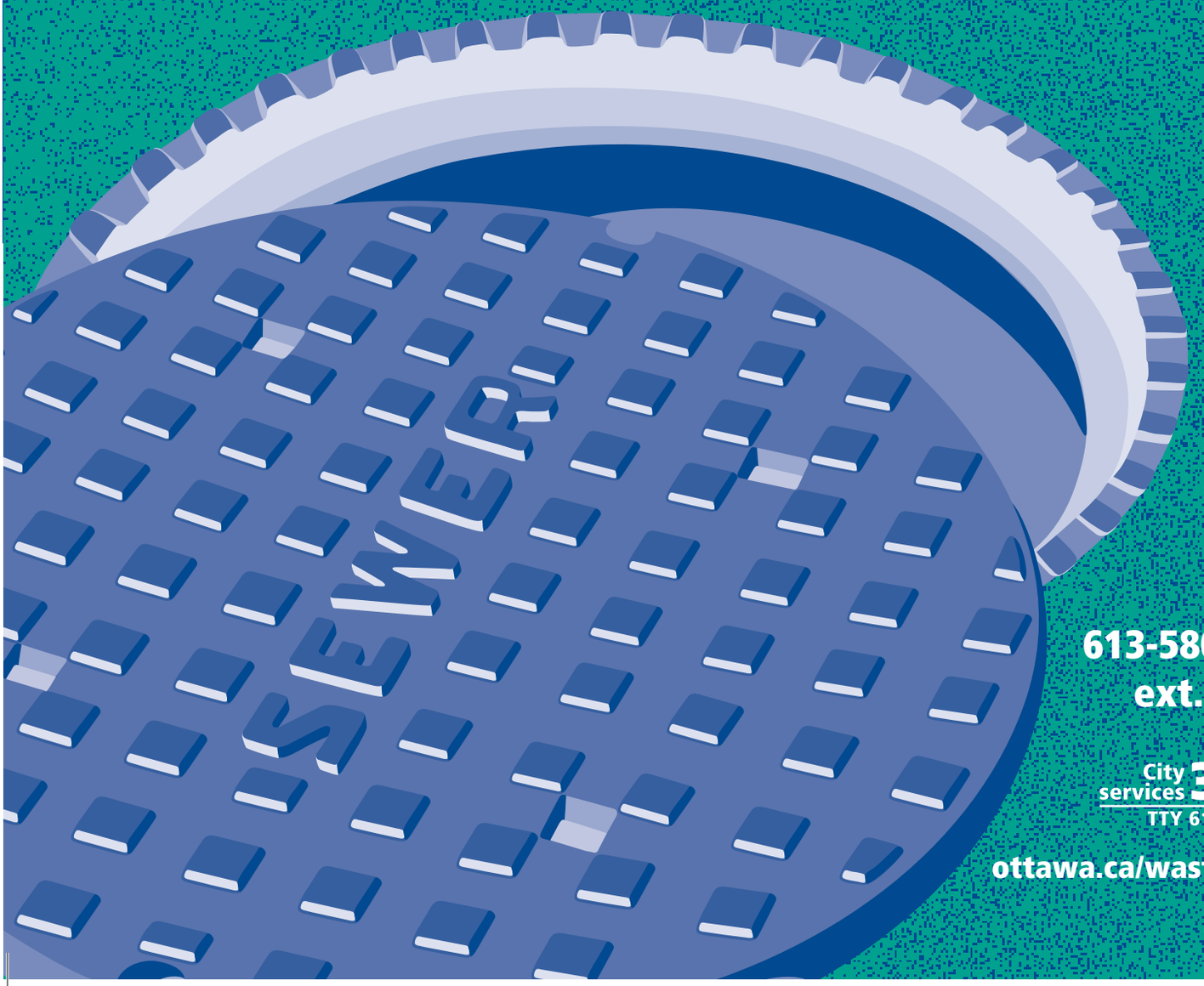
Sewer Use Program

Guide for Discharging Wastewater from Industrial Facilities



613-580-2424
ext. 23326

City services 3-1-1
TTY 613-580-2401

ottawa.ca/wastewater

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Our Environmental Responsibility

When it comes to pollution prevention, everyone has a role to play. Since 1993, the City of Ottawa's Sewer Use Program has worked with industries, businesses and institutions to control pollution at the source and protect the local receiving waters.

