



**ENGINEERING DEPARTMENT
MEMORANDUM**

TO: MAYOR J. LEHMAN AND MEMBERS OF COUNCIL

FROM: R. SUTTON, P. ENG., DIRECTOR OF ENGINEERING

NOTED: R. FORWARD, MBA, M.SC., P. ENG., GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT

M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

RE: SOPHIA CREEK WATERSHED AND MULCASTER DRAINAGE AREA MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT, PHASES 1 AND 2 PREFERRED RECOMMENDED ALTERNATIVE (D03-SO2)

DATE: OCTOBER 23, 2017

The purpose of this Memorandum is to update members of Council that the Engineering Department is completing Phase 1 and 2 of the Municipal Class Environmental Assessment (Class EA) Study for Sophia Creek Watershed and Mulcaster Drainage Area to determine the best solutions to the drainage problems within the Sophia Creek watershed and the Mulcaster drainage area.

The public consultation process of the Class EA requires that the public, who requested to be kept informed of the Class EA process, be advised of the recommendations prior to consideration by General Committee and the filing of the project Notice of Completion. To advise the concerned public of the staff recommendations that will be contained in the Staff Report, the attached letter will be distributed. To ensure that Council has the information at the same time as the public, this memo has been provided with a copy of the letter.

The Final Draft Phase 1 and 2 Class EA Report, which contains details of the preferred alternative, will be available in the Councillors' Lounge for review on October 20, 2017. A PDF version of the Final Draft Class EA report is available on the City of Barrie web page at www.barrie.ca/eastudies then scrolling down to the Sophia Creek Watershed and Mulcaster Drainage Area section.

If there are any questions, please contact Lorrان Cooney at extension 4514, or e-mail lorran.cooney@barrie.ca.

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THE CORPORATION OF THE CITY OF BARRIE
Engineering Department
"Committed to Total Service Excellence"

October 20, 2017

File: D03-SO2

«Email»

«First» «Last»
«Company»
«Address_1»
«CityProv» «Postal»

Dear «First» «Last»:

**RE: Sophia Creek Watershed & Mulcaster Drainage Area
Municipal Class Environmental Assessment Phase 1 & 2 Preferred Alternative**

The Corporation of the City of Barrie has undertaken a Schedule 'B' Municipal Class Environmental Assessment (Class EA) on Sophia Creek and the Mulcaster Drainage Area to determine the best solutions to the drainage problems.

The Problem Statement, which sets the framework for this Class EA, is as follows:

"Currently, portions of the Sophia Creek watershed experience flooding during both minor and major storm events. The flooding has caused damage to both private and municipal property and causes concern for public safety. In addition to flooding, the existing storm infrastructure is reaching its service life expectancy and is structurally deteriorating. A majority of the storm system is hydraulically undersized considering historic rainfall data and current climate models which predict increases in rainfall intensities and volumes. Development and future intensification in the watershed will further adversely impact the stormwater quantity, quality and ecological health of the drainage system and Kempenfelt Bay. The culmination of the above noted factors results in a storm system that does not comply with the City's Storm Drainage and Stormwater Management Policies and Guidelines."

The City of Barrie retained C.C Tatham and Associates Ltd. to complete Phases 1 & 2 of the Schedule "B" Municipal Class EA process and have identified a preferred recommended alternative and prepared a Class EA Report.

On October 26, 2016, a Public Information Centre (PIC) was held at City Hall to present various alternative designs, background information, and capture public and agency comments. Please see Appendix "A" for the list of alternatives.

The alternatives have been evaluated based on the physical, natural, social, cultural heritage, and economic environments. Comments and responses received including those from the PIC were considered in the development of a preliminary preferred alternative. The Study Team is recommending a combination of alternatives in order to address the problem issues and mitigate the watershed deficiencies. The following defines the preferred alternative:

Sophia Creek Watershed & Mulcaster Drainage Area Preferred Alternative is summarized as follows:

General Improvements

- a) Local minor drainage system upgrades to current City design criteria.
- b) Owen Street flow diversion.
- c) Construction of new storm sewer (where absent/required).

Flow Reduction

- a) Retrofit and expand existing storm pond facility located at Ottaway Avenue / Currie Street.
- b) Convert existing MacMorrison Park into a new stormwater management detention facility and passive park.
- c) Construct Low Impact Development (LID's) in College Heights, Archie Goodall, Steel Street, HG Robertson and Ferris Parks.
- d) Implement LID's as part of road reconstruction projects where practical.

