



# INFORMATION REPORT

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	June 17, 2019
<b>SUBJECT/REPORT NO:</b>	Sewer Use By-law Program 2018 Annual Update (PW19054) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Cari Vanderperk (905) 546-2424, Extension 3250 Debbie Saunders (905) 546-2424, Extension 5953
<b>SUBMITTED BY:</b>	Andrew Grice Director, Hamilton Water Public Works
<b>SIGNATURE:</b>	

## COUNCIL DIRECTION

Not Applicable

## INFORMATION

Council approved the current Sewer Use By-law (PW13061a) on May 1, 2014. At the time, Hamilton Water 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 Sewer Use By-law (SUB) regulates discharges to the City's storm, sanitary, and combined sewers from industrial, commercial & institutional (IC&I) facilities, and residential units. It also regulates the conveyance and 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 is an administrative re-write from the original 1988 SUB. In 2009, the Canadian Council for Ministers of Environment (CCME) produced a new model Sewer Use By-law ("CCME Model By-law") to assist municipalities with addressing sources of contaminants in wastewater and the inclusion of provisions considered "industry standards". In response, the current SUB was written by Hamilton

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Water and Legal Services staff to promote clarity and ease of use as well as fair and consistent administration and enforcement.

The environmental impacts would be significant without regulating dischargers through enforcement of the SUB. Examples include:

- Clogged or damaged sewers and pipes;
- Risk of impairment of the sewage treatment processes;
- High nutrients contributing to eutrophication of water bodies through algal blooms;
- Heavy metals and emerging contaminants that are toxic and can bioaccumulate in the food chain; and
- Biosolids would not meet strict provincial guidelines for land application.

This report serves to provide an update to Committee on the progress and successes of the SUB Program for 2018.

The mandate of the Environmental Monitoring and Enforcement (EME) Unit in the Hamilton Water Division of Public Works is to protect the City's sewer infrastructure, wastewater treatment facilities and the natural environment by the effective administration and enforcement of SUB No. 14-090. This is achieved via the following activities and programs, an update for many of them are highlighted in this report:

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

### Sewer Discharge Permitting Program

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. Permits are a regulatory tool that allow the City to apply conditions and controls to IC&I facility discharges to the sewer and recover costs associated with conveyance and treatment. There are currently 6 different types of Permits that can be

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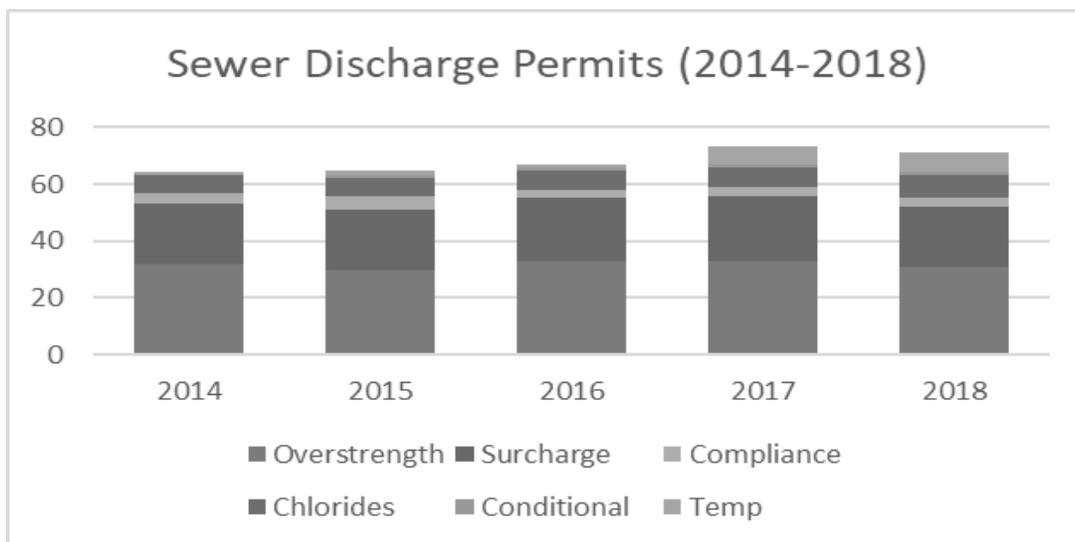
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issued by an Officer, which are explained in detail below. Each discharger must apply to the City with specific details about the discharge which is assessed by EME and Plant Operations staff and only issued once all requirements are met. Except for Compliance Permits, each permit is typically issued for a 3-year cycle.