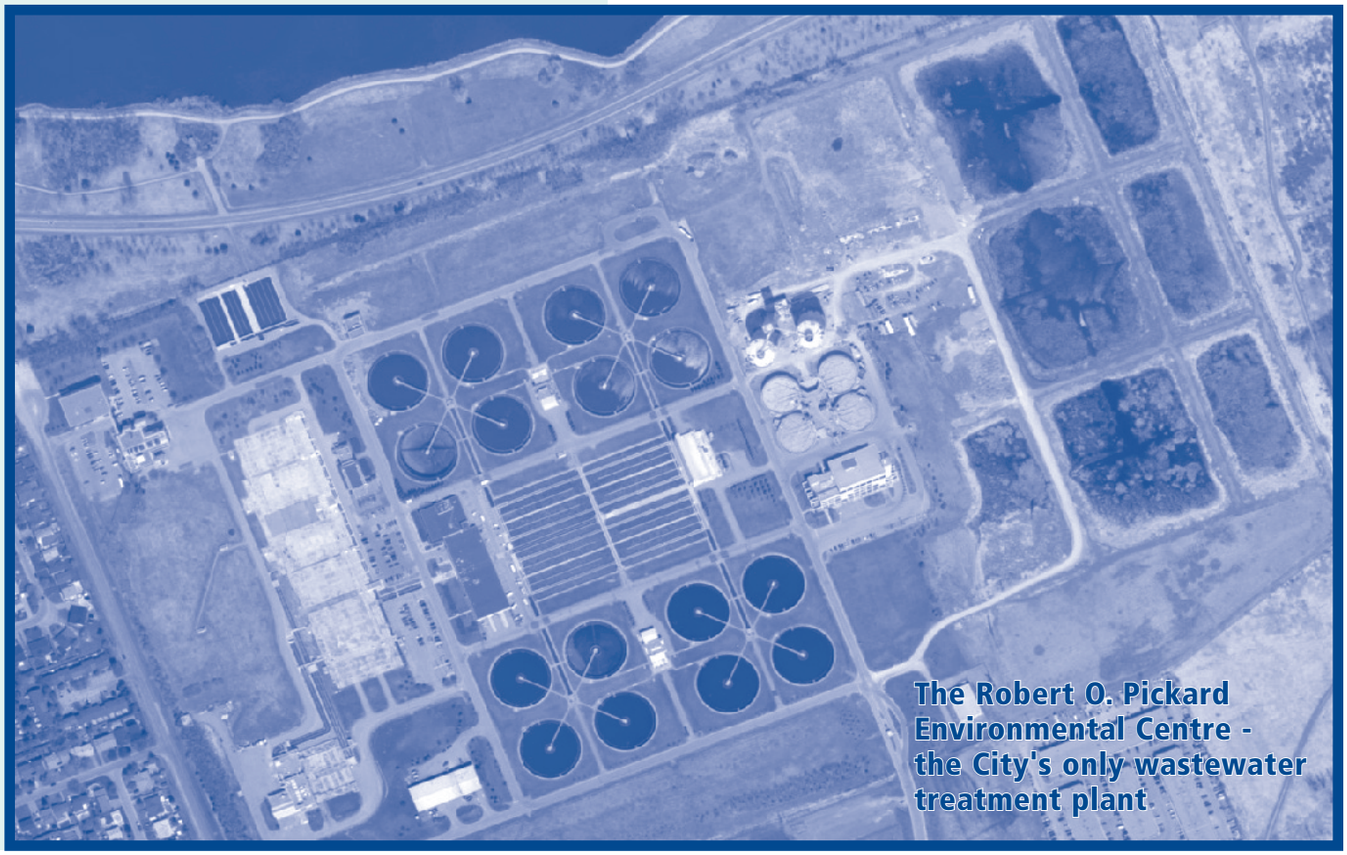
Wastewater discharges to the sewer system are regulated through the administration of the Sewer Use By-law. This ensures prohibited substances are not discharged into the water environment, and industrial facilities do not discharge pollutants that cannot be treated at the City's wastewater treatment plant.

