




Hamilton

INFORMATION REPORT

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	July 6, 2022
SUBJECT/REPORT NO:	Sewer Use By-law Program 2021 Annual Update (PW22051) (City Wide)
WARD(S) AFFECTED:	City Wide
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SIGNATURE:	

COUNCIL DIRECTION

Not Applicable.

INFORMATION

This report serves to provide an update to Committee on the progress and successes of the Sewer Use By-law Program for 2021.

Public Works Committee at its meeting of April 7, 2014, received the new Sewer Use By-law Report (PW13061a), which was then subsequently enacted by Council and came into force on May 1, 2014. At the time, Hamilton Water (HW) made a commitment to provide an Information Report, outlining the status of the Sewer Discharge Permit Program, as well as other general Sewer Use By-law Program highlights, to the Public Works Committee on an annual basis.

The City of Hamilton's (City) Sewer Use By-law (SUB) regulates discharges to the City's storm, sanitary, and combined sewers from industrial, commercial and institutional (IC&I) facilities, and residential units. It also regulates the conveyance and

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OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

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disposal of hauled sewage. It establishes limits for common pollutants and prohibited substances, and details requirements that users need to meet to discharge to the City's sewer infrastructure.

The current SUB No. 14-090 promotes clarity and ease of use as well as fair and consistent administration and enforcement. The environmental impacts would be significant without regulating dischargers to the sewer works through monitoring and enforcement of the SUB. Examples include:

- Clogged or damaged sewers and pipes;
- Risk of impairment of the sewage treatment processes;
- Wastewater collection system surcharges, basement flooding, and combined sewer overflows;
- High nutrients contributing to eutrophication of water bodies through algal blooms; and,
- Heavy metals and emerging contaminants that are toxic and can bioaccumulate in the food chain.

The mandate of the Environmental Monitoring and Enforcement (EME) Unit in the HW Division of Public Works is to ensure a healthy environment and elevate trust and confidence in HW's services through innovative risk assessment, mitigation, and compliance programs. The unit is responsible for the administration and enforcement of the SUB which is in place to protect the City's sewer infrastructure, wastewater treatment facilities, and the natural environment. This is achieved via the following activities and programs and an update for many of them are highlighted in this report:

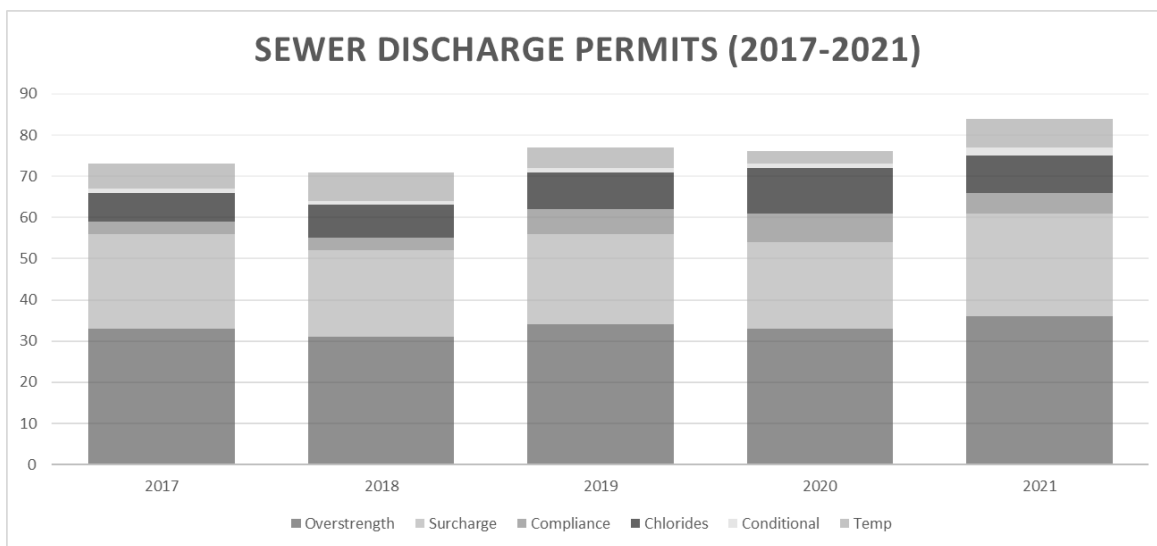
- Sewer Discharge Permitting Program;
- 24/7 Spills Response Program;
- IC&I Inspection and Risk Assessments;
- Sampling and Monitoring;
- Enforcement Action;
- Hauled Sewage Monitoring Program;
- Community Outreach; and,
- Sewer Use By-law Updates.

