CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF DECEMBER 13, 2016

Item 3, Report No. 43, of the Committee of the Whole, which was adopted without amendment by the Council of the City of Vaughan on December 13, 2016.

3 GALLANOUGH PARK STORMWATER MANAGEMENT FACILITY MUNCIPAL CLASS ENVIRONMENTAL ASSESSMENT ADDENDUM WARD 5

The Committee of the Whole recommends:

1) That the recommendation contained in the following report of the City Manager and the Director of Infrastructure Delivery, dated December 6, 2016, be approved; and

2) That the deputation by Ms. Randi Fellus, Spring Gate Boulevard, Thornhill, be received.

Recommendation

The City Manager and the Director of Infrastructure Delivery, in consultation with the Director of Environmental Services and the Director of Parks Development recommend:

1. That a Municipal Class Environmental Assessment (EA) Addendum – Revisions to Schedule B Projects, be undertaken for the stormwater management facility within Gallanough Park.

Contribution to Sustainability

An integral part of a sustainable city is effective asset management. Through infrastructure investments, the risk of failure is reduced and system reliability improved, providing optimal service to residents. A revision to the EA will provide an opportunity to explore options to reduce the magnitude and type of a Stormwater Management Facility within Gallanough Park as a result of the improvements completed to date, while ensuring that an acceptable level of service is maintained for the health and well-being of its citizens.

Economic Impact

Funding for the current stormwater improvement project in Gallanough Park is available in Capital Project EN-1879-12 and is funded from the Gas Tax Fund. Following approval to amend the Municipal Class EA for the stormwater management facility within Gallanough Park, staff will prepare a Request for Proposal (RFP) to engage an engineering consultant to carry out detailed hydraulic reassessment to further inform an EA Addendum for the stormwater management facility within Gallanough Park.

Communications Plan

A Revised Notice of Completion will be given to all potentially affected members of the public and review agencies. As per the Municipal Class EA process, a period of 30 calendar days will be provided for review and response by the public.

Following the 30 day review period, if no request is received by the Ministry of Environment and Climate Change, the EA Addendum will be filed.

Purpose

The purpose of this report is to seek Council approval to undertake revisions to the original EA Study filed in November 2010 for the stormwater management facility within Gallanough Park.

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Background – Analysis and Options

Storm drainage improvement studies provided a recommended plan of drainage improvements within the Thornhill community.

In 2007, the City identified the need to reconstruct selected roads in the Thornhill community (See Attachment No. 1). Prior to initiating the detailed design, a study was undertaken to assess the effectiveness and/or performance of the existing storm drainage system in the area. The Thornhill Storm Drainage Improvements Study (2008 Genivar Ltd. Study) summarizes the investigations and assessment of the existing drainage system deficiencies that pose a flooding risk in the area.

Following the study, an engineering design was completed for the reconstruction of the local roads identified in the Thornhill community. Drainage system improvements were incorporated into the scope of the work to address the recurrent flooding problems in the area. The Thornhill Area Road Reconstruction/Stormwater Management Report completed by W.G. Clarke (2009 W.G. Clarke Report), provided the hydrologic and hydraulic stormwater model analyses of the drainage systems that supported the design for the drainage improvements incorporated into the road works. The drainage design work builds on the original plan of recommendations of the Thornhill Storm Drainage Improvements Study completed by Genivar Ltd.

The recommended drainage improvements included:

- Replacement of undersized ditch inlets and catchbasins and deficient culverts;
- Improvement of road side ditch conveyance capacity;
- Construction of a new stormwater management facility in Gallanough Park; and
- Construction of new diversion/relief storm sewers along sections of Thornridge Drive, Brooke Street and Arnold Avenue.

Investments to improve stormwater conveyance in the Thornhill community were undertaken and completed in 2010

In 2010 the City completed road reconstruction and watermain replacement for Thornridge Drive, Charles Street, Raymond Drive, Clarkhaven Street, Calvin Chambers Road, Brooke Street, Elizabeth Street and Old Jane Street. The drainage improvements on these streets included replacing undersized ditch inlets/catchbasins, deficient driveway culverts and improving road side ditch conveyance capacity.

As prescribed in the earlier storm drainage studies, a Municipal Class EA for the design and construction of a stormwater management facility in Gallanough Park was initiated

A Municipal Class EA process for a stormwater management facility in Gallanough Park was initiated based on the recommendations from both the 2008 Genivar Ltd. Study and 2009 W.G. Clarke Report. The objective of the EA process was to develop a plan for short term stormwater storage to assist in alleviating the risk of flooding that exists in the Thornhill area, north of Gallanough Park during high intensity rain events. The Municipal Class EA Project File (by Clarifica Water Resources a division of Cole Engineering Group (CEG), was completed November 2010.

