation patches, significant valleyland, and bisects the UTRCA regulated areas.
- The Study Area is home to SAR/endangered species and potentially several significant wildlife habitat.
- There is archaeological potential on a portion of the Study Area that will require a Stage 2 Archeological Assessment to further determine the cultural significance of the area.
- Potential land acquisition to support creek crossings may be required, along with acquisition of property at 1712 Dundas Street, and coordination and the need for permits with CP railways is likely.
- Approximate location and size of potential land acquisition is shown within the report; however, the Second Street and Third Street crossings are estimated at 0.05 ha and 0.03 ha respectively, with 1712 Dundas Street estimated at 0.32 ha. These areas are to be confirmed at the time of detailed design.

These factors were accounted for in the evaluation process; however, the benefits of the remaining criteria still resulted in Alignment 1B being the highest overall scoring alignment alternative.



E6.1 Alignment 1B Watercourse Crossing Preferred Alternatives

Based on the evaluation of alternatives, the recommended watercourse crossing alternatives for Alignment 1B are as follows:

Creek Crossing	Recommended Route and/or Construction Method	Rationale
Local sewer crossing, Second Street (Pottersburg Creek)	The east crossing route around the bridge structure be constructed through open-cut construction.	The east crossing route is the preferred option because it has the lowest overall cost and highest technical feasibility. Open-cut construction was selected due to the shallow depth of cover resulting in trenchless construction to be challenging.
Local sewer crossing, Third Street (Pottersburg Creek)	The east crossing route around the bridge structure be constructed through open-cut construction.	The east crossing route is the preferred option because it has the lowest overall cost and highest technical feasibility. Open-cut construction was selected due to the shallow depth of cover resulting in trenchless construction to be challenging.
Local sewer crossing – Culver Drive (Walker Drain/Pottersburg Creek)	Install the sewer through open-cut construction.	Open-cut construction is the most technically feasible and cost-effective construction method at this location due to the varying and multiple invert elevations.
Trunk sewer crossing – Parkhurst Avenue Culvert (Pottersburg Creek)	Install the sewer through trenchless construction.	Trenchless construction is the most technically feasible and cost-effective construction method at this location due to the sufficient soil cover and favorable ground conditions along the proposed sewer alignment.

Table E3: Alignment 1B Watercourse Crossing Alternatives

E6.2 Mitigation Plan

In undertaking the construction of the Pottersburg STS, the following mitigation measures should be considered by the City to address negative effects which could potentially occur during construction.

Key mitigation considerations include:

- Appropriate preservation measures must be taken to minimize the effects seen on vegetation, natural landscapes, fish and wildlife.
- Mitigation measures to control groundwater flow at creek crossing locations could include using steel sheet piles for the shoring system, which will control the flow of



groundwater into the excavation pits where open cut and trenchless construction occurs.

- It was recommended that a portion of the Study Area undergo a Stage 2 Archaeological Assessment prior to development.
- Construction activities may result in additional noise and dust around the site and along the recommended alignment. A noise and dust control strategy to reduce emissions, develop a construction phasing plan to minimize community disruption, and restrict working hours for construction, in accordance to the City's Noise Control By-law.

E6.2.1 Watercourse Crossings

Mitigation methods for each preferred creek crossing method are as follows (open cut construction):

- Additional consultation with the UTRCA prior to construction is required.
- Cofferdams and appropriate creek diversions would be required.

Mitigation methods for each preferred creek crossing method are as follows (trenchless construction):

- Settlement monitoring program be implemented, as per Ontario Provincial Standard Specification (OPSS) Prov. 539.
- Given the elevated risk of settlement or heave for the trenchless installation procedure, a mitigation plan should be established that will limit or mitigate any distress to the overlying adjacent infrastructure if needed.

APPENDIX 'B'