Since its inception, the SUB has been amended several times to accommodate changes to departmental structure and current industry practices and technologies. The most recent update was received by the Public Works Committee, at its meeting of April 22, 2022 where amendments were proposed to update some parameter limits, introduce the Construction Dewatering Permit type and other minor administrative updates.

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Staff administer various permit types by approving applications and processing quarterly invoices. Typically, permits are issued to IC&I facilities whose discharges do not meet the requirements of the SUB but can be treated effectively at one of the City's wastewater treatment plants and will not adversely affect the condition of the sewer system. Construction dewatering is another type of activity where a permit may be issued to a constructor/developer. Permits are a regulatory tool that allow the City to apply conditions and controls to discharges to the sewer works and recover costs associated with conveyance and treatment. At the end of 2021, there were six (6) different types of Permits that can be issued by an Enforcement Officer, which are explained in detail below. In April 2022, SUB amendments introduce a new permit type (Construction Dewatering).

Each discharger must apply to the City with specific details about the discharge which is assessed by HW staff (EME, Systems Planning, and Plant Operations) and only issued once all requirements are met. Except for Compliance and Temporary Permits, each permit is typically issued for a three (3) year period. Prior to the expiry date, if a permit is still required, the discharger must re-apply. In 2021, EME managed 84 Permit files, which is up from 76 in 2020.



Overstrength Permit

If a discharger cannot meet the requirements of the SUB for treatable parameters (Carbonaceous Biochemical Oxygen demand, Total Suspended Solids, Phosphorus, Total Kjeldahl Nitrogen, and Oil and Grease (animal/vegetable)) they can opt to pay the City to treat their overstrength waste if they do not have real estate or expertise to install their own treatment system. In 2021, there were 36 Overstrength Permits versus 33 in 2020.

Surcharge Permit

If water is discharged to the sewer but has not been purchased from the City's potable water system, a Surcharge Permit is required to recover the cost of conveying and treating that water. In 2021, there were 25 Surcharge Permits versus 21 in 2020.

Chlorides Permit

If a discharger cannot meet the requirements of the SUB for chlorides, a Chlorides Permit lays out the necessary conditions based on a sewer impact study that the discharger is required to conduct. Also, the study will determine the life span of the sewer and the discharger may be required to pay the City to replace the sewer if it does not reach its expected lifespan. In 2021, there were nine (9) Chlorides Permits versus 11 in 2020.

Conditional Permit

A Conditional Permit controls and applies conditions to discharges from landfill leachate collection systems, or where a higher-level government authority is required. In 2021, there were two (2) Conditional Permits versus one (1) in 2020.

Temporary Permit

A Temporary Permit controls and applies conditions for any of the above discharges that do not exceed a period of six (6) months – tank discharges, site excavations, etc. In 2021, there were seven (7) Temporary Permits versus three (3) in 2020.

Compliance Permit

A Compliance Permit provides a discharger with certain controlled exemptions to the SUB for a limited time, to plan and implement treatment works or pollution prevention activities that will bring their discharge into compliance. The business will set out activities to be undertaken that would result in the prevention or reduction and control of the discharge by the date specified in its plan.

This allows the business to continue to discharge to the City sewer works in excess of the SUB limits, (within certain parameters, conditions, and timelines prescribed in the permit) while taking the required corrective action to address and resolve the problem. As part of the permit conditions, the company may be required to perform sampling and is also required to provide progress reports regularly to the City. Failure to comply with any aspect of the compliance permit may result in its termination.