Culvert Storm Conveyance Capacity Improvements (Road Design Flood Frequency 50 Year)

- a) Howard Crescent
- b) Lay Street
- c) Ottaway Avenue
- d) Rose Street
- e) Laurie Crescent
- f) Bothwell Crescent
- g) Parkdale Crescent
- h) Davidson/ Gunn Street
- i) Grove Street A (approximately 170 m west of Lay Street)
- j) Grove Street B (approximately 65 m east of St. Vincent Street)
- k) Grove Street C (approximately 80 m west of Bothwell Crescent)
- l) St. Vincent Street
- m) Berczy Street
- n) Wellington Street

Channel Storm Conveyance Capacity Improvements (Design Flood Frequency 50 Year)

- a) Howard Crescent to Lay Street
- b) Downstream of Lay Street 50 meters
- c) Upstream/Downstream of Grove Street (B) 50 meters.
- d) Ottaway Ave to Laurie Crescent
- e) Grove Street to Parkdale Crescent

Channel Storm Conveyance Capacity Improvements (Design Flood Frequency 100 Year)

- a) Berczy to Queen Street

Trunk Storm Sewer Conveyance Capacity Improvements (Combined Design Flood Frequency up to 100 year)

- a) Sophia Street Trunk Storm Sewer – Peel Street to Clapperton Street
- b) Owen Street – Sophia Street to Kempenfelt Bay via Memorial Square
- c) Clapperton Street- Sophia Street to Dunlop Street

Please see Appendix "B" for the preferred alternative drawing.

Public comments received were supportive of the various alternatives; specifically with implementation of conveyance improvements to mitigate flooding in the watershed. For a summary of the major concerns raised from the PIC, please see Appendix "C".

A PDF version of this letter, including the appendices, as well as the Final Draft Class EA report is available on the City of Barrie web page at www.barrie.ca/eastudies then scrolling down to the Sophia Creek Watershed & Mulcaster Drainage Area MDP EA Update. A paper copy of the Final Draft Class EA is available for review at the following location during regular business hours:

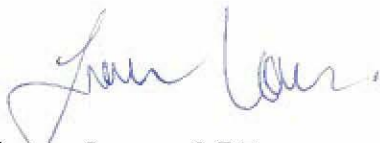
City of Barrie
Engineering Department
City Hall, 6th Floor
70 Collier Street
Barrie, ON L4M 4T5

The above recommendations will be presented to General Committee on October 30, 2017. General Committee's recommendations may be approved by City Council on November 6, 2017. If Council endorses the Preferred Alternative, a Notice of Completion will be filed for this project. Request for deputations to Council can be made up to Wednesday, November 1, 2017, 12:00 p.m. If concerns are raised, which cannot be resolved in discussion with the Corporation of the City of Barrie, the Minister of the Environment and Climate Change may be requested, subsequent to the filing of a Notice of Completion by the City of Barrie, to make an order for the project to comply with Part II of the Environmental Assessment Act (referred to as a Part II Order), which addresses individual Environmental Assessments. A Part II Order must be filed within thirty (30) calendar days of the City of Barrie filing a Notice of Completion and must be done so, in writing, to the Minister of the Environment and Climate Change at the address below:

The Honourable Chris Ballard
Minister of the Environment and Climate Change
77 Wellesley Street West
Ferguson Block, 11th Floor
Toronto, Ontario
M7A 2T5

If you have any questions and/or concerns, please feel free to contact Mr. Lorrان Cooney at (705) 739-4220, extension 4514, or e-mail lorran.cooney@barrie.ca.

Yours truly,



Lorrان Cooney, C.E.T
Senior Infrastructure Planning Technologist

LMC/sm

Appendix A

Sophia Creek Watershed & Mulcaster Drainage Area Alternatives

Alternative 1 - "Do Nothing"

Alternative 2A - Retrofit/New Stormwater Management Facilities (SWMF)

Alternative 2B - Low Impact Development (LID's)

Alternative 3A - Culvert/Channel/Major Drainage System Improvements (1:25 year conveyance capacity)

Alternative 3B - Culvert/Channel/Major Drainage System Improvements (Design Flood Frequency Criteria)

