Report to: Development Services Committee Meeting Date: May 25, 2020

SUBJECT: Feasibility Study and Detailed Design of Flood Reduction Work for Lands Located in the Little Rouge Creek Subwatershed West of McCowan Road (Ward 6)

PREPARED BY: Abdullah Hossain, P.Eng., Senior Environmental Engineer, Ext. 2628

REVIEWED BY: Soran Sito, P.Eng., Manager, Environmental Engineering, Ext. 2521

RECOMMENDATION:

1) That the report entitled Feasibility Study and Detailed Design of Floodplain Reduction Works for Lands Located in the Little Rouge Creek Subwatershed West of McCowan Road (Ward 6) "" be received; and,
2) That staff be directed to work with the owners of the lands municipally known as 11142 McCowan Road, Markham and 11270 McCowan Road, Markham ("Adjacent Land Owners") and cost share the fees for completing the technical studies and detailed design components of the flood reduction work, and,
3) That the Adjacent Land Owners upfront the City's share of the cost for completing the technical studies and the detailed design components of the project in the amount of approximately $87,380, inclusive of HST impact, and that the City reimburse the Adjacent Land Owners through a future Capital Budget, tentatively in 2023, and,
4) That the Mayor and Clerk be authorized to execute a Cost Sharing Agreement with the Adjacent Land Owners for the feasibility study, detailed design cost and other matters relating to the project in a form satisfactory to the Commissioner of Development Services and the City Solicitor; and further,
5) That staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to seek Council authorization to:

a) carry out the technical studies and detailed design of a new, enlarged culvert to replace the existing culvert located on McCowan Road, in order to reduce the amount of flooding within the City and Adjacent properties (the lands municipally known as 11142 McCowan Road, Markham and 11270 McCowan Road, Markham) upstream of the culvert, in collaboration with the Adjacent Land Owners. The detailed design will also include regrading (cut/fill balance) on the City's property; and

b) authorize the Mayor and the Clerk to execute a Cost Sharing Agreement with the Adjacent Land Owners for the feasibility study, detailed design cost and other matters relating to the project to the satisfaction of the Commissioner of Development Services and the City Solicitor.

BACKGROUND:

In late 2013, the City acquired the lands legally described as part of Lot 28, Concession 6, Parcel ID 1067100 (the "Subject Property"), which is located west of McCowan Road, and approximately one (1) km north of the intersection of Elgin Mills Road and McCowan Road (refer to Attachment "A"). The estimated Regional storm event floodline (the "Floodline") within the vicinity of the Subject Property (estimated by the Toronto and Region Conservation Authority ("TRCA")) traverses through the middle section of the Subject Property dissecting it almost into two (2) parts (refer to Attachment "B").

Adjacent properties to the north of the Subject Property are also impacted by the Floodline including the two (2) properties municipally known as 11142 McCowan Road, Markham and 11270 McCowan Road, Markham currently owned by the Adjacent Land Owners. Staff understand that the Adjacent Land Owners are affiliated with Fieldgate Developments as shown in Attachment A.

OPTIONS/ DISCUSSION:

Prior to the City purchasing the Subject Property, the City hired an engineering consultant to complete a preliminary assessment regarding the flood reduction on the Subject Property. The consultant study concluded that a significant portion of the floodplain or flooded area could be removed from the Floodline if the culvert under McCowan Road is replaced with a larger culvert with higher flow capacity, combined with some regrading (cut/fill balance). The assessment was shared with the TRCA staff and they were generally supportive of the flood reduction work. They also advised that further environmental studies are required before the TRCA can issue any permit to implement the flood reduction work.

Subsequently, the Adjacent Land Owners retained SCS Consulting Group Limited ("SCS") to carry out a feasibility study for flood reduction on their properties. The SCS study's conclusion was consistent with the City's engineering consultant. The Adjacent Land Owners approached the City to explore opportunities to working together on the flood reduction work. SCS will complete the additional technical studies to meet the TRCA and other agencies' requirements for both the City and the Adjacent Land Owners. City staff will oversee the work of SCS.

Staff is of the opinion that the benefits to the City from the floodplain reduction work (increase in the developable area and improved land configuration) will be higher than the cost of implementing the flood reduction work. Staff recommends Council authorize staff to work with the Adjacent Land Owners and undertake the technical studies and the detailed design components of this project.