Prior to the expiry date, if a permit is still required, the discharger must re-apply. In 2018, EME managed 71 Permits vs 73 Permits the previous year.



### Overstrength Permit

If a discharger cannot meet the requirements of the Sewer Use By-law for treatable parameters (BOD, TSS, phosphorus, TKN and Oil & Grease (an/veg)) they can opt to pay the City to treat their waste if they don't have real estate or expertise to install their own treatment system. In 2018 there were 31 Overstrength Permits, vs. 33 in 2017.

### Surcharge Permit

If water is discharged to the sewer but has not been purchased from our potable water system a Surcharge Permit is required to recover the cost of conveying and treating that water. In 2018 there were 21 Surcharge Permits, vs. 23 in 2017.

### Compliance Permit

Provides a discharger with certain controlled exemptions to the By-law for a limited time, to plan and implement treatment works that will bring their discharge into compliance. Once the permit expires, the discharger is continually monitored until it is verified that

compliance was attained. In 2018 there were 3 active Compliance Permits: 2 have since expired and 1 new one was added.

#### Chlorides Permit

If a discharger cannot meet the requirements of the Sewer Use By-law 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 last its expected lifespan. In 2018, there were 8 Chlorides Permits, vs. 7 in 2017.

#### Conditional Permit

Controls and applies conditions to discharges from landfill leachate collection systems, or where a higher-level government authority is required. In 2018, there was 1 Conditional Permit: same as 2017.

#### Temporary Permit

Controls and applies conditions for any of the above discharges that do not exceed a period of 6 months – tank discharges, site excavations, etc. There has been an increase in the number of temporary permits issued as there are more new construction locations in the City that require dewatering controls. In 2018, there were 7 Temporary Permits vs. 6 in 2017.

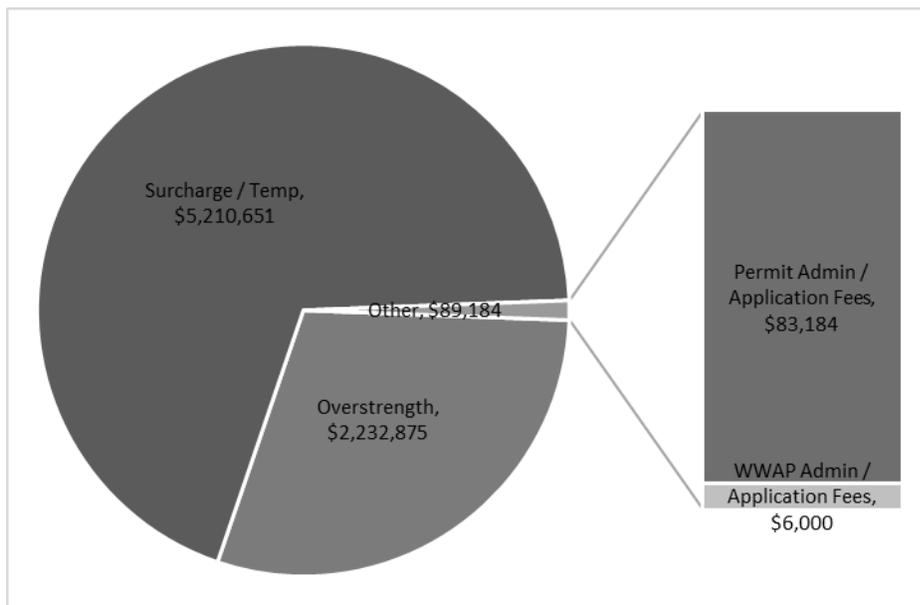
#### 2018 Financials

	Amount Forecasted	Actual Expenditures	% Spent
Operating Budget	\$1,655,490.00	\$1,548,157.00	93.5%