The benefits of controlling discharges at their sources include: cleaner streams and rivers, a healthier environment and the protection of the public's investment in the City's sewer system.

Doing Your Part

Industrial facilities are expected to manage their liquid waste carefully. Being proactive in complying with wastewater regulations makes good business sense. Understanding your responsibilities and being aware of the resources available to help achieve compliance will enable you to handle regulations effectively and efficiently.

This guide explains the key components of the Sewer Use Program and describes how the Sewer Use By-law will affect your facility.



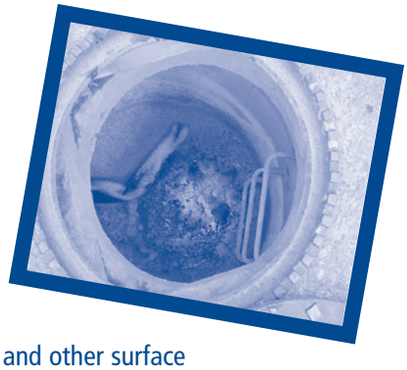
The Robert O. Pickard Environmental Centre - the City's only wastewater treatment plant

What Is Industrial Waste?

Industrial waste is wastewater produced by businesses, institutions, and commercial or industrial facilities that is not generated from washroom or shower areas and is non-domestic in nature. Typical industrial waste includes process waste, rinse water, wastewater from pre-treatment equipment, and boiler blowdown.

How Is Wastewater Collected?

Thousands of kilometres of sewers collect wastewater and run-off in Ottawa. These include:



- **Sanitary sewers** carry wastewater from homes, commercial buildings, and industrial sources to the wastewater treatment plant at the Robert O. Pickard Environmental Centre before being returned to the Ottawa River.
- **Storm sewers** carry rainfall and other surface run-off (such as parking lot and roadways) directly to the nearest creek, stream or river, generally without treatment.
- **Combined sewers** carry both wastewater and run-off to the wastewater treatment plant.

Why Do We Need a Sewer Use By-law

We cannot put everything down the sewer. The City of Ottawa's wastewater treatment plant is designed primarily to service households with normal domestic wastewater. It cannot efficiently remove the toxic pollutants contained in some of the waste produced by businesses, industries, and institutions.

Discharges that do not meet the requirements outlined in the Sewer Use By-law could have serious consequences on public health and safety, municipal infrastructure and the environment. Even if each discharge is very small in quantity, the total combined effect can be significant. Unauthorized discharges could result in:

- A threat to the health and safety of sewer workers
- Damage to municipal infrastructure
- Interference with the normal operation of the wastewater treatment plant
- The release of pollutants to the Ottawa River
- An inability to re-use our treated sludge (biosolids) beneficially
- The discharge of contaminants to the natural environment

Who Is Affected:

The Sewer Use By-law outlines waste discharge guidelines for all users – residential, industrial, institutional and commercial facilities which dispose of wastewater or have their liquid waste hauled to the wastewater treatment plant, or whose run-off discharges into a storm sewer. It is the responsibility of these facilities to ensure that their sewer discharge meets the standards outlined in the By-law. While the By-law applies equally to residential discharges to the sewers, the focus of the Sewer Use Program is on industrial discharges.

Discharge Limits and Prohibited Substances

The Sewer Use By-law defines what is permitted to be discharged into a sewer, whether sanitary, combined or storm sewers. Some substances and materials are completely prohibited; others are restricted to defined safe limits.

