

# Municipality of Lakeshore – Report to Council

**Chief Administrative Officer**

**Engineering & Infrastructure**



**To:** Mayor & Members of Council

**From:** Truper McBride, Chief Administrative Officer  
Krystal Kalbol, Corporate Leader - Operations

**Date:** August 5, 2021

**Subject:** Flood Mitigation and Protection Framework

---

## **Recommendation**

Support the Flood Mitigation and Protection Framework (FMPF) presented at the August 10, 2021 Council meeting;

Direct Administration to operationalize a smoke testing program by utilizing the funding from the existing 2021 I & I budget;

Direct Administration to redirect the encumbered \$80,000 from the Community Improvement Plans in two communities to develop and formalize a Flood Rapid Response Plan;

Direct Administration to fund \$111,000 to create a Water Resources and Flood Response Team in 2021 and pre-commit \$554,000 to the 2022 Budget, as described in the Staffing Plan; and

Direct Administration to hold public meeting(s), as required, in the fall to gather further feedback from the public on the July 16<sup>th</sup> storm event and present the Flood Mitigation and Protection Framework; and

Direct the Treasurer to transfer funds from the Contingency reserve for expenses for public meetings, if required.

## **Background**

As described in the previous Report for Information entitled Summary of Flooding Event on July 16, 2021 (also presented at this August 10<sup>th</sup> meeting), the Municipality's stormwater infrastructure is operating as designed and as per the standards in place at the time (when constructed) related to stormwater management and municipal drainage systems.

With changing climate and with the region expecting to become hotter, windier and wetter, it is likely that current infrastructure will increasingly struggle to manage the volume of stormwater and continue to be challenged with mitigating the effects of flooding.

## **Comments**

Administration has developed a framework, the Flood Mitigation and Protection Framework (FMPF), to assist with management of storm events and with mitigating flooding concerns. This framework represents a whole of local government approach to address the interdisciplinary challenges associated with the matters described in this report brought about by climate change.

This will include prioritizing the recommended and required stormwater infrastructure upgrades to provide increased capacity based on changing requirements, in order to deliver an increased level of service and continue to look for other opportunities to improve drainage systems.

It has been determined that increasing capacity to the sanitary conveyance system is not required (unless new developments are proposed) and that the solution is to identify and repair inflow and infiltration sources and eliminate cross connections in order to relieve the sanitary system and reduce sanitary flooding concerns during wet weather events.

The FMPF consists of the following elements, each described in further detail below:

1. Operationalize a rotating Smoke Testing Program;
2. Operationalize monitoring, tracking and enforcement of results including required repairs and elimination of private infrastructure cross connections to the sanitary system, when detected;
3. Expanded Building and Occupancy Inspections;
4. Review drainage areas and recommend Drainage Act initiation to achieve an increase level of service;
5. Review of the Official Plan and Zoning By-law and preparation of implementation guidelines;
6. Review and changes to Development Standards;
7. Development of a Flood Rapid Response Plan; and
8. Staffing Plan to execute and support the FMPF.

It is important to underscore that this proposed Framework is a significant increase in level of service with Administration currently not resourced to be able to deliver. The implementation of this Framework is reliant on the staffing model proposed within.

### **1. Operationalize a Smoke Testing Program**

Currently the Municipality attempts to undertake smoke testing in existing developments on an adhoc basis (recently completed in Comber) to identify cross connections of private and public infrastructure into the sanitary system. The FMPF will create an

operationalized smoke testing program that will move throughout affected Lakeshore communities beginning with the most impacted areas.

Administration is proposing to utilize the remaining budget in the Wastewater System Repairs and Maintenance, Inflow and Infiltration, to immediately fund the initial smoke testing for the affected area on County Road 2 (Old Tecumseh Road) east of Wallace Line. Other areas to the east have also been identified and pending approval, the program will continue.

In order for this program to be effective, residents must cooperate with Administration so that sources can be identified within private properties including front and rear yards as well as within the home.

In advance of smoke testing, Administration will provide an information and awareness package to all property owners within the identified area. The package will explain what smoke testing is, why it is needed in their community, and how it will benefit them by identifying and repairing inflow and infiltration sources in both the public and private infrastructure systems. The dates of the smoke testing will also be provided.

Homes, businesses, and public infrastructure identified during the smoke testing will then be documented with further correspondence sent to the property owners identifying their responsibility to address any detected issues within areas of private infrastructure and its connections to the public sanitary system.

The delivery of this program would be a combination of internal staff to coordinate and communicate with the public as well as contracted third party resourcing to execute the smoke testing. This program is currently not funded to the extent required in order to effectively and efficiently execute across all areas that experienced flooding.

In order for this program be executed effectively, the additional proposed staffing and 2022 funding will be required. Further, it will be recommended to continue (or potentially increase) the I & I program budget put forward every year until a certain level of progress is achieved in relieving the system.