#### Annual Revenue (approx. \$7.5 Million)

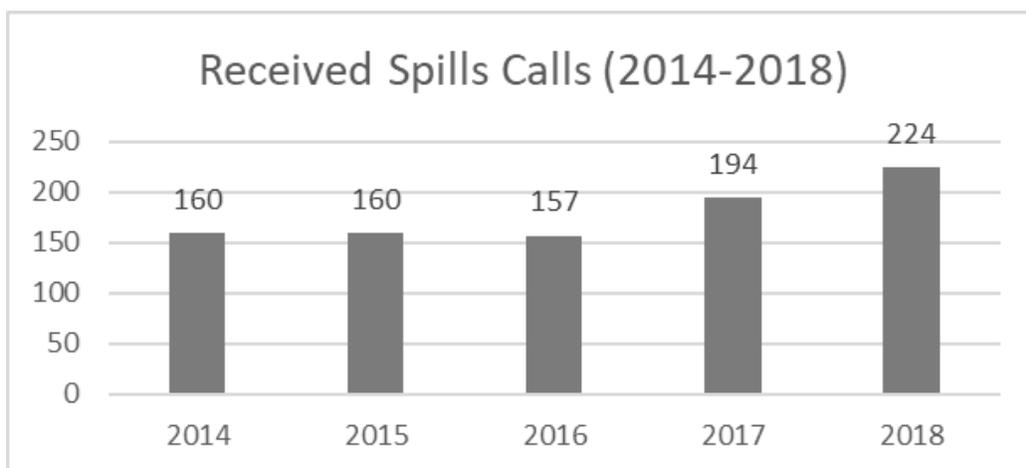
In 2018, Sewer Discharge Permits generated approximately \$7.5 million in annual revenue, which accounts for the recovery of costs associated with conveying and treating overstrength and surcharge wastewater. This includes approximately \$89,000 for permit administration, application and information request fees being invoiced. The chart below shows a breakdown of the 2018 cost recovery efforts. EME works with Legal Services on these claims to recover costs from the responsible parties. Council is made aware and direction is provided as these situations arise.

EME Unit Annual Cost Recovery Efforts (2018)

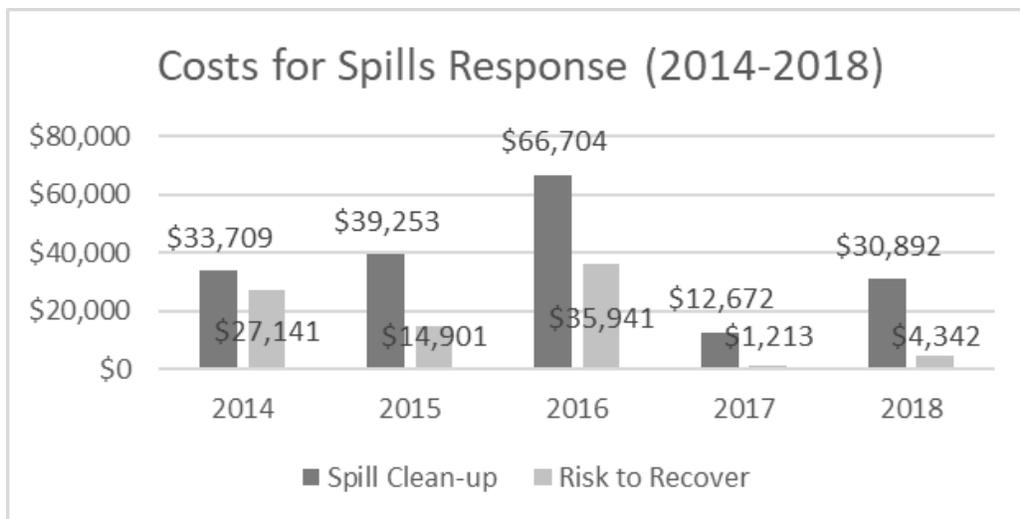


24/7 Spills Response Program

The number of spills calls received has increased by approximately 30% over the past 2 years and is on the rise. This rise in calls is attributed to increased awareness from internal stakeholders receiving spills training, public education and an enhanced reporting process. All spill calls come through the City's Customer Contact Centre (CCC) and are recorded for tracking purposes. Further program development, such as response time metrics and costing per incident is planned for 2019 to help staff track and measure the Spills Response Program more effectively.