Sanitary and Combined Sewers

Prohibited Substances

Many substances should not be discharged into the sewer system in any amount. The reason for this prohibition is that these materials can endanger workers, damage the sewer system, upset the treatment process and negatively affect the quality of our rivers. Prohibited substances include:

- Matter of any type, at any temperature, or in any quantity, which may:
  - Represent a health or safety hazard to a sewer worker
  - Interfere with the proper operation of the sewage works
  - Impair or interfere with the sewage treatment plant process
  - Pass, untreated, through the sewage treatment plant, e.g. heavy metals and toxic organics
  - Cause the biosolids to fail to meet the criteria for beneficial reuse
  - Result in a hazard to any person, animal, property or vegetation.
  - Result in the production of hazardous gases of such quality that prevents a manhole lid from being lifted
- Solid or viscous substances in quantities or of such size that they may obstruct the flow in a sewer
- Sewage that may cause an offensive odour
- Stormwater, water from drainage of roofs or land, water from a watercourse or uncontaminated water
- Water that has originated from a source separate from the City's water distribution system*
- Sewage, which consists of two or more separate liquid layers
- Sewage containing dyes or coloring materials
- The following materials or hazardous waste:
  - Acute hazardous waste chemicals
  - Biomedical waste*
  - Combustible liquid
  - Fuels
  - Hauled liquid waste*
  - Hazardous industrial waste
  - Hazardous waste chemicals
  - Nuclear waste*
  - PCBs*
  - Ignitable waste
  - Pathological waste*
  - Pesticides
  - Reactive waste
  - Severely toxic materials
  - Severely toxic waste
  - Sludge*
  - Waste disposal site leachate*

***Note:** The discharge of some of these products may be permissible when authorization has been given by the City and specific conditions are met. For more information, please contact a representative of the Sewer Use Program at 613-580-2424, ext. 23326.

Restricted Substances (Discharge Limits)

Pollutants discharged into sanitary and combined sewers may interfere with the wastewater treatment process or pass through the treatment plant, ending up in the river or in the biosolids.

Listed below are the parameters and restrictions identified by the Sewer Use By-law for substances that can be discharged into sanitary and combined sewers. Facilities must ensure that their discharge does not exceed the restrictions identified below.

Note: Dilution **cannot** be used to meet the limits.

Limits for Sanitary and Combined Sewers Discharge

Substance / Parameter	Limit milligrams/litre
• Biochemical Oxygen Demand	300
• Cyanide (total)	2
• Fluoride	10
• Total Kjeldahl Nitrogen	100
• Oil & Grease – Animal & Vegetable	150
• Oil & Grease – Mineral & Synthetic	15
• Phenolics (4AAP)	1.0
• Phosphorous (total)	10
• Sulphates	1500
• Sulphides	2
• Suspended solids (total)	350
• Aluminum (total)	50
• Antimony (total)	5
• Arsenic (total)	1
• Bismuth (total)	5
• Boron (total)	25
• Cadmium (total)	0.02
• Chromium (total)	5
• Cobalt (total)	5
• Copper (total)	3
• Lead (total)	5
• Manganese (total)	5
• Mercury (total)	0.001
• Molybdenum (total)	5
• Nickel (total)	3
• Selenium (total)	5
• Silver (total)	5
• Tin (total)	5
• Titanium (total)	5
• Vanadium	5
• Zinc (total)	3
• Benzene	0.01
• Bromodichloromethane	0.35
• Bromoform	0.63
• Bromomethane	0.11
• Carbon Tetrachloride	0.057
• Chlorobenzene	0.057
• Chloroethane	0.27
• Chloroform	0.08
• Chloromethane	0.19
• Dibromochloromethane	0.057
• 1,2-Dibromoethane	0.028
• 1,2-Dichlorobenzene/o	0.088
• 1,3-Dichlorobenzene/m	0.036
• 1,4-Dichlorobenzene/p	0.017
• 1,1-Dichloroethane	0.2
• 1,2-Dichloroethane	0.21
• 1,1-Dichloroethylene	0.04
• cis-1,2-dichloroethylene	0.2
• trans-1,2-dichloroethylene	0.2
• 1, 2-Dichloropropane	0.85
• cis-1,3-Dichloropropylene	0.07
• trans-1,3-Dichloropropylene	0.07
• Ethylbenzene	0.057
• Methylene Chloride	0.21
• Styrene	0.04
• 1,1,2,2-Tetrachloroethane	0.04
• Tetrachloroethylene	0.05
• Toluene	0.08
• 1,1,1-Trichloroethane	0.054
• 1,1,2-Trichloroethane	0.8
• Trichloroethylene	0.054
• Trichlorofluoromethane	0.02
• 1,3,5-Trimethylbenzene	0.003
• Vinyl Chloride	0.4
• Xylene (total)	0.32
• Bis(2-chloroethoxy)methane	0.036
• Bis(2-ethylhexyl)phthalate	0.28
• Benzylbutylphthalate	0.017
• Diethylphthalate	0.2
• Di-n-butylphthalate	0.057
• Di-n-octylphthalate	0.03
• Fluorene	0.059
• Indole	0.05
• 1-Methylnaphthalene	0.032
• 2-Methylnaphthalene	0.022
• Naphthalene	0.059
• Total PAHs	0.015
• 2,4-Dichlorophenol	0.044
• Dioxins and Furans (total)	0.00072
• Formaldehyde	0.3
• Hexachlorobenzene	0.0001
• N-Nitrosodimethylamine	0.4
• Nonylphenols	0.0025
• Nonylphenol ethoxylates	0.025
• Temperature	60 ºC
• pH	5.5 -11