Based on the recommended sequencing of drainage and storm water improvements, once the dry pond was constructed, the design and construction of the various diversion/relief storm sewers on Brooke Street and Arnold Avenue would be initiated.

The Municipal Class EA for the stormwater management facility recommended a dry pond within Gallanough Park

In September 2013, the engineering consulting firm, CEG, was retained by a Request for Proposal to complete the detailed design for a dry pond within Gallanough Park. As part of the design process, a Public Open House was held June 2014 to present the proposed project for the park and storm water management improvements. The detailed design is approximately 90% complete.

Additional stormwater drainage improvements were included as part of the condominium development application for 7584-7616 Yonge Street and 14 Arnold Avenue

A condominium development application for 7584-7616 Yonge Street and 14 Arnold Avenue was initiated in 2007, simultaneously to the work the City had initiated in the Thornhill community. As part of the development application, additional stormwater infrastructure was included to improve stormwater conveyance in this localized area. The impact and benefits of this additional infrastructure was not part of the original stormwater modelling analysis, since the 2008 Genivar Ltd. Study and 2009 W.G. Clarke Report for the Thornhill community predated the development application.

Following the various stormwater drainage and conveyance improvements carried out in this community, a reassessment of the original stormwater model was initiated.

Prior to finalizing the detailed design of the dry pond in Gallanough Park, it was determined that a review of the original hydrologic/hydraulic stormwater modelling would be prudent to validate the current course of action and take into account the actual benefits of the completed drainage improvements in the Thornhill community.

In December 2015, the City retained the engineering services of Amec Foster Wheeler (AMECFW) to complete a preliminary reassessment of the stormwater modelling, for the purpose of confirming and/or refining the design of the Thornhill area flood mitigation plan. The modelling review was completed in June 2016 and identified an overall improvement to the stormwater drainage and conveyance in the Thornhill community.

The updated modeling identified improvements in the Thornhill community's stormwater drainage and conveyance system as a result of the investments made to date, and a stormwater management facility may not require the originally estimated capacity.

The reassessment and update of the stormwater model has shown that the improvements carried out have enhanced the stormwater drainage capacity and conveyance system in the Thornhill community exceeding the benefits originally identified in the initial studies (as shown in Attachment 2), and the impacted area of flooding has been reduced (as shown in Attachment 3). As a result, the investments made to date have reduced the flooding potential beyond what was originally anticipated. The findings in the reassessment support the need for further investigation in order to carry out a Municipal Class EA Addendum for the stormwater management facility within Gallanough Park.

The modelling review recommendations from AMECFW's recent report include:

- verification of the presence of direct or indirect foundation drain connections
- a detailed topographic survey
- additional sensitivity analysis of the stormwater model

The updated stormwater model illustrates a lower risk potential for surcharging in the Brooke Street storm sewer. Based on the original modelling and analysis, a stormwater storage volume of 10,000 m^3 was required. It appears from the reassessment, that less storage volume is required, however further investigation and analysis is still necessary to reaffirm the findings.

An EA Addendum must be initiated to revisit the recommended alternative in the Municipal Class EA for the stormwater management facility within Gallanough Park

To ensure that the most appropriate investment is made, an analysis of the alternatives identified within the original Municipal Class EA should be undertaken that incorporates the reassessed stormwater model and the recommended additional investigation and analysis. In view of all of the above, staff recommend revisiting the original Municipal Class EA for the stormwater management facility within Gallanough Park.
In accordance with the Municipal Class EA process, in order to re-evaluate the previous alternatives, an EA Addendum must be initiated. Should a change in the recommended alternative result from the re-evaluation, a Revised Notice of Completion will be required.

Relationship to Term of Council Service Excellence Strategy Map (2014-2018)

In consideration of the priorities set within the Term of Council Service Excellence Strategy Map, the recommendations in this report support the priority: Improve municipal road network; invest, renew and manage infrastructure and assets and continue to ensure the safety and well-being of citizens.

Regional Implications

Not Applicable

Conclusion

In consideration of the findings from the reassessed stormwater modelling for the Thornhill community, staff recommends that further investigation and analysis be completed on the stormwater model and an EA Addendum for the stormwater management facility within Gallanough Park be undertaken in accordance with the Municipal Class Environmental process.

