

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON JUNE 7, 2017</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>MUD CREEK SUBWATERSHED SCHEDULE B MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT: NOTICE OF COMPLETION</b>

### RECOMMENDATION

That, on the recommendation of the Managing Director Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the Mud Creek Subwatershed Municipal Class Environmental Assessment:

- (a) The preferred servicing Alternative 4.2 **BE ACCEPTED** in accordance with the Schedule B Municipal Class Environmental Assessment process requirements;
- (b) A Notice of Completion **BE FILED** with the Municipal Clerk; and,
- (c) The Municipal Class Environmental Assessment Schedule B project file for the Mud Creek Subwatershed **BE PLACED** on public record for a 30-day review period.

### PREVIOUS REPORTS PERTINENT TO THIS MATTER

Civic Works Committee, October 4, 2016 – Mud Creek Municipal Class Environmental Assessment: Status Update and Scope Change

Civic Works Committee, December 16, 2014 – Mud Creek Environmental Assessment: Owner Reimbursement

Civic Works Committee, August 25, 2014 - Mud Creek Environmental Assessment

Civic Works Committee, May 26, 2014 – Mud Creek Subwatershed Study Update for Water Resources components under Climate Change Conditions

### BACKGROUND

#### **Purpose**

To identify the preferred servicing alternative, recommend filing the Notice of Completion for the Mud Creek Subwatershed Schedule B Municipal Class Environmental Assessment and to initiate the 30-day public review period.

#### **Context**

In August 2014, the City of London appointed CH2MHill Canada Limited (CH2M) to carry out the Mud Creek Subwatershed Schedule “B” Municipal Class Environmental Assessment. The study area focused on providing solutions for the east branch of Mud Creek, east of Wonderland Road North. (See Study Area in Appendix ‘A’.) The objectives of the Mud Creek EA were to examine and make recommendations with respect to the following:

- Mud Creek Subwatershed objectives, SWM criteria and environmental targets;
- Morphology of Mud Creek as a result of sedimentation/instability issues in the middle reaches and erosion of banks in the lower reaches;
- Canadian National Railway (CNR) culvert performance;

- Management of stormwater flows north of the Canadian Pacific Railway (CP) line;
- Implementation of Private Permanent Systems (PPS) in coordination with proposed Regional SWM servicing works;
- Frequent flooding along Oxford Street and Proudfoot Lane;
- Flooding potential in the vicinity of Wonderland Road/Riverside Drive/Hutton Place;
- Sediment issues in culverts and connecting storm sewers; and,
- Facilitation of development within approximately 54 hectares of land.

The study prepared a long list of servicing alternatives of which four (4) stormwater servicing alternatives were shortlisted and evaluated based on technical, environmental, social/cultural/planning and economic criteria.

### **Public/Stakeholder Consultation**

As part of the study, two public meetings were conducted. Notifications for this meeting were published in the weeks preceding the Public Information Centre and a letter was sent to the surrounding landowners. The meetings were held on November 20<sup>th</sup>, 2014 at St. James Westminster Church at 115 Askin Street, and April 23, 2015 at St. Aidan's Church, situated at 1246 Oxford Street West. These meetings were attended by the public and affected property owners. Notifications of the project were also sent to Federal, Provincial, County, and Municipal stakeholders and consultation with local First Nation's was also undertaken.

In addition, the City and CH2M conducted site walks of Mud Creek with affected homeowners on August 18, 2015 and August 26, 2015 to discuss the potential improvements to Mud Creek downstream of the CN Rail culvert. The site walk discussion and the description of potential improvements were well received by the eight residents who attended. The consultant and the City described the overall EA project, the potential improvements to Mud Creek as well as the proposed mitigation measures to protect the environment and wildlife.

### **Development Interests**

Throughout the EA process, the City and Upper Thames River Conservation Authority (UTRCA) held a number of meetings with the landowners that have development interests in the area, namely landowners of 415 Oxford Street West (Edmar Lands Ltd.), 450 Oxford Street West (Bluestone Properties), 92 Proudfoot Lane (ESAM Construction), and 323 Oxford Street West (39T-99502 – Sam Katz Developments – 'ESAM Lands'). The ESAM lands represent the largest parcel with original draft plan approval granted on September 26, 1990 and a revised draft plan approval granted on July 31, 2000 with no expiry date.