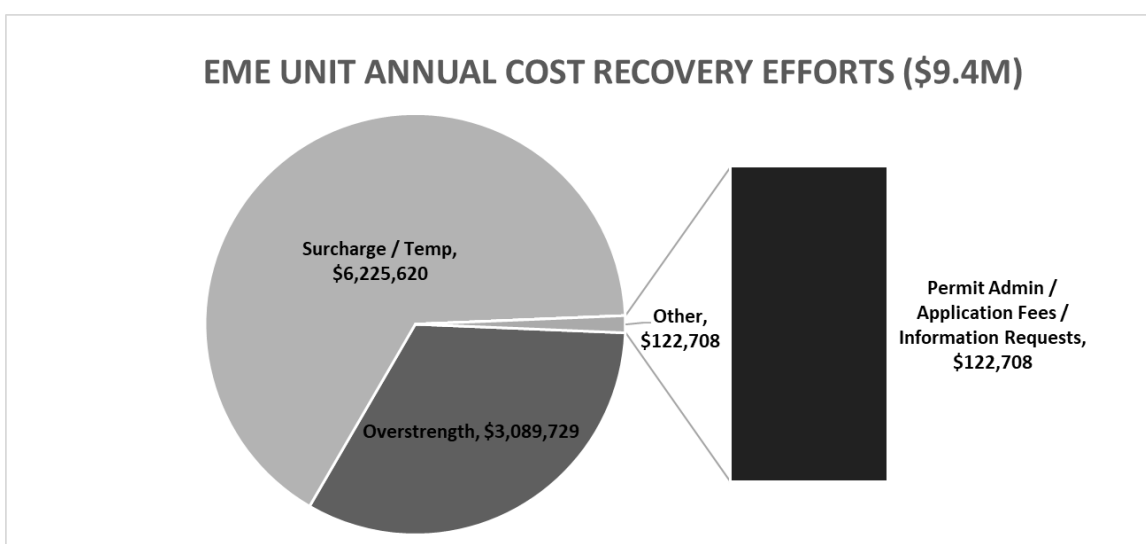
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Once the permit expires, the discharger is continually monitored until it is verified that compliance was attained. In 2021, there were five (5) active Compliance Permits, compared to seven (7) in 2020.

Annual Revenue

In 2021, Sewer Discharge Permits generated approximately \$9.4 million in annual revenue, which accounts for the recovery of costs associated with conveying and treating overstrength and surcharge wastewater. This includes approximately \$123,000 for permit administration, application and information request fees being invoiced.

The chart below shows a breakdown of the 2021 cost recovery efforts.



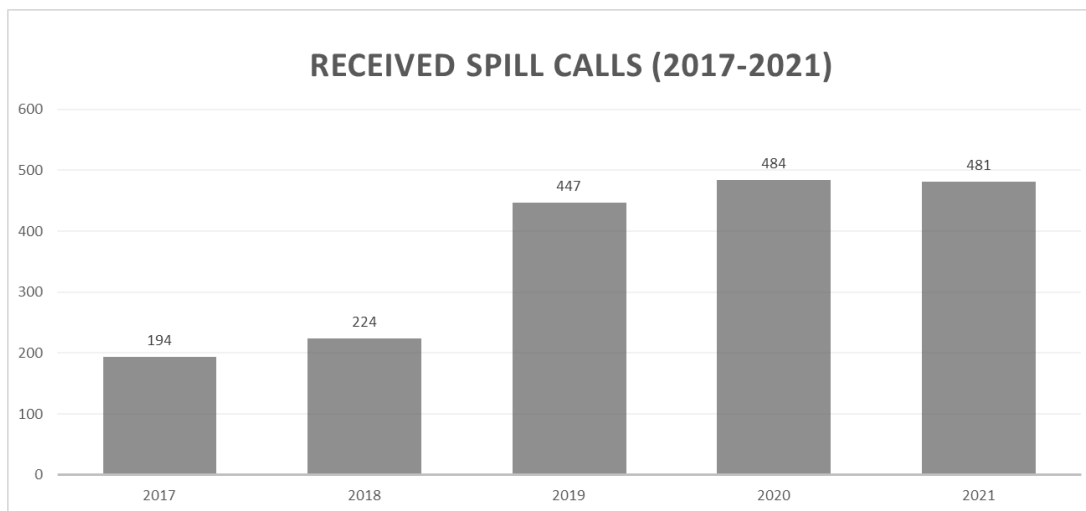
Spills Response Program

EME staff respond to spills 24/7, mitigate impact, collect evidence, educate, hold responsible parties accountable for clean-up and evaluate potential enforcement and corrective actions to protect the integrity of the sewer works and Hamilton's water resources. In 2021, 481 spill notifications were handled by the EME team. EME's staff experience and skillset are critical in dealing with a variety of situations of various magnitudes. A few themes stood out in 2021 including a new spill call classification process, mandatory IC&I spill reports, integration with surface water programming, spills impacting City property and Wastewater System operational events. A total of 67 spill samples were collected in 2021. EME continues to build a relationship with the Ministry of the Environment, Conservation, and Parks (MECP) and other City sections to ensure the interests of the community are protected. The responsibility and level of detail and care required to deal with these calls continues to increase and add additional

