The Corporation of the Town of Lakeshore

Report to Council

Engineering & Infrastructure Services

Engineering Services

To:	Mayor & Members of Council
From:	Peyman Raji, Project Manager Flood Defence Strategy and Plan
Date:	June 29, 2020
Subject:	Storm Water Master Plan - Phase 1 Study

Recommendation

Administration issue a Notice of Completion and place the Town of Lakeshore Stormwater Master Plan – Phase 1 ("SMP-P1") Class Environmental Assessment draft report on the public record for the 30-day mandatory review period, at its regular Council meeting on July 14, 2020 for information purposes in finalizing the Class EA for the Stormwater Master Plan – Phase 1; and,

Adopt the 5-year storm sewer design standard into the Town's Development Servicing Standards Manual for all new construction and in accordance with ERCA's Windsor-Essex Regional Storm Water Management guidelines.

Background

The westerly portion of Lakeshore and neighbouring north shore communities experienced two extreme rainfall events in September 2016 and August 2017. Both events resulted in thousands of flooded homes and inundated streets within the affected communities, which prompted the Town in the undertaking of the Storm Water Master Plan study.

Comments

The main purpose of the Storm Water Master Plan (SWMP) through the completion of the comprehensive review and analysis of the Town's storm water infrastructure is to identify short term to long term recommendations of infrastructure enhancements along with implementation of the development of policies and standards to mitigate flooding with the following deliverables:

1) Minor System Improvement Recommendations (Sewers & Pump Stations)
2) Major System Improvement Recommendations (Overland Routing, Ponds)
3) Prioritization of Capital Storm System Upgrades (including cost estimates)

4) Storm Water Management Facility Inventory
5) Storm Water Design Recommendations (i.e. 2 yr design vs 5 yr or greater)
6) Development of Maintenance Program for storm drainage infrastructure

Considering the vast size of the Town's geography the SWMP was broken down into two phases. The first phase targeted areas that were impacted by the two significant rainfall storm events which consisted of the area west of Duck Creek to Town westerly limit and from CR42 north to St. Clair Lake.

The Storm Water Master Plan – Phase 1 ("SMP-P1") was completed by Stantec Consulting Ltd. and provides multiple recommendations and alternative solutions with respect to various water catchment areas that were analyzed. There was a previous storm sewer and drainage study that was undertaken by Dillon Consulting in September 2012 for the Town in the area of the community of Belle River. This provided input into the SMP-P1 and was also reviewed in the context of expanding this study area and updating it to ensure its relevance and to remain current. Also recognizing that some of this information contained in this storm drainage study was based on information that is greater than 10 years old also merited it be updated to accommodate future impact of environmental changes and trends according to newest standards.

The SMP-P1 is intended to provide timely and cost effective solutions to manage the current stormwater assets and infrastructure in addition to providing the necessary improvements in accordance with current Windsor/Essex Stormwater Management Standards Manual (WESMSM) (2019). Although the new WESMSM implemented by ERCA officially in 2019 many developments well a year prior were required to use the 5 year storm design with new construction of new subdivision servicing. The SMP-P1 includes the recommendation for the Town to also upgrade its 2 year design standard to the 5 year design standard in the Town's Development Servicing Standard Manual. While this has already been in practice, it is also being formally recommended for adoption by Council as the standard policy.

While the SMP-P1 has been ongoing, EIS has worked with Stantec to identify projects that could be prioritized with the funding allocations made in 2019 that were carried forward along with the additional funding in 2020 amounting to $750,000. The following is a list of projects being undertaken in 2020:

1) Amy Croft SWM Pond Outlet Upgrades (Design & Construction)
2) Countrywalk Subdivision SWM Pond Expansion (Design & Approvals only)
3) River Ridge Subdivision SWM Pond Pump Station Improvements (Pumps)
4) Croft Drive overland flow route Inlet Improvements (Design & Construction)
5) Terra Lou Storm Outlet Upgrades (Design & Construction)
6) Seasons at the Creek Storm Pump Station & Outlet Upgrades (Design & Approvals & Construction)

Also as noted above as one of the deliverables the SMP-P1 was to provide guideline recommendations for annual estimated cost for Operations and Maintenance of Towns Storm infrastructure (Ponds, Pumps and Sewers) that was included as part in the Master Plan Phase 1 study area. The SMP-P1 provides the recommendation that the Town work

towards the establishment of annual $700,000 operational budget for storm systems. A breakdown of the $700,000 is provided below in the Financial Impacts section of the report. Currently the annual base amount for storm operational maintenance is $125,000.