Note:
Under special circumstances, the discharge of some of these substances may be permissible, but only when authorization has been given by the City and specific conditions are met.

For more information, please contact a representative of the Sewer Use Program at 613-580-2424 ext. 23326.

Storm Sewers

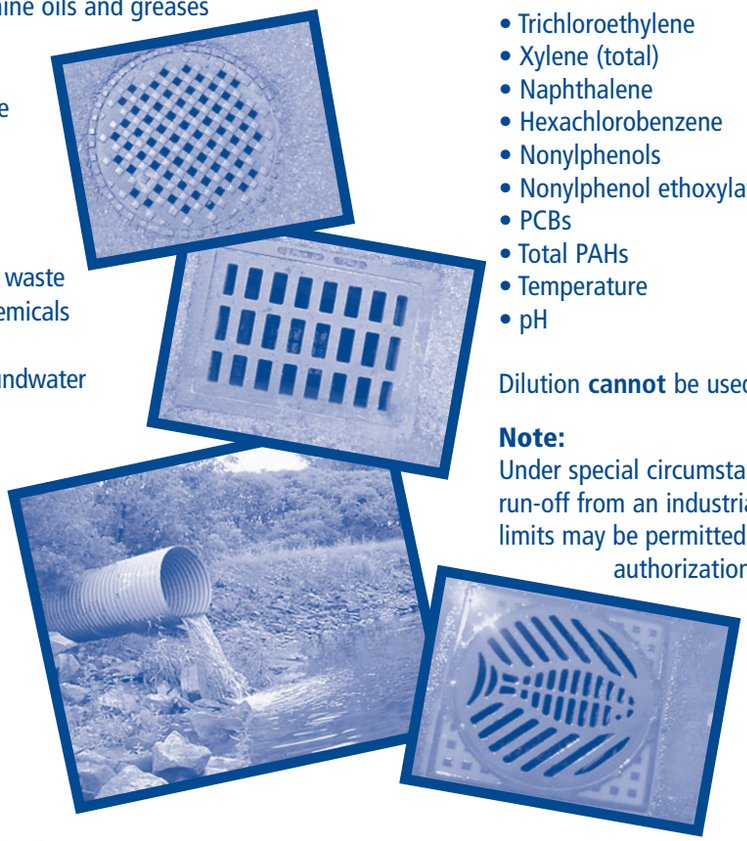
Storms sewers are designed to capture and carry surface run-off to the nearest creek or stream. Industrial discharges into storm sewers can create environmental problems since the discharges go directly into receiving waters, generally without treatment.