Preliminary Cost Estimates and Cost Sharing

Based on the preliminary cost estimates established in consultation with Adjacent Land Owners and their consultant, Table -1 below provides the cost estimates for the various components/stages of the project, and the percentage cost sharing (see attachment "C" for further details):

Table -1: Preliminary Cost Estimates[1]

Project Component/Stage	Cost Incl HST Impact (1.76%) ($)	Cost Sharing ($)	
		City (17.5%)	Adjacent Land Owner (82.5%)
Technical studies and detailed design	499,317	87,380	411,937
Construction	2,719,485	475,910	2,243,575
Total	3,218,802	563,290	2,655,512

[1] *Costs listed in the table are only preliminary at this stage and only to be used for discussion. The final construction cost estimates will be subject to the completion of the detailed design. Percentage cost sharing is based on preliminary estimate of the overall benefits to the City and the Adjacent Land Owners. The Cost Sharing percentages for the technical studies and detailed design component should not change. The Cost Sharing percentages for the construction component will be subject to the completion of the detailed design*.

The estimated cost of the construction component shown in Table -1 above are only preliminary and have been included to provide Council with an idea about the magnitude of the total construction cost for this project. Upon completion of the detailed design, staff will be able to provide Council with a more realistic and accurate estimate for the construction cost. Staff will report to Council the final cost estimate for the construction component and seek Council authorization for the capital budget (either as a separate report or as an annual budget item) prior to proceeding with the construction work.

Staff recommend that Council authorize staff to proceed with the technical studies and detailed design component of this project with the City's preliminary estimate of $87,380 and to request that the Adjacent Land Owners up front this cost through a cost sharing agreement.

Agreement between the City and Adjacent Land Owner

In order to commence the technical studies and detailed design work for this project jointly with the Adjacent Land Owners, Staff is seeking Council's authorization for the Mayor and Clerk to execute a cost sharing agreement with the Adjacent Land Owners in a form satisfactory to the Commissioner of Development Services and the City Solicitor.

Proposed Schedule

Table -2 below provides the proposed timeline for completing the various tasks and components of the flood reduction project:

Table -2: Proposed Schedule[1,2]

No	Task/Project Component	Proposed Completion Date
1	Confirm with York Region and the TRCA the list of studies required	Completed
2	Finalize and execute the cost sharing agreement with the Adjacent Land Owners	Q4, 2020
3	Adjacent Land Owners' Consultant complete the technical studies	Q1, 2021
4	Adjacent Land Owners' Consultant complete the detailed design, provide cost estimate for construction, and obtain agencies approvals and permits	Q3, 2022
5	Staff present the detailed design and construction cost estimates to senior management and Council for authorization to proceed	Q3/Q4, 2022
6	Include capital project budget for 2023 construction	Q3/Q4, 2022
7	Procurement and Commencement of Construction	Q1/Q2, 2023

[1] *Schedule is subject to Council approval to proceed and provide budget*

[2] *Schedule is subject to COVID-19 situation*

FINANCIAL CONSIDERATIONS:

The estimated cost for completing the technical studies and the detailed design component of this project is $499,317, of which City's share is $87,380 inclusive of HST impact. Staff has confirmed that Fieldgate Developments, whom Staff understand is affiliated with the Adjacent Land Owners, has agreed to upfront the City's share of the cost for the technical studies and the detailed design, subject to the City reimbursing the amount if and when the funds are approved in a future Capital Budget.

The City's cost for the overall project is estimated to be $563,290 (including the City's portion of the estimated construction costs), which will be requested as part of the 2023 capital budget process (based on current schedule). The expected increase in developable area of approximately 3.7 acres would add about $2,590,000 in real estate value (based on current market value as provided by the Real Property Department). Therefore, the

City is expected to realize a net gain of approximately $2,000,000 (rounded) by proceeding with the flood reduction project.

HUMAN RESOURCES CONSIDERATIONS:

Not applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:

The proposed floodplain reduction work is required to efficiently manage the City's assets and maximize the financial return on taxpayer investment. It is also required to provide a safe and sustainable development and at the same time protecting the natural environment. Therefore, the recommendations in this report are aligned with the City's Strategic priorities and goals of "Safe & Sustainable Community" and "Stewardship of Money & Resources"

BUSINESS UNITS CONSULTED AND AFFECTED:

Finance Department, Legal Department and Real Property staff were consulted on this report, and their comments have been incorporated.

RECOMMENDED BY:

Brian Lee, P.Eng.
Director of Engineering

Arvin Prasad, MCIP, RPP
Commissioner, Development Services

ATTACHMENTS:

Attachment 'A'- Location Map
Attachment 'B' - Existing & Future Floodlines
Attachment 'C'- Preliminary Cost Estimates