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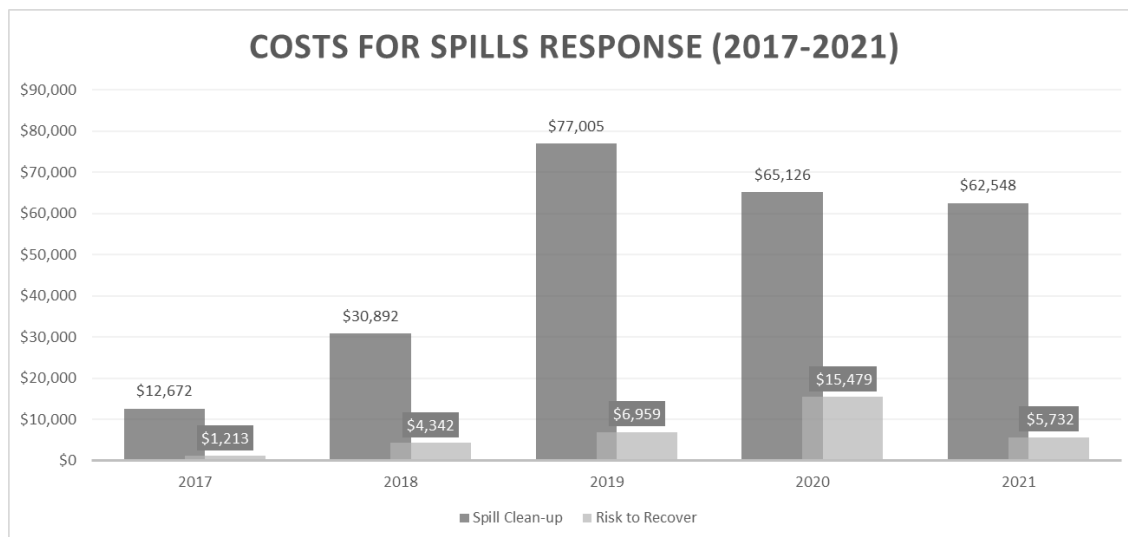
pressures to EME programming, competing for resources with other programs such as the inspection and sewer discharge permit program.

Support for work outside the HW Division is also showing signs of impact to other work priorities. EME continues to monitor portfolio performance via Key Performance Indicator (KPI)/Metric monitoring and will continue to work with staff and senior leadership to support the creation of a Level 2 spills procedure to provide additional guidance around coordination and execution of emergency spill response tasks consistently across the Public Works Department.



Staff endeavours to ensure spills to the City’s sewer infrastructure and natural environment are remediated. This includes having staff investigate the source of the spill and holding the responsible party accountable. In 2021, approximately 9% of the \$62,547 spent on spill clean-up was recovered through Risk Management. In addition, staff recovered \$44,408 of spill related costs on behalf of other City departments. Staff also supported other City departments on major spill related remediation work and associated cost recovery. Cost recovery efforts are continuous and, in some cases, yield results. The corporate-wide Spills Contract is written with clear, specific terms and has been in use since 2017. The contract is scheduled for re-tendering in 2022.

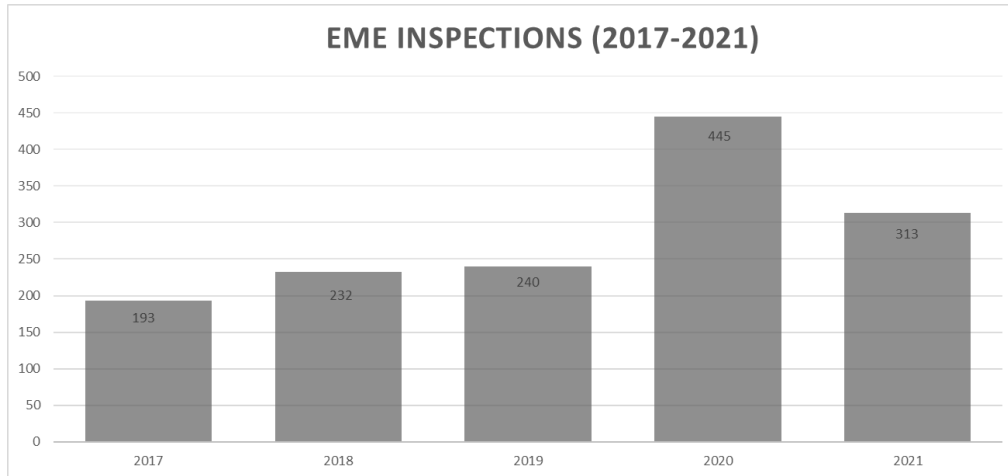
The spill clean-up and recovered costs associated with HW operations are noted in the chart below.