Prohibited Substances

Discharges to storm sewers include the contamination of stormwater run-off from industrial process areas. The following materials are prohibited from being discharged or directed into storm sewers:

- A matter of any type, at any temperature, or in any quantity, which may:
  - Damage a storm sewer
  - Interfere with the proper operation of a storm sewer
  - Obstruct a storm sewer or its flow
  - Result in a hazard to any person, animal, property or vegetation;
  - Impair the quality of the water in any well, lake, river, pond, spring, stream, reservoir, or other water or watercourse
  - Result in the contravention of an approval issued under the Ontario Water Resources Act or the Environmental Protection Act with respect to storm sewer or its discharge
- Dyes or colouring material that may discolour water*
- Matter with a visible sheen or discolouration
- Matter consisting of two or more separate layers

- The following materials or hazardous waste:
  - Acute hazardous waste chemicals
  - Automotive or machine oils and greases
  - Biomedical waste
  - Blowdown water
  - Carpet cleaner waste
  - Combustible liquid
  - Concrete mixtures
  - Fuels
  - Hauled liquid waste
  - Hazardous industrial waste
  - Hazardous waste chemicals
  - Ignitable waste
  - Material from a groundwater remediation system
  - Nuclear waste
  - Organic solvents
  - Pathological waste
  - Paints
  - PCBs
  - PCB waste
  - Pesticides
  - Reactive waste
  - Severely toxic materials
  - Sewage
  - Sludge
  - Waste disposal site leachate
  - Waste generated by an industrial process



Limits for Storm Sewer Discharge

Substance / Parameter	Limit milligrams/litre
• Biochemical Oxygen Demand	25
• Cyanide (total)	0.02
• Phenolics (4AAP)	0.008
• Phosphorous (total)	0.4
• Suspended Solids (total)	15
• Arsenic (total)	0.02
• Cadmium (total)	0.008
• Chromium (total)	0.08
• Copper (total)	0.04
• Lead (total)	0.12
• Manganese (total)	0.05
• Mercury (total)	0.0004
• Nickel (total)	0.08
• Selenium (total)	0.02
• Silver (total)	0.12
• Zinc (total)	0.04
• Benzene	0.002
• Chloroform	0.002
• 1,2-dichlorobenzene	0.0056
• 1,4-dichlorobenzene	0.0068
• Cis-1,2-dichloroethylene	0.0056
• Trans-1,3-dichloropropylene	0.0056
• Ethylbenzene	0.002
• Methylene chloride	0.0052
• 1,1,2,2-tetrachloroethane	0.017
• Tetrachloroethylene	0.0044
• Toluene	0.002
• Trichloroethylene	0.0076
• Xylene (total)	0.0044
• Naphthalene	0.0064
• Hexachlorobenzene	0.00004
• Nonylphenols	0.001
• Nonylphenol ethoxylates	0.01
• PCBs	0.0004
• Total PAHs	0.006
• Temperature	40 ºC
• pH	6 -9

Dilution **cannot** be used to meet the limits

Note:
Under special circumstances, the discharge of stormwater run-off from an industrial process area that exceeds these limits may be permitted. This would be possible only when authorization has been given by the City and specific conditions are met. For more information, please contact a representative of the Sewer Use Program at 613-580-2424 ext. 23326.

Reporting, Monitoring and Compliance

Sampling and Inspections

Monitoring is conducted to control discharges to the sewage works, storm drainage systems and the receiving waters. Compliance Officers inspect facilities and regularly monitor wastewater discharges to assess compliance with the requirements of the Sewer Use By-law. While onsite, the officers may also review the facility's operation, waste management practices and pollution prevention initiatives.

Manholes

Compliance Officers monitor the wastewater discharged from businesses and industrial facilities to assess compliance with the Sewer Use By-law, and identify any pollutants of concern. It is essential that facilities provide an appropriate sampling location for both self-monitoring and monitoring by City staff. The sampling location must isolate the facility's discharge, provide a representative sample, and be easily accessible to City staff at all times. If there is no suitable sampling location, the industrial facility is required to install a monitoring manhole.