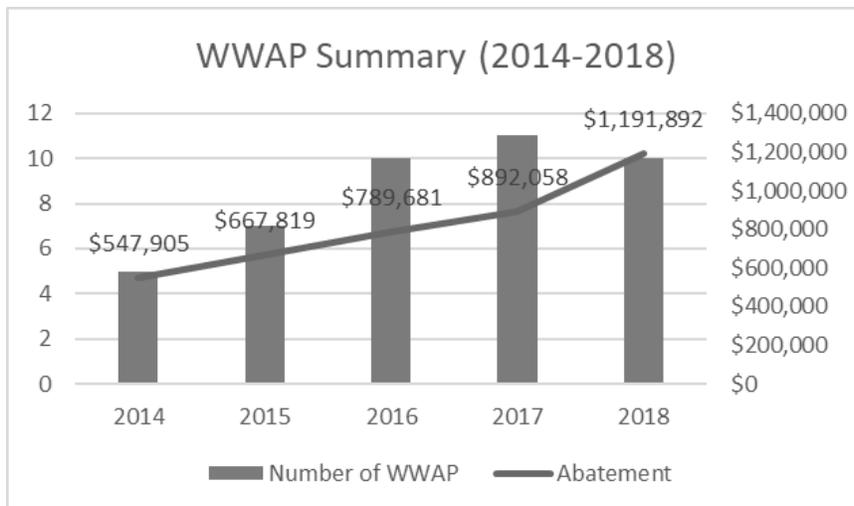


Staff endeavours to ensure spills to the City's sewer infrastructure and natural environment are remediated to our satisfaction. This includes having staff investigate the source of the spill and holding the responsible party accountable. In 2018, approximately 14% of the \$30,892 spent on spill clean-up was recovered through Risk Management. 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 average cost of spill clean-up and disposal has been reduced and the saving are noted in the chart below.



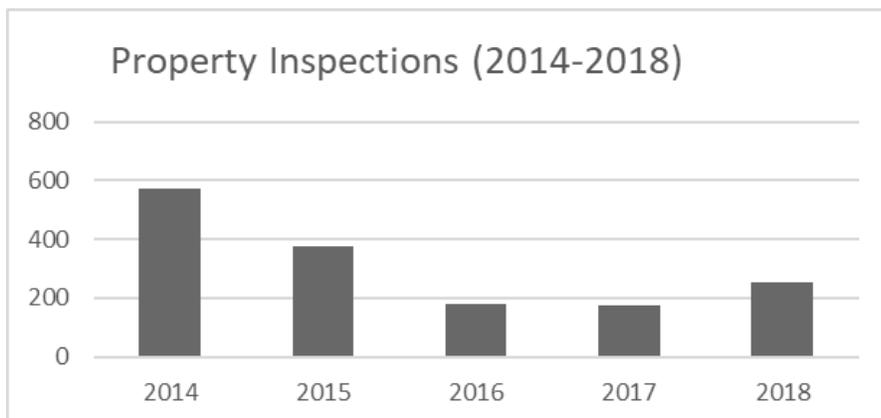
#### Wastewater Abatement Program (WWAP)

The Wastewater Abatement Program allows IC&I facilities to apply for a rebate on the water that they purchased from the City's potable water supply but did not discharge at least 25% of the purchased water into the City's sewer system. This program appears to be gaining popularity and more dischargers are inquiring about it. The chart below summarizes the program statistics over the past 5 years. The application process has become more simplified over the past few years, but certainly more rigorous in its approach. Staff have taken measures to ensure no discharger receives a rebate if they are not in compliance with the Sewer Use By-law or if they are in any type of monetary arrears to the City.



**IC&I Inspection & Risk Assessments**

In 2018, EME completed 251 inspections which includes a combination of IC&I and Pollution Prevention (P2) locations. The inspection could be a complex industrial facility or a multiunit property with a variety of business types. The City has approximately 7900 non-residential dischargers and currently less than 10% of these locations have been historically assessed and are regularly monitored by EME. A long-term solution is being considered to improve on increasing the number of yearly risk assessments that are being done. Once the assessment is complete, each parcel of land is assigned a risk level, (high, medium or low) in INFOR. A mapping module then uses the risk level assigned in INFOR and applies a colour (red=high; yellow=medium; green=low) to a map layer, which provides a visual representation of risk to the sewer system. The long-term goal is to assess all 7900 dischargers, assign a risk rating for each one, and ultimately ensure our treatment and conveyance costs are being recovered appropriately.

