

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON DECEMBER 11, 2018
FROM:	KELLY SCHERR, P. Eng., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	GUILDWOOD BOULEVARD SUMP PUMP DISCHARGE TO STORM SEWER PILOT PROJECT

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the report with respect to the Guildwood Boulevard Sump Pump Discharge Pilot Project **BE RECEIVED** for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

CWC report May 5, 2015: Item 5. Pilot Project to Resolve Surface Icing Resulting From Sump Pump Discharge.

CWC report October 24, 2017: Item 19. Basement Flooding Grant Program By-law Amendment.

CWC report September 25, 2018: Item 15. Mockingbird Crescent Low Impact Development – Voluntary Pilot Project.

2015 – 2019 STRATEGIC PLAN

The following report supports the 2015 – 2019 Strategic Plan through the strategic focus area of Building a Sustainable City including:

- Robust Infrastructure 1B – Manage and improve water, wastewater, and stormwater infrastructure.

BACKGROUND

Purpose

The purpose of this report is to report back on the request made by municipal council at its meeting held on July 24, 2018, (4.6/11.CWC) that the following action be taken with respect to storm sewer connections in residential areas:

- a) *the Civic Administration BE DIRECTED to report back a future meeting of the Civic Works Committee providing an update with respect to the voluntary pilot project currently underway on Guildwood Boulevard to extend residential sump pumps into the City of London storm sewer systems.*

Context

At the July 17th, 2018 meeting of the Civic Works Committee, Councillor Virginia Ridley submitted a letter (Appendix 'A': Councillor Letter) requesting committee reports related to residential sump pump discharge on Guildwood Boulevard and Mockingbird Crescent. A report related to Mockingbird Crescent was submitted to Committee on

September 25th, 2018. The following report provides the requested information related to Guildwood Boulevard.

DISCUSSION

Historical Municipal Standards

Drainage standards and municipal sewer servicing has evolved and changed significantly over the years. A summary of these changes from 1960 to present is outlined in timeline figure (Appendix 'B': Household Drainage and Municipal Servicing Timeline).

All new subdivisions registered after January 1985 were required to have the weeping tiles (foundation drains) discharge into a sump pit and be pumped to the surface of the ground, with certain limitations on where they could outlet. This new requirement led to challenges in some areas. For example, where houses existed in areas of elevated groundwater tables and/or when poor lot grading was allowed to continue, the sump pumps would operate and discharge continuously to the ground surface. As a result, some homeowners have extended their sump pump discharge pipes to the City right-of-way (ROW) to avoid the accumulation of water on their property. This can lead to icing in winter months which impacts public safety and can cause damage to streets, sidewalks, curbs and gutters and lead to permanently wet conditions in the summer months (as well as algae growth in some areas). Roughly 12,500 residential lots were constructed throughout the City between 1985 and 1995, with sump pumps discharging to the ground surface.

In 1994, the City recognized these problems and Council resolved that all new subdivisions registered after December 31, 1995 would require a connection to the storm sewer for each lot.

Guildwood Boulevard

A pilot program was initiated for a portion of Guildwood Boulevard (Appendix 'C': Location Map) based on 100% homeowner participation to resolve sump pump discharge icing issues, by providing a piped storm lateral connection to the City storm sewer. These participating homes along Guildwood Boulevard were constructed in the 1990s at which time sump pumps were required to discharge to the ground surface.

The Guildwood Boulevard pilot project involved 100% funding (with Wastewater and Treatment Rates), at no cost to the homeowner, for the installation of new storm laterals (public side - private drain connection, and private side - storm building sewers) for 23 homes along Guildwood Boulevard, Meadowridge Road and Meadowridge Crescent. Some interior plumbing modifications were also required for eight homes to reroute sump pump discharge piping and/or remove illegal sump pump discharge connections to the sanitary main drain/building sewer. The pilot project required 100% homeowner participation within the area. It was recognized that if even a small percentage of homes did not participate in this pilot project, this area would continue to have surface icing problems, making the project a poor investment if the problem wasn't fully addressed.

The pilot project was completed between July and October 2018, at a total cost of approximately \$650,000. The estimated per household cost is approximately \$28,000 for the completed pilot project, as outlined below, based on the 23 homes that participated in this pilot program:

- Private property (storm building sewer and internal plumbing modifications) excluding any work within the municipal ROW: \$4,000/home.
- Municipal ROW (storm private drain connection, road restoration, selected sidewalk, curbs and catchbasins and asphalt): \$24,000/home.

Moving Forward

An annual program is recommended to address problem areas (greater than 15 homes) where sump pump discharge to surface is causing icing of the City ROW and significant public safety concerns and damage/degradation of the road surface. Areas will be prioritized based on input and documentation from City staff in By-law Enforcement, Roadside Operations, Wastewater and Drainage Engineering and Stormwater Engineering. Areas would be prioritized that have widespread and significant icing of sidewalks and City streets during the winter due to sump pump discharge, which requires significant effort for the City's Roadside Operations crews to clear and maintain. A high level of homeowner participation would be required, similarly to the completed pilot project, to ensure a cost effective project that significantly reduces icing for the area.

These per household cost estimates could be used to plan and budget for future projects to alleviate sump pump discharge icing concerns for prioritized areas. A business case for city-wide programs will be developed through the multi-year budget process, to allow for the completion of one area/street (approximately 15-30 homes) per year to alleviate sump pump discharge icing concerns.

CONCLUSIONS

The Guildwood Boulevard pilot project successfully corrected a longstanding icing problem that negatively impacted public safety and caused premature degradation of the roadway. In the case of widespread sump pump icing issues for an area, an annual program would allow for the completion of approximately one area/street per year. Areas would be prioritized based on the extent of sump pump icing, public safety, road condition and effort for City crews to clear and maintain these areas in the winter. Staff will bring forward a capital budget business case for a city-wide program as part of the multi-year budget process.

Acknowledgements

This report was prepared by Marcy McKillop, P.Eng. of the Wastewater and Drainage Engineering Division.

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Appendix 'A' – Councillor Letter

Appendix 'B' – Household Drainage and Municipal Servicing Timeline

Appendix 'C' – Location Map