The developers in this subwatershed have three shared primary concerns: (1) establishing the limits of development related to the Regulatory Floodplain; (2) impacts to lands due to Natural Heritage System; and, (3) next steps to advance planning applications in the subwatershed. Satisfying these three interests have proven to be a complex undertaking for which the City has attempted to provide clarity after over 10 years of multiple studies.

### **Draft EA Report Circulation**

Critical stakeholders, including the Environmental and Ecological Planning and Advisory Committee (EEPAC), UTRCA, and the developers with land interests were circulated the draft EA report outlining the proposed servicing alternatives in the summer of 2016. The City received a substantial number of comments from each stakeholder on the draft EA report.

On October 4, 2016, staff provided a status update and presentation of the Mud Creek EA to the Civic Works Committee (CWC). That report clarified three parallel processes that were underway within the study area, including the Mud Creek EA, development approvals process, and floodplain regulation. In essence, the Mud Creek EA is limited to recommending engineering municipal infrastructure improvements. However, the proposed infrastructure has a direct influence on the extent of the Regulatory

Floodplain, thereby influencing the land use, natural heritage system, and associated development limits for the properties upstream of the CN Rail Culvert.

Based on comments received by the development community, the October, 2016 CWC report also recommended the award of additional funding for CH2M to consider stakeholder comments and conduct additional hydrologic and hydraulic analysis to further address comments related to the preferred concept and related floodplain extent.

### **Updated Draft Report for Mud Creek EA**

CH2M has updated the draft EA report to address comments received by the UTRCA, EEPAC, and the developer stakeholders and reviewed the size of the recommended culverts at Proudfoot Lane and Oxford Street. As a result of the hydraulic assessment, the proposed Oxford Street West and Proudfoot Lane culverts are recommended to be upsized to further reduce the flooding limits on Oxford Street and adjacent lands.

In parallel, the developer's consultant for the ESAM Lands completed a preliminary concept of a proposed natural corridor channel to extend northerly through the approved Draft Plan, between Oxford Street West and the CP Rail tracks. The conceptual design includes a 60-metre wide natural stream corridor with a 5m buffer on the west limit and a multiuse pedestrian pathway. The 60-m wide corridor will be designed to convey up to the 250-year flood event as well as provide a high-quality terrestrial, aquatic, and wetland habitat corridor.

### **Preferred Recommended Servicing Alternative**

Based on the updated analysis, the Preferred Servicing Alternative 4.2 includes the following municipal infrastructure works and recognizes the future developer-led private infrastructure works (See Appendix 'A' – Executive Summary).

#### *Municipal Works:*

- Construct a new enlarged Oxford Street culvert (12m x 3m, open-bottom box culvert), relocated east by approximately 200m;
- Realign approximately 350m of Mud Creek from the new culvert at Oxford Street to Proudfoot Lane;
- Enlarge and replace the Proudfoot Lane culvert (12m x 3m, open-bottom box culvert);
- Lower the CN Rail culvert by approximately 2.7 metres and increase the diameter from 1750mm to up to 3000mm, triggering the removal of up to 4 hectares of Significant Woodlands to accommodate the required new floodplain; and,
- As compensation for loss of Significant Woodlands, create approximately 1.1 km of enhanced natural stream corridor (350m between Oxford Street and Proudfoot Lane, 475m between Oxford Street to the CNR tracks and 280m between the CNR tracks and Wonderland Road), including the following features:
  - A 3:1 tree replacement ratio with native species;
  - A buckthorn removal and eradication strategy south of Oxford Street;
  - A multi-use pathway to facilitate existing sewer maintenance;
  - Habitat re-creation for Species at Risk (SAR) and other wildlife; and,
  - Pools and riffles within the stream corridor to enhance the aquatic habitat.

The preliminary cost estimate for the proposed Municipal Infrastructure is approximately \$12.5M, including 15% engineering and 20% contingency (excluding HST). The Mud Creek East Branch project is identified as a Growth Management Implementation Strategy (GMIS) (ES2681) project with a capital budget of approximately \$10M. The additional budget requirements will be considered through the 2019 Development Charges Update process.

#### *Developer-led Works (by others):*

- Construct a 60-metre wide, approximately 1km long, natural corridor channel from north of Oxford Street to the CP railway (Lands owned by Edmar Land Ltd and ESAM Lands), including the following compensation measures:

- Wetland and terrestrial habitat re-creation for Species at Risk (SAR), and other wildlife;
  - Pools and riffles within the stream corridor to enhance the aquatic habitat;
  - A multi-use pathway and 5m buffer along the west side of the corridor; and,
  - Realignment of the sanitary trunk sewers to the road network to mitigate impacts from future sewer maintenance/replacement.
- Up to three stream crossings of the proposed Beaverbrook Avenue extension
  - On-site stormwater management controls (private permanent systems) for the remaining 54 hectare service area.

The Developer-led works identified in the EA are recommended at the cost of the developer and will be included as conditions for upcoming development applications as applicable. Development Charges (DC) funding for channel oversizing could be reviewed for consideration during the 2019 DC update.

## DISCUSSION

### **Environmental Impact Study**

The preferred Mud Creek EA alternative recommends the construction of municipal infrastructure to maximize flow conveyance and flood reduction without increasing the flood risk to properties downstream. As a result of the anticipated amount of tree removals, the City conducted an Environmental Impact Study (EIS) in tandem with the EA process to ensure that the preferred recommended solution would also result in a net positive benefit to the Natural Heritage System.

In order to comply with Official Plan Policy 15.3.3, the EIS included a proposed mitigation/compensation strategy. The strategy aims to achieve a net environmental benefit by greatly improving the aquatic habitat in the short-term and creating an enhanced terrestrial habitat in the medium to long term.

### **Compensation for Municipal Works**

The Municipal Works require lowering the CN Rail culvert by over two meters, which triggers significant grading adjustments along the Mud Creek channel from south of Oxford Street to Wonderland Road. These adjustments to the grading also result in the temporary removal of up to 4 hectares of Significant Woodlands.

The compensation strategy for this work includes a 3:1 tree replacement ratio with native species, buckthorn removal and eradication strategy south of Oxford Street, a multi-use pathway to facilitate existing sewer maintenance, habitat re-creation for Species at Risk (SAR) and other wildlife, and creation of approximately 1.1 km of a natural channel corridor with pools and riffles to enhance the aquatic habitat.

### **Developer-led Works**

The original 1990 approved draft plan for a subdivision on the ESAM Lands included residential land development of approximately 9.4 hectares and approximately 4.1 hectares of retained Significant Woodlands within the Natural Heritage System. The revised conceptual corridor strategy includes approximately 9.5 hectares for development but retains and enhances the Natural Heritage System to up to 12.7 hectares.

Much of the impacted lands are designated as Significant Woodlands and contain wetland habitat. A large portion of the features are dominated by non-native and invasive species. The loss of habitat will be compensated with an enhanced vegetated valley corridor system that will contain both terrestrial and aquatic features.

For the Developer-led Works, the compensation strategy includes creation of a 60-m wide, approximately 1,000m long, natural channel corridor with 5m wide buffer on the west side and 6m wide boulevard on the east side, as well as a multi-purpose

pedestrian trail. The natural channel enhancements will not be eligible for DC funding as they are compensation for habitat loss.

## Resulting Corridor

The proposed corridor would provide approximately 1.8 km of continuous terrestrial, wildlife, and aquatic linkage as well as an amenity space for local residents between the CP and CN Rail tracks. There is also an opportunity to connect the neighbourhood north of the CP Rail tracks to the pedestrian trail through the development approvals process.

The detailed design and implementation of the proposed natural corridor (both municipal and developer-led) will receive input and review by UTRCA, EEPAC and internal City divisions. The Mud Creek system should ultimately become an example of best-in-class stream restoration, which provides flood control, habitat for aquatic/terrestrial wildlife, and an amenity feature for the public.

## Timing of Next Steps

### *Finalize the Mud Creek EA*

Upon acceptance by Council:

- 1) A "Notice of Completion" be published identifying that the study report is available for public review for the mandatory 30 calendar days at City Hall - Clerks Office (3<sup>rd</sup> floor), Cherryhill Public Library (301 Oxford Street, London, ON) and online <http://www.london.ca/residents/Environment/EAs/Pages/Mud-Creek-Subwatershed.aspx>.
- 2) Stakeholders are encouraged to provide input and comments regarding this study during this time period. Should stakeholders feel that issues have not been adequately addressed, they can provide written notification within the 30-day review period to the Minister of the Environment and Climate Change requesting further consideration. This process is termed a "Part II Order" (formerly known as a Bump-Up Request).
- 3) Subject to no requests for a Part II Order being received, staff will report to Civic Works Committee to recommend a consultant for detailed design (target summer 2017).

### *Construction of Preferred Alternative*

The preferred servicing alternative will be undertaken in the following sequence:

- **Phase 1** – CNR culvert replacement and natural corridor remediation, from CNR culvert to Hutton Place/Wonderland Road
- **Phase 2** – Lowering and natural corridor remediation from CNR northerly to Proudfoot Lane, including replacement of the Proudfoot Lane culvert
- **Phase 3** – New channel construction between Proudfoot Lane and Oxford Street, including replacement of the Oxford Street culvert
- **Phase 4** - Developer-led Works north of Oxford Street

Due to the complexity of coordinating the replacement of the CN Rail culvert crossing, construction of Phase 1 is anticipated to start by mid-2019, subject to detailed design commencing in summer 2017 and receipt of all necessary approvals. There is currently adequate budget to proceed with at least the first two phases of work. Phase 4 works are entirely at the cost of the developer.

## Updates to the Regulatory Floodplain

The implementation of the recommended works under Alternative 4.2 will be subject to written approval and UTRCA permits for the proposed servicing works in accordance with Section 28 of the Conservation Authorities Act. Correspondingly, the Regulatory Floodplain limits can only be revised following construction of the proposed works. A new floodplain would involve changes to the London Plan Map 6 – Hazards and Natural

Resources. The timing of this Official Plan Amendment could occur after the construction of the EA works.

**Processing Development Applications**

It is recommended that landowners progress development applications in parallel with the timing of the design and construction of the preferred recommended works. At the risk of the developer, the basis of the applications could be based on the floodplain limits of the future Regulatory Floodplain, subject to any necessary adjustments which may be required to the Regulatory Floodplain following construction of the works. The lands could develop once the floodplain has been formally adjusted by the UTRCA and updated within the Official Plan.

<b>CONCLUSIONS</b>
--------------------

After many years of study, the Mud Creek system should ultimately become an example of best-in-class stream restoration, which provides flood control, habitat for aquatic/terrestrial wildlife, and an amenity feature for the public. As such, staff recommend that the preferred servicing Alternative 4.2 of the Mud Creek Subwatershed Schedule B Municipal Class EA study be accepted and posted for the 30-day public review period.

**Acknowledgements**

This document has been prepared within the Stormwater Engineering Division, in consultation with the Environment and Parks Planning Division, and the Development Services Division.

<b>SUBMITTED BY:</b>	<b>REVIEWED AND CONCURRED BY:</b>
<b>SHAWNA CHAMBERS, P.ENG. DIVISION MANAGER, STORMWATER ENGINEERING</b>	<b>SCOTT MATHERS, MPA, P. ENG. DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P. ENG., FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

May 26, 2017

S:\Capital Budget\Mud Creek Erosion Remediation (ES2681)\Committee Reports\2017-06-07 Mud Creek Notice of Completion\2017-06-07 Mud Creek EA Notice of Completion.docx

Attach: Appendix "A" – Executive Summary

- c.c. Tom Mahood, CH2M
- Mark Snowsell, UTRCA
- John Fleming, City Planner
- Andrew Macpherson, Environment and Parks Planning
- Jennie Ramsay, Terry Grawey – Development Services
- Matt Feldberg, Development Finance