Alternative 4A - Owen Street Trunk Sewer and Major Drainage system Improvements

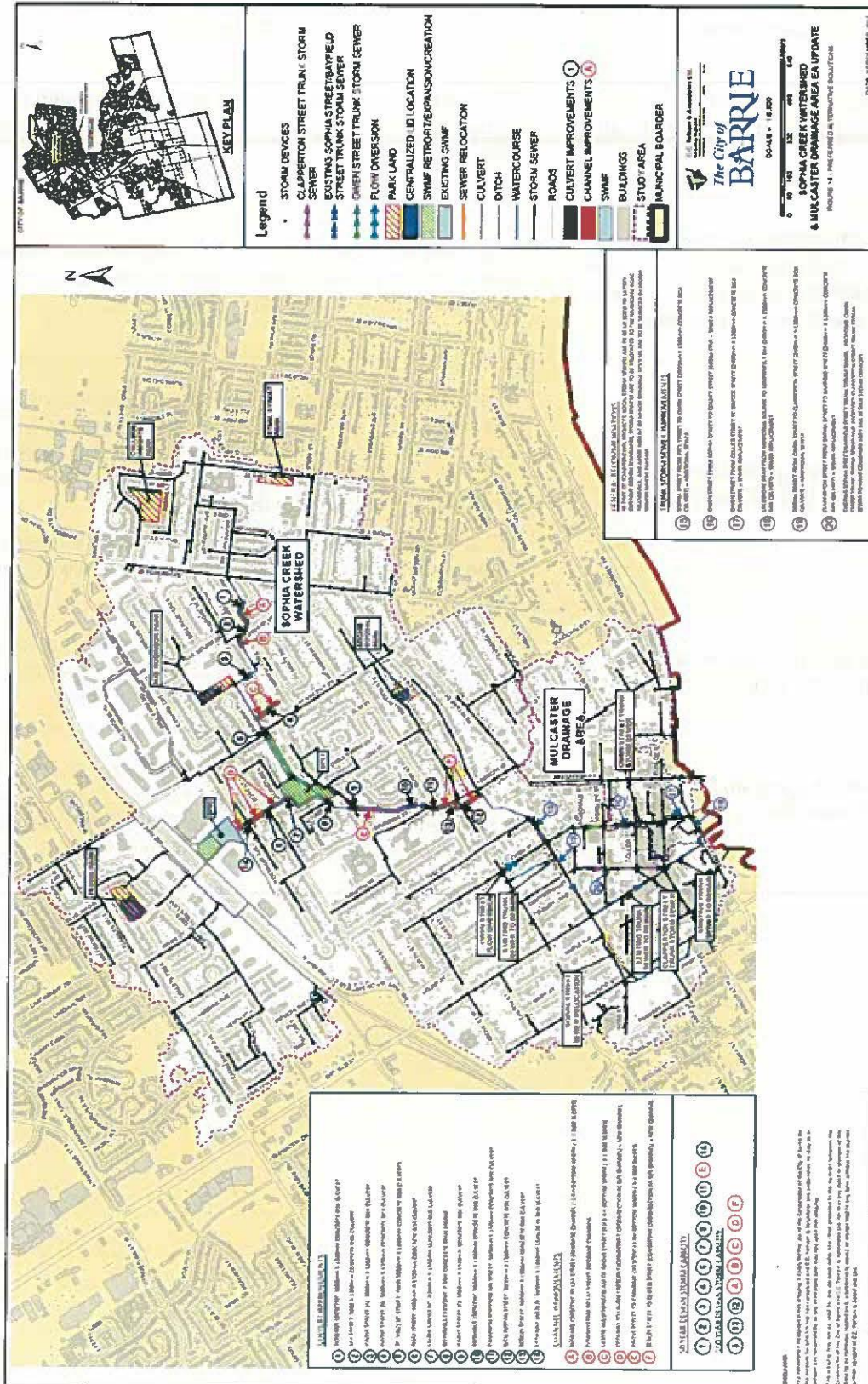
Alternative 4B - Mulcaster Street Trunk Storm Sewer and Major Drainage System Improvements

Alternative 4C - Clapperton Street Trunk Storm Sewer and Major Drainage System Improvements

Alternative 4D - Dunlop Street Trunk Storm Sewer and Major Drainage System Improvements

Appendix B

Preferred Design Alternative Figure



Appendix C

Summary of Major Public and Review Agency Concerns

Comments	Response
Concerns about watershed frequent flooding onto private property and parkland areas.	The preferred alternative once implemented with flow reduction and conveyance improvements will mitigate frequent flooding.
Concerns with debris and maintenance practices of drainage channels. Ditches and culvert structures often are blocked with garbage and building materials.	The preferred alternative recommends of self-cleaning inlet grates and improved maintenance access to allow Operations staff to maintain infrastructure.
Concerns with losing parkland for stormwater and LID's facilities.	<p>The preferred alternative recommends the conversion of MacMorrison Park into a storm water pond facility. The storm facility will be designed to incorporate a passive use within the same park boundary. The programmed park uses will be relocated to other locations.</p> <p>LID's infrastructure will consist of subsurface infiltration systems that will minimize impacts on surface activities.</p>
Alternatives should consider a blend of flow reduction and 100 year flow conveyance.	The preferred alternative consists of a combination of Stormwater Manage Facilities to reduce peak flows, LID's and infrastructure flow conveyance upgrades.
Concerns with digging up Dunlop and Mulcaster Streets for a relief storm sewer system.	The preferred alternative consists of three storm sewer relief systems (Bayfield, Clapperton and Owen Streets) with that minimal disruption of Dunlop Street. The preferred alternative includes flow reduction up stream.