Interceptors

The owner or operator of premises involved in commercial food preparation, vehicle maintenance, or dentistry is required to install interceptors on all of their fixtures to prevent the release of grease, oil, sand and dental amalgam (respectively) to the sewer. They are also required to maintain them in continuously efficient operation at all times and keep maintenance records. A Compliance Officer has the right to enter the premises at any time to inspect the interceptors and their operation, and request copies of maintenance procedures and records.

Industries to which this provision applies, who are found to be operating without an interceptor, will be required to install one at their expense. Failure to properly maintain the interceptor or provide maintenance records will be considered a violation of the By-law.

Facility Self-Monitoring and Reporting

Businesses and industrial facilities are responsible for their own wastewater. Self-monitoring may assist facilities in the early identification of non-compliance with the Sewer Use By-law and result in a timely correction of the cause. As a result, dischargers may be required to sample their wastewater and report the analytical results to Sewer Use Program staff on a regular basis.

Dischargers may also be required to provide Compliance Officers with information regarding the operation of their facility. This may include such things as a description of process operations, names and quantities of materials stored on site, diagrams, and maintenance records.

Compliance Measures

It is the responsibility of each facility to ensure that its discharge complies with the Sewer Use By-law. If you suspect that your wastewater discharge exceeds the limits or contains prohibited substances, you will be required to bring the discharge into compliance with the Sewer Use By-law. This may be accomplished through the installation of pre-treatment devices or the implementation of compliance measures, provided for in the By-law.
Compliance measures may include:

- Discharge Agreements
- Compliance Program (pollution prevention strategies)
- Best Management Practices (BMPs) plans

Discharge Agreements

When wastewater discharges exceed certain limits or contain prohibited substances, a facility may have the option of entering into an agreement with the City to bring their discharge into compliance with the By-law. The agreements outline the conditions that must be met and provide for the recovery of treatment costs. Four types of agreements may be available to dischargers in the City of Ottawa:

- **Special Discharge Agreement**
  Facilities wishing to discharge non-toxic waste that exceeds the discharge limits for substances that can be treated at the wastewater treatment plant can apply to the City for a Special Discharge Agreement. Treatable substances include suspended solids, biochemical oxygen demand, total phosphorus and total kjeldahl nitrogen. The discharge must comply with all other By-law limits. The agreement outlines monitoring and reporting requirements and provides for the recovery of additional treatment costs.

- **Sanitary Sewer Agreement**
  Discharges of liquid material that comes from a source other than the municipal water system, such as remediated groundwater, may require a Sanitary Sewer Agreement. Under specific conditions, the agreement will allow the discharge of the wastewater to the sanitary or combined sewer system. The agreement outlines monitoring and reporting requirements and a fee is levied against the facility to cover the cost of treating the wastewater.

  Anyone wishing to discharge this type of material to the sewage works must make their request in writing to Sewer Use Program staff and provide recent analytical results. The discharge must meet by-law limits and volume restrictions may be imposed on the discharge where warranted by conditions in the sewer.

- **Leachate Agreement**
  The By-law generally prohibits the discharge of waste disposal site leachate to the sewage works. Under specific circumstances and conditions, leachate may be discharged to the sewer or hauled to the wastewater treatment plant for treatment. Anyone wishing to discharge leachate to the sewage works must make their request in writing to Sewer Use Program staff and provide recent and historical analytical results of the leachate. If approved, the disposal of the leachate is subject to the terms and conditions of a discharge agreement. This includes payment of additional treatment costs and self-monitoring and reporting requirements.

- **Sludge Agreement**
  The By-law generally prohibits the discharge of sludge to the wastewater treatment plant. Under specific circumstances and conditions, sludge can be discharged to the sewer or hauled to the Robert O. Pickard Centre for treatment. Anyone wishing to discharge sludge to the sewage works must make their request in writing to Sewer Use Program staff and provide recent analytical results of the sludge. If approved, the disposal of the sludge is subject to the terms and conditions of a discharge agreement, including payment of additional treatment costs and self-monitoring and reporting requirements.

Agreements contain special requirements beyond those outlined in this publication. For further details, or to initiate the approval process, contact a Sewer Use