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TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON JULY 22, 2013
FROM:	EDWARD SOLDI, P.ENG. DIRECTOR ROADS AND TRANSPORTATION ENVIRONMENTAL AND ENGINEERING SERVICES
SUBJECT:	MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT SCHEDULE 'B' STUDY FOR POTTERSBURG CREEK SLOPE STABILITY SOUTH OF HAMILTON ROAD BRIDGE

RECOMMENDATION

That, on the recommendation of the Director, Roads and Transportation, the following action **BE TAKEN** with respect to the Pottersburg Creek Slope Stability South of Hamilton Road Bridge Municipal Class Environmental Assessment (EA) Schedule "B":

- (a) That the Pottersburg Creek Slope Stability South of Hamilton Road Bridge Municipal Class EA Schedule "B" Project File **BE ACCEPTED**; it being noted that two recommended servicing alternatives to the Municipal Class EA Study are: Slope Stabilization with Pottersburg Creek Channel Realignment or Buyout of Residential Properties to remove the gabion baskets and re-grade the slope to a stable incline.
- (b) A Notice of Completion of Completion **BE FILED** with the Municipal Clerk; and
- (c) The Municipal Class EA Schedule "B" Project File for the Pottersburg Creek Slope Stability South of Hamilton Road Bridge **BE PLACED** on public record for a 30-day review period.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

CONFIDENTIAL REPORT - FAC – October 19, 2011 – Gabion Retaining Wall Failure – Pottersburg Creek – 1199-1203 Hamilton Road

BACKGROUND

Purpose

This report provides Committee and Council with an overview and seeks approval to finalize the Pottersburg Creek Slope Stability South of Hamilton Road Bridge Municipal Class EA. The completed Schedule "B" Project File identifies two recommended servicing alternatives to stabilize the slope: a) slope stabilization with Pottersburg Creek channel realignment or; b) buyout of residential properties to remove the gabion baskets and re-grade the slope to a stable inclination (location map is shown in Appendix A).

Context

The Pottersburg Creek subwatershed has a total drainage area of 4,900 ha, of which 60% is located within the City of London boundaries. This EA deals with a portion of the Pottersburg Creek main channel which is considered to have substantial unstable slope conditions (approximately 80 metres long) that are located on the top of the east bank of Pottersburg Creek downstream of Hamilton Road within the City of London boundaries.

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The existing slope at this location was modified by Development Engineering Limited's engineering works for Developer-Tony Gratt in 1989. The existing drawings from the 1989 construction show that a gabion lining (one basket deep and four baskets high) were specified only for a portion of the slope. During construction, three additional layers of gabions were loaded on this slope in the area of the storm outlet to accommodate the grading of the roadway. Portions of the work were built steeper than recommended in the geotechnical engineering report for the 1989 project. Due to the above noted additional loading, the slope has become compromised in this area, and has shifted at another location. Critical private servicing infrastructure such as the sanitary sewer forceman and residential building units have been placed in an area that should have been excluded from development.

In 1997, the City of London commissioned work carried out at the base of the Hamilton Road bridge. This work included placement of gabion baskets immediately downstream of the Hamilton Road bridge to facilitate infrastructure improvements at the time.

The failure of the slope downstream of the Hamilton Road bridge was first identified in April of 1998. Gradual movement of the slope progressed until the present time. Also, in 2005, a sanitary sewer forcemain became exposed in the failed section of the slope. To date, only short-term stabilizing measures are utilized, none of which are fully meeting the required engineering scale of the remediation works associated with these bank stability deficiencies and the identified necessary slope stability works for this portion of the bank.

Located immediately on top of the east bank of Pottersburg Creek downstream of Hamilton Road is a private subdivision that presently houses 185 residential townhouse units (1199 and 1203 Hamilton Road). The essential private underground services for portions of the residences in this area are located next to an access road on top of the compromised bank. The access road is presently closed due to public safety concerns. Further deterioration of the already compromised slope stability will adversely impact the existing essential safe operation of infrastructures (should this slope continue to deteriorate and/or fail the infrastructure will cease to function).

DISCUSSION

Environmental Assessment Summary

The purpose of the Municipal Class EA Study is to identify and evaluate alternatives to undertake all necessary remediation works to address unstable slope stability conditions downstream of the Hamilton Road Bridge and recommend a preferred solution that addresses slope stability and stabilizes the bank. Should the compromised slope collapse into Pottersburg Creek, severe environmental/ecological, structural and social damage will result. Furthermore, critical private servicing infrastructure (such as the sanitary sewer forcemain) located at the top of the slope would be rendered inoperable should the slope collapse, and adversely impact residents of the subdivision it services.