## **2. Operationalized Monitoring, Tracking, and Enforcement**

Homes and businesses identified during the smoke testing program will be tracked through a new GIS supported database with ongoing monitoring and follow-up. A timeline to take corrective action will be provided to property owners with detected private infrastructure issues. When necessary, charges will be laid under the Municipality's Sewer Use By-law should homeowners not be cooperative in undertaking the repairs. To assist in laying charges, an amendment can be made to the existing Sewer Use By-law to include set fines.

Should Council so choose, further incentive or improvement of existing programs could be brought forward to offset the costs of remediation to homeowners. While currently the FMPF does not contemplate any new incentive programs, Council may choose to

direct Administration to develop or enhance the programs as part of the 2022 Budget, pending the results of the smoke testing results completed in 2021.

Administration is currently not resourced for this level of service and will rely on the proposed staffing plan to implement this as included below.

### **3. Expanded Building Inspections**

The FMPF proposes increasing levels of service in the Buildings Division with new mandatory inspections to confirm no cross connections from the storm water into the sanitary system have occurred prior to occupancy of the dwelling. If a cross connection is detected, the builder will be responsible for rectifying the problem.

Building Services will also operationalize the inspection of foundations under construction after storm events to record those projects with dry basements for further follow-up and inspection. After a major storm event, foundations ought to have significant water pooling occurring that should be dealt with by the builders pumping the water out and into the stormwater system. Dry basements after a storm event are signs that the sanitary system is being used to drain the accumulated rain water to keep the basements dry.

Existing Building Services staff positions will be used to support inspections. Regarding the follow-up and enforcement actions, Administration is currently not staffed to support this level of service and will rely on the proposed staffing plan to increase By-law enforcement capability, as included as part of the FMPF below.

### **4. Drainage Act Initiation for Increased Level of Service related to Drainage Improvements**

Administration will review and identify areas where stormwater flooding is more common within those areas serviced by municipal drains. Administration can bring forward recommendations to Council that they initiate Section 78 of the *Drainage Act* to move forward with assessing potential drainage improvements.

On-site meetings with those impacted (those assessed into the drain) would be required to confirm support for the increased level of service and the costs associated with those works. Under the *Drainage Act* those assessed would be required to cover the costs of the improvements within the drainage area.

Administration is currently not staffed to support this level of service and will rely on the proposed staffing plan included as part of the FMPF below.

### **5. Review of the Official Plan and Zoning By-law and preparation of implementation guidelines**

Review of the Official Plan policies in the newly adopted Official Plan Review indicate that there is policy support for recognizing the impacts of Climate Change, and direction to reduce and control storm water run-off through low impact design (Section 7.3 of the Official Plan). Examples of how to implement these policies are through the use of

green infrastructure such as green roofs and green walls; porous pavement; and the use of rain barrels. Implementation guidelines should be developed to give specific direction to developers through the Secondary Plan, Outline Plan, site plan and plan of subdivision processes.

The Zoning By-law regulations can be reviewed, as part of the comprehensive Zoning By-law review, to specifically look at what should be recommended for maximum lot coverages. The current trend is to build larger homes on relatively smaller lots with covered porches which are part of the roof line. Along with driveways, sidewalks, accessory buildings and other features such as swimming pools, the lot coverage can increase over time, contributing to the cumulative impact of increased run-off into the storm water system. The lot coverage in Commercial and Industrial zones in the urban areas should also be reviewed.

Administration is not staffed in the Community Planning division to support these projects, but will be able to take on additional responsibilities when the current staffing vacancy is filled. The comprehensive Zoning B-law review will be undertaken by consulting services, subject to the future approval of that project by Council.

## **6. Changes to Development Standards**

The Development Standards Manual is currently under review and Administration will research alternatives for improvements relating to flood mitigation. Improvements to the Manual, if required, could include:

- Requirements and alternatives for backflow prevention devices and/or locations;
- Mandate that downspouts are discharged to the lawn with pop ups (with limited exceptions related to safety);
- Incorporate enhanced (bentonite) plug requirements in lieu of the use of clay plugs;
- Potential use of sewer ejector pits in areas more prone to sanitary basement back up;
- Stricter requirements related to acceptance of private piping and connections, approved grading and certification and approved drainage design is built according to the approved plan, prior to occupancy;
- Stricter guidelines related to runoff coefficients and stormwater management standards.

Development agreements will be revised accordingly.

## **7. Flood Rapid Response Plan**

Administration recommends enhancing flood preparedness through a flood rapid response plan. Retention of a third party consultant to assist with formalizing a detailed Flooding Rapid Response Plan within Operations in order to increase the level of service to the community during significant storm events.

The Flooding Rapid Response Plan will address safety concerns such as flooding roadways, ensure proper resourcing are available under emergency conditions, address and detail assistance in the field with organizing and positioning staff with detailed roles and responsibilities, prioritizing higher risk areas and having available office staff to receive calls and gather information during events.

Communication and proactive measures during flooding events will also be enhanced.