Attachments

1. 2010 Thornhill Area Stormwater Improvements
2. Impacted Flooding Area Based on Original Modelling
3. Impacted Flooding Area Based on Updated Modelling

Report prepared by:

Paolo Masaro, Manager of Design & Construction, Ext. 8446

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

COMMITTEE OF THE WHOLE **DECEMBER 6, 2016**

GALLANOUGH PARK STORMWATER MANAGEMENT FACILITY MUNCIPAL CLASS ENVIRONMENTAL ASSESSMENT ADDENDUM WARD 5

Recommendation

The City Manager and the Director of Infrastructure Delivery, in consultation with the Director of Environmental Services and the Director of Parks Development recommend:

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Conclusion

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Report prepared by:

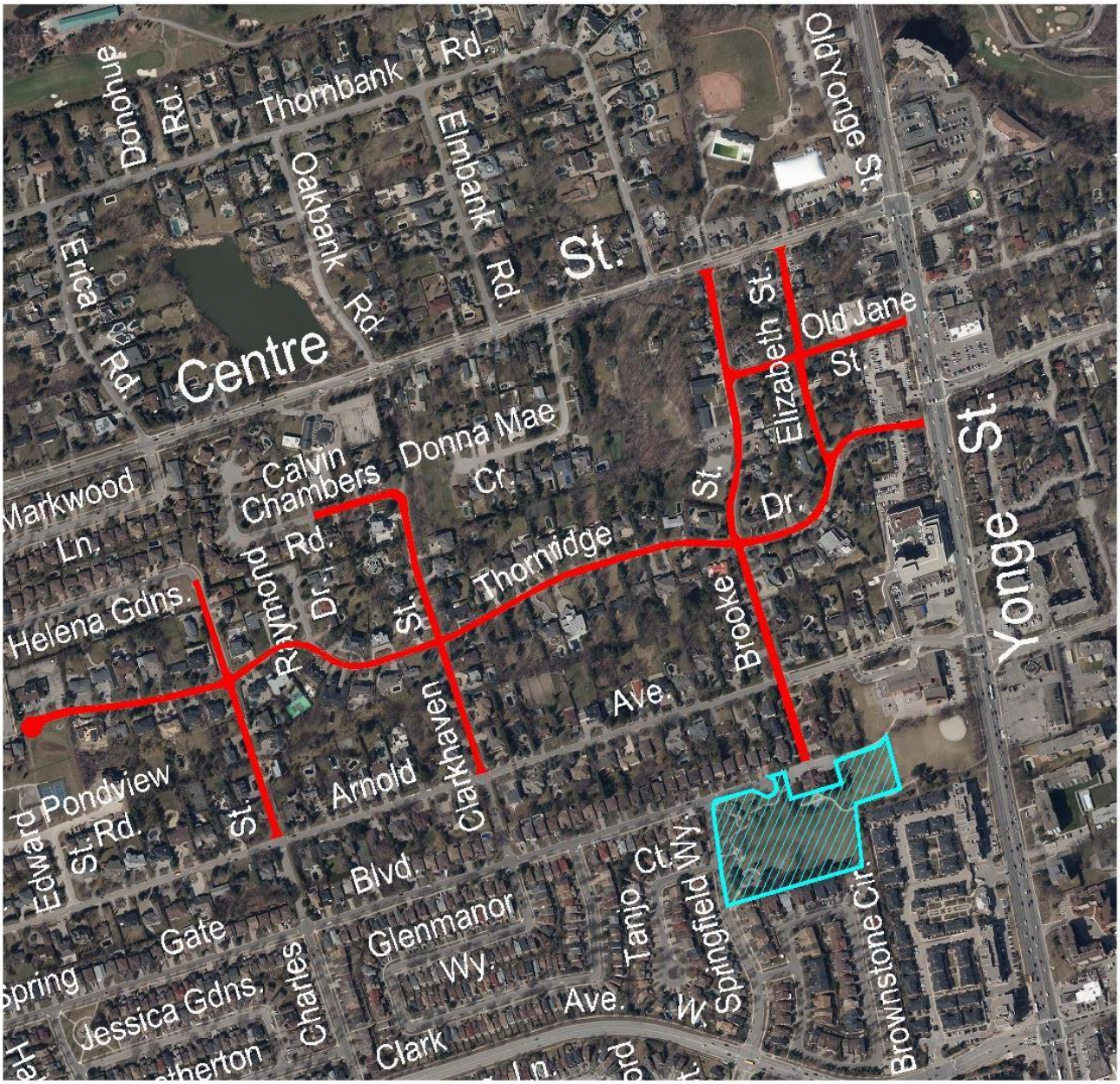
Paolo Masaro, Manager of Design & Construction, Ext. 8446