Evaluation of Options

Upon reviewing all considered viable alternatives to stabilize the compromised bank, all feasible structural and non-structural solutions, as well as the "Do Nothing" option, were evaluated. The non-structural alternative was defined as one that did not require physical (or structural) alteration to the slope stability of this portion of the creek and included Buyout of Residential Properties. The structural alternatives would take an approach that existing residences and servicing infrastructure could remain at their current locations, but would require in-water work to stabilize the bank and ensure future long-term stability of the slope. This included: Slope Stabilization with New Retaining Walls and Slope Stabilization with Channel Re-Alignment. The total cost of all evaluated options was between \$1.14 M to 1.44 M.

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Consultation

The EA process included a public consultation process with input from relevant agencies, affected landowners, First Nations communities and members of the public. A Notice of Study Commencement was mailed out to the relevant agencies and study area property owners/residents on October 12, 2012 and an advertisement was placed in 'The Londoner' on October 4, 2012 and October 11, 2012. Direct correspondence and some meetings were held with the MOE, MNR, UTRCA, DFO and First Nation communities.

In accordance with the EA process a Public Information Centres (PIC) was held on February 13, 2013 and will be held on July 22, 2013. The first PIC presented the preferred alternatives to address the Pottersburg Creek slope stability issue south of the Hamilton Road Bridge for input and comment. Over 10 residents and interested parties attended the first PIC, and/or submitted comments throughout the process. Comments were generally favourable in nature, with concerns being expressed about the adjacent servicing and structures and protection of the Pottersburg Creek.

In accordance with the City of London Official Plan, an Environmental Impact Study (EIS) was prepared and presented to the Environmental and Ecological Planning Advisory Committee (EEPAC) for review/comments on February 21, 2013. Comments were received from EEPAC on March 7, 2013.

Following the PIC and EEPAC review/responses, the preferred design and EA Project File were finalized. A copy of the executive summary for the Project File is contained in Appendix B.

Preferred Alternative

The recommended preferred options are: Slope Stabilization with Channel Re-Alignment; or Slope Stabilization with Buyout of Residential Properties. The Channel Re-Alignment Solution involves stabilizing the existing slope and to permanently shift the Pottersburg Creek westward onto the limits of the City property and re-grade a portion of the east bank that is currently unstable. Shifting the creek a set amount and re-grading the east bank would ensure that a stable 2H:1V slope is achieved, thus ensuring public safety of the existing residential properties.

Financial Impact

Following the shift in the creek, existing servicing infrastructure on the east bank can remain in its current location, thus avoiding costly relocations. The estimated cost associated with this option is approximately \$1.14 M.

The Slope Stabilization with Buyout of Residential Properties Solution involves removal of the existing gabion baskets and re-grading the slope of the east bank to a stable inclination this is facilitated through acquisition and demolition of five residential units adjacent to the slope. The estimated cost associated with this option is approximately \$1.3 M.

CONCLUSION

Summary and Next Steps:

In August 2012, the City commenced the Pottersburg Creek Slope Stability South of Hamilton Road Bridge Municipal Class EA Study, Schedule 'B' to identify and evaluate alternatives to address slope stability concerns downstream of the Hamilton Road Bridge and recommend servicing solutions that address slope stability and stabilizes the bank.

Staff recommended that the Municipal Class EA Study Report for the Pottersburg Creek Slope Stability South of Hamilton Road Bridge be accepted which identifies two recommended alternatives to secure the functions of the existing municipal infrastructures and stabilize this portion of the compromised slope stability bank: slope stabilization with Pottersburg Creek Channel Re-Alignment or Buyout of Residential Properties.

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Pending Council approval, a Notice of Completion will be filed, and the EA Project File be placed on public record for a 30 day review period:

- Stakeholders are encouraged to provide input and comments regarding the study during this time period.
- Should stakeholders feel that issues have not been adequately addressed, they may provide written notification within the 30-day review period to the Minister of the Environment requesting further consideration.
- Subject to no requests for a Part II Order being received, the project will be in a position to move forward to the detailed design and construction stages in accordance with the recommendations of the study subject to this work being funded by the private owner.

SUBMITTED BY:	RECOMMENDED BY:
BERTA KRICKER, M.ENG., F.E.C., P.ENG. MANAGER OF STORMWATER STORMWATER MANAGEMENT UNIT	EDWARD SOLDO, P.ENG. DIRECTOR, ROADS AND TRANSPORTATION
REVIEWED & CONCURRED BY:	
JOHN BRAAM, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL AND ENGINEERING SERVICES & CITY ENGINEER	

July 11, 2013

Attach: Appendix "A" – Location Map
Appendix "B" – Project File Executive Summary

c.c. John Braam, Managing Director Environmental Services & City Engineer
Geoff Belch, Corporation Counsel