## 8. Staffing Plan to Execute the Proposed Flood Mitigation and Protection Framework

As described above, the Municipality of Lakeshore is not presently staffed to deliver the increased levels of service contemplated in the proposed Flood Mitigation and Protection Framework.

While the Municipality has committed significant funding to improve stormwater management and sanitary system capacity, no staff members are currently dedicated specifically to these efforts. Instead, this work has been managed as special projects and advanced as staffing resources become available with heavy reliance on consultants and other third parties.

Sanitary and stormwater management, system modelling, and analysis need to be operationalized in order to take meaningful action in changing the current status quo in regard to flooding issues. The staffing positions brought forward below have been identified in order to execute the FMPF as presented in this report.

Administration is unable to execute the FMPF unless these positions are supported. The FMPF will require all of these positions (working together) to prevent bottlenecks in addressing the ongoing flooding issues.

Administration is recommending all of these positions be approved and funded for the remainder of 2021 in order to take immediate action on advancing the Flood Management and Protection Framework. These roles are further outlined below:

Position	Role Description	Budget Cost
Team Leader - Flood Mitigation and Protection	Supervise and coordinate the overall Flood Management and Protection Framework including the Flood Rapid Response Plan and the Smoke Testing Program. This role will facilitate and manage the Water Resources and Flood Response Team (across all required Divisions)	Annual: \$117,500 all in cost  2021 impact: \$29,400 all in cost
Sanitary/Stormwater Technologist	Support, analyze data, assess the modelling of the sanitary and stormwater systems and consistently and cohesively	Annual: \$89,400 all in cost

	<p>recommend improvements to existing systems. This role will act as a systems monitor and risk assessor.</p>	<p>2021 impact: \$22,400 all in cost</p>
<p>Team Leader - Public Service</p>	<p>Lead and coordinate incoming phone calls, requests for service, and other requests from the public, following up with internal divisions to provide responses. Resource also required to address service challenges with answering and responding to resident phone calls, questions, and requests for service.</p>	<p>Annual: \$117,500 all in cost</p> <p>2021 impact: \$29,400 all in cost</p>
<p>Division Leader – By-law Enforcement</p>	<p>To provide dedicated leadership to Bylaw Enforcement. This position is required to lead and coordinate follow-up and enforcement of the Sewer Use By-law. Coordination of collection of evidence, issuing orders to comply and if required, preparation for court cases. Resources are also required to support increased demands for general service in By-law.</p> <p>Note: Currently by-law staff report to Division Leader - Building Services. This role will relieve the Division Leader - Building Services to assist with staff resourcing in expanding building inspections as noted above.</p>	<p>Annual: \$136,800 all in cost</p> <p>2021 impact: \$34,200 all in cost</p>
<p>Solicitor</p>	<p>To provide the necessary legal support to the FMPF for dealings with private property owners. This position is also required in order to support internal Divisions in delivering service.</p> <p>The Solicitor will develop a risk management program for the Municipality to be able to do more comprehensive claims management and administration, to respond to some claims internally and reduce some of the external legal expenses which have been significantly reduced by the introduction of an in-house legal presence in the past 3 years.</p>	<p>Annual: \$151,600 all in cost</p> <p>2021 impact: \$37,900 all in cost</p>

In addition to the above listed staffing recommendations, a conversion is needed of one of the two GIS Technologist Level I positions to a GIS Technologist Level II. This converted position will require \$900 additional funding for 2021 and then become responsible for coordinating GIS project management associated with the FMPF.

**Regional Comparators per Division (numbers represent Full Time Equivalents)**

Based on the request for the above role, the below identifies comparators with other local Municipalities (shown by Division).

Division	Tecumseh	Leamington	Lasalle	Amherstburg	Essex	Lakeshore
Engineering	4	9	6	4	N/A	3
Bylaw	1	4.5	N/A	4	1	2.5
Legal	0	2 ft Lawyers  1 Legal Assistant/Law Clerk	1 ft Lawyer	1 ft Lawyer	1 ft Lawyer,  .5 Lawyer as Clerk  1 Legal Assistant/Law clerk	.2 (Corporate Leader)  .75 Legal Assistant

The above roles will continue to support the growth across Lakeshore as well as the FMPF in improving drainage and flooding mitigation as experienced in previous years and during the July 16<sup>th</sup> event.

**Financial Impacts**

Administration recommends that the 2021 cost of \$111,000 be funded by the Contingency reserve if there is no operating surplus at year end. The impact for the 2022 budget is an increase of \$554,000. This represents a 1.58% increase from the current levy before any other expenses or growth related revenue.

Administration will fund expenses associated with the public meetings from existing budgeted accounts as possible and the Treasurer will need to authorize a transfer from the Contingency reserve for any additional required 2021 funding if there is no operating surplus at year end.



## Report Approval Details

Document Title:	Flood Mitigation and Protection Framework Recommendations.docx
Attachments:	
Final Approval Date:	Aug 6, 2021

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

Jessica Gaspard

Kristen Newman