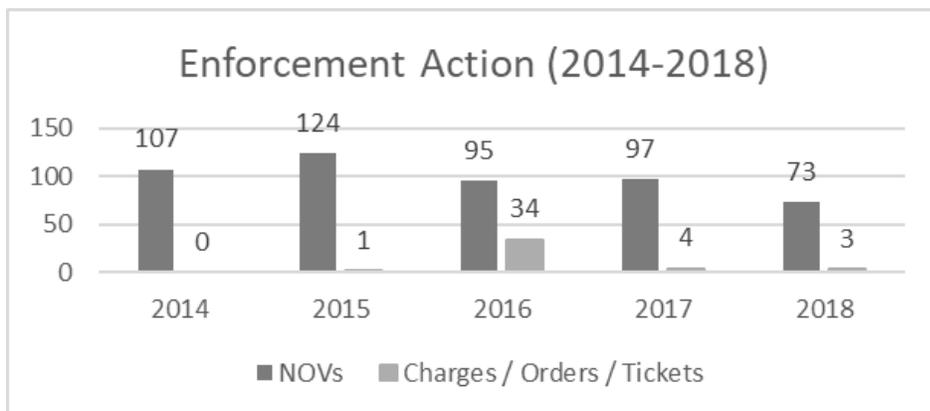


### Enforcement Action

As part of the Fats, Oils & Grease (FOG) Program, EME has been visiting the restaurant and food services sector to ensure compliance. The Officer can assess whether the restaurant requires a grease control device (GCD) by completing a Risk Matrix; if needed, they are given 1.5 to 2 years to install one. Since 2014, all 41 restaurants without GCD's that were given notice to install one have done so. Proper enforcement of this program results in less sewer maintenance costs, fewer sewer back-ups and overflows, and fewer odour complaints.

The chart below shows the enforcement action that has been taken over the past 5 years, which includes Notice of Violations (NOV's), Part 1 tickets, charges and orders issued by EME.

It is EME's philosophy to work with dischargers on achieving compliance, leaving enforcement action as a last resort.



### Sewer Use By-Law Updates

Public Works Committee at its meeting of April 1, 2019, approved Report (PW19029) that highlighted proposed changes to the SUB and identified public consultation as the next step. City Staff plan to hold Public Information Centres in Q3 of 2019 to seek input from stakeholders. Based on the outcome of the feedback, proposed amendments to SUB 14-090 will be presented to Council for approval in Q4 2019.

This high-level study consisted of a comprehensive and scientific review of the parameters and limits to ensure they are appropriate and effective for the upgrades to the Woodward Wastewater Treatment Plant. The study also supports the Hamilton Harbour Remedial Action Plan: "Urban Runoff Hamilton Harbour Report" recommendation that the SUB include a limit for total phosphorous discharged to the storm sewer.

## Community Outreach

The odour that emanates from the decomposition of products used for the de-icing operations at the John C. Munro Hamilton International Airport has been a source of many residential complaints in the area. In 2018 EME took part in a community meeting with Airport representatives, councillors and our Hamilton Water counterparts from Wastewater Collection and Customer Service and Community Outreach to address odour concerns. The community assisted City staff by participating in a data gathering survey to understand if odour complaints in the area are driven by overland air emissions that may emanate from the airport property, sanitary sewer infrastructure or private plumbing deficiencies. A well-attended community meeting was held in February 2018 to update residents and business owners. They were educated on odours types and potential sources. Residents were provided with reporting lines for the Ministry of the Environment, Airport or City Spills line depending on what they are smelling. An enhanced communication plan was created, and it directs the issue to the appropriate group to investigate. The Airport conducted sampling over the de-icing season with the goal to install treatment on site to mitigate the odours. The Ward 11 Councillor community website is updated with City and Airport information along with direction on odour reporting to the responsible authority.

## Conclusion

The Environmental Monitoring & 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 Permit Program and provide sampling support to the Division and others when required. As the City continues to grow a more robust program to deal with construction dewatering and on-site storage will be critical to protect City infrastructure and the natural environment. Various strategies are being reviewed as an enhanced program cannot be delivered with the existing program resources.

Over the last decade, many IC&I facilities in the City have made significant capital investments, upwards of \$50M in total, to achieve compliance with the Sewer Use By-law. The excellent work of the EME team and effective administration of the Sewer Use By-law has contributed significantly to the successful operation of the wastewater treatment plants. The quality of effluent leaving the plants, as well as that of our biosolids has been stable and much better because of this great work.

The strategic investment that City Council made almost 15 years ago by adding resources to this business unit, and support of ongoing changes to the Sewer Use By-law has been instrumental in their success. The community trusts and values the program to protect the operations of the wastewater plants and ultimately the natural environment.

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**APPENDICES AND SCHEDULES ATTACHED**

Not Applicable