IC&I Inspection and Risk Assessments

In 2021, EME completed 313 inspection work orders, which include a combination of detailed and general site assessments. The pandemic created a unique opportunity for EME to reprioritize work allocation. The work from home directive created the right catalyst to advance the General Property Assessment (GPA) portfolio. The GPA process workflow was introduced in 2016 and averaged 221 GPAs per year pre pandemic. 298 were completed in 2021. This was an expected decrease from 2020 (426) as work responsibilities were realigned within EME so that the Enforcement Officers could focus on detailed inspections and enforcement action. The emphasis for the assessments is given to property site plan reviews, including identification of private sanitary and storm infrastructure, pre-treatment works and to identify risks to the sewer works. The long-term goal is to assess all IC&I properties, assign a risk rating for each one, and ultimately ensure the City's treatment and conveyance costs are being recovered appropriately.

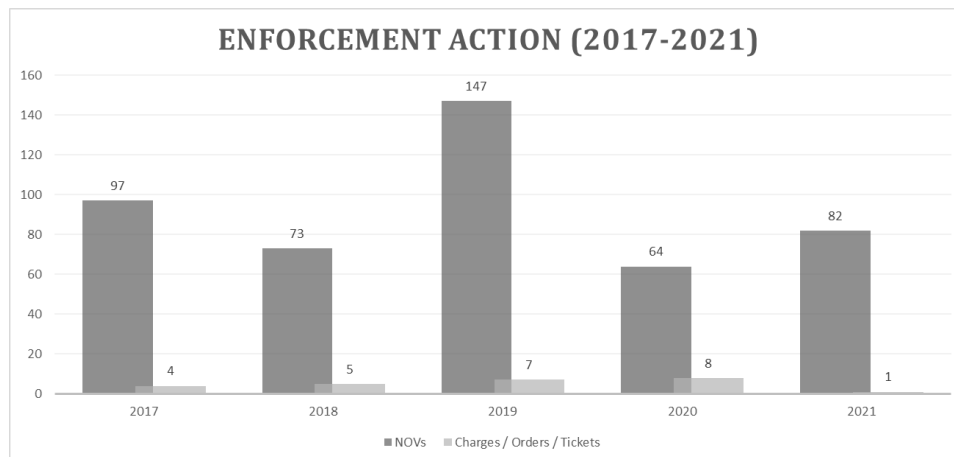
The chart below shows the number of yearly inspection work orders (detailed and general site assessments) that have been completed.



Enforcement Action

EME generally issues Notices of Violation (NOV) for offences under the SUB. Should compliance not be achieved following notification of offences using the NOV, then investigations may be conducted which may lead to prosecutions and potential convictions before the courts. In circumstances which pose an immediate threat to public health, infrastructure or the environment, or otherwise require immediate action, EME may issue an order to comply or take other remedial actions. In certain cases, the circumstances may warrant charges under the SUB.

The chart below shows the enforcement action that has been taken over the past five (5) years, which includes NOV's, tickets, charges and orders issued by EME. Four (4) charges from 2019, 2020 and 2021 were successfully prosecuted in early 2022 prompting notable improvements in SUB compliance from these facilities.



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Sewer Use By-law Updates

Public Works Committee at its meeting of April 22, 2022, approved the SUB Amendments Report (PW19029(a)). The purpose of the report was to address three (3) issues in the SUB:

1. Amendments to some of the parameter limits in the SUB; the rationale for which was outlined in Report PW19029 presented to Public Works Committee on April 1, 2019;
2. Amendments to implement Construction Dewatering provisions into the SUB; and
3. Other administrative changes.

The SUB and its associated enforcement program are fully funded through fees and charges collected from users of the program. The new Construction Dewatering permitting program and the associated fees will provide additional revenue to support the expansion of the program. In 2021, a total of \$130,010 was invoiced through Surcharge or Temporary Sewer Discharge Permits associated with construction dewatering activities.

Conclusion

The Environmental Monitoring and Enforcement Unit continues to be recognized as leaders in the Municipal Sewer Use Enforcement industry. Staffing resources have been optimized to ensure existing wastewater sampling service levels are met to support the Sewer Discharge Permit Program and provide sampling support to the Division and others when required.

The strategic investments that City Council has made in by adding resources to this business unit, and support of ongoing changes to the SUB has been instrumental in their success. The community trusts and values the program to protect Hamilton's sewer assets, wastewater treatment plants and the community's water resources.

APPENDICES AND SCHEDULES ATTACHED

N/A