The SMP-P1 document provides the context in which the Municipal Class EA process was carried out and documents the rationale leading to the recommended and preferred solutions with respective cost implications and prioritization. In addition, at various stages of completing the study the SMP-P1 project team consulted with ERCA and provided presentations to the Town's Flood Task Force Committee along the way including two Public Information Consultation PIC) meetings held at the Atlas Tube Centre Lobby with the first PIC on November 27, 2018 and second PIC on October 23, 2019. Further, the final SMP-P1 report was presented to the Flood Task Force Committee at its Thursday June 25th, 2020 meeting and Committee moved to support the filing the notice of completion with the Ministry of Environment, Conservation and Parks (MECP).

Upon approving the SMP-P1 with issuance of filing the notice of completion with the Ministry of Environment, Conservation and Parks (MECP) for public record and the mandatory 30 day review period, the SMP-P1 is finalized allowing for the next steps of obtaining individual MECP approvals for the projects that have commenced this year.

OTHER CONSULTED:
Stantec Consulting
Essex Region Conservation Authority
Town of Lakeshore Flood Task Force Committee

FINANCIAL IMPACTS:

There are no immediate budget impacts arising out of the recommendations contained in this report. The SMP-P1 was completed with the funding amount of $350,000 which has been carried forward from prior years to complete the study. Further the projects listed below to be undertaken as part of the recommendations in the SWMP-P1 and these projects before proceeding to construction will have to obtain approval from Council with awarding respective tenders in accordance with the Town's procurement policy.

Estimated cost including Engineering and Contingency Costs for the completion of the identified projects are as follows:

Project Descriptions	Funding Allocation
Amy Croft SWM Pond & Outlet Upgrades	$240,000
Countrywalk Subdivision SWM Pond Expansion	$ 75,000
River Ridge Pump Station Improvements	$135,000
Croft Drive Overland Flow	$100,000
Terra Lou Storm Outlet Improvements	$100,000
Seasons at the Creek Pump Station and Outlet upgrades	$100,000
Total Project Costs	$750,000

In addition to capital list of projects for upgrades and improvements to storm infrastructure, below is a table identifying industry best management practices of implementation of proactive maintenance activities for three specific storm asset types being SWM ponds, Pump Stations, and Storm Sewers. These factor in the number of each facility type to equate to annual allocation of developing the maintenance programs. This recommendation will increase the current annual operational base amount of $125,000 for storm infrastructure maintenance to $700,000 or representatively a 460% increase. Council approved $450,000 in 2019 as well as an additional $300,000 in 2020 to complete this work.

Estimated Operations and Maintenance Costs for Ponds and Pumps and Sewers:

Storm Asset Type	Quantity	Annualized O&M Cost ($)	Total Estimated Annual O&M Cost ($)
Town-Owned SWM Ponds	21	$13,000	$273,000
Town-Owned Storm Pump Stations	26	$10,000	$260,000
Storm Sewer Inspection and Flushing	Ongoing	$167,000	$167,000
		TOTAL	$700,000

Considering the magnitude of the various SMP-P1 recommendations with respect to future investment toward Capital Projects in the order of $44 Million and Operational Maintenance annually of $700,000, Administration will bring forward recommendations in subsequent budgets for Council consideration to approve on the implementation of the SMP-P1.

With finalizing Phase 1 of the Storm Water Master Plan, the Town will commence with Phase 2 of the study area focused in the additional urban areas of the communities of Stoney Point, Lighthouse Cove, Comber and Woodslee. Council approved in 2019 $275,000 to complete Phase 2 of the study but was delayed until completion of Phase 1. This encumbrance has been carried over into 2020 to fund the Phase 2 study.

Further under a separate report titled “Stormwater User Fee Implementation”, administration outlines the steps and process to undertake a user fee feasibility study to consider the future implementation of a Run-off based Stormwater User Fee that would be used to develop a financial plan to fund all stormwater related expenditures within urban area limits. The information and recommendations from both Phase 1 and 2 of the Storm Water Master Plan would be first required before proceeding to completion of the user fee feasibility study.

Attachment(s): None.

Report Approval Details

Document Title:	Storm Water Master Plan - Phase 1 Study.docx
Attachments:	
Final Approval Date:	Jul 7, 2020

This report and all of its attachments were approved and signed as outlined below:

Rosanna Pellerito

Kristen Newman

Tammie Ryall