Respectfully submitted,

Daniel Kostopoulos
City Manager

Jack Graziosi
Director of Infrastructure Delivery

Attachment No. 1
2010 Thornhill Area Stormwater Improvements



LEGEND

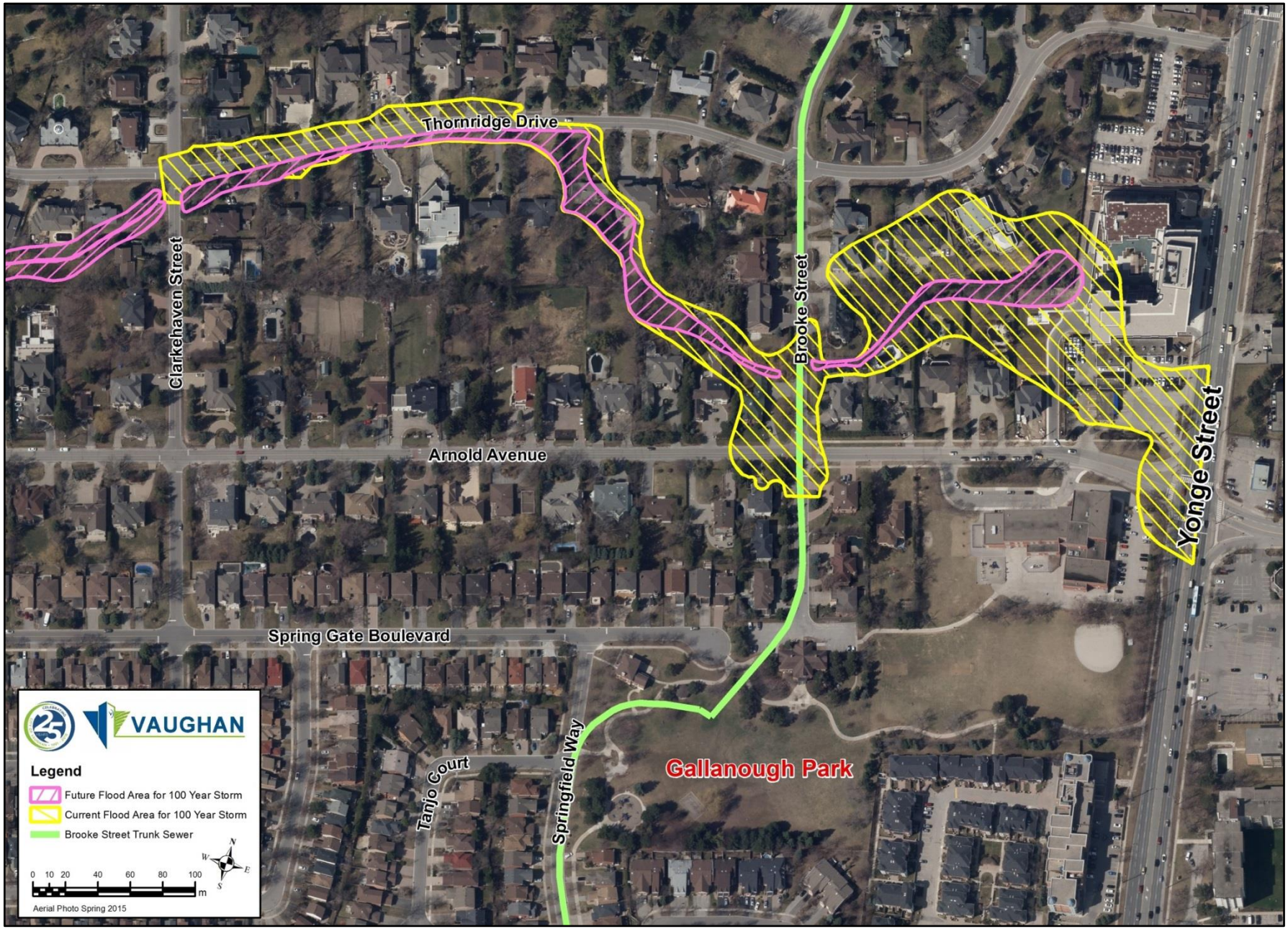
LOCATION OF COMPLETED WORKS

GALLANOUGH PARK

N

NOT TO SCALE

Attachment No. 2
Impacted Flooding Area Based on Original Modelling



Attachment No. 3
Impacted Flooding Area Based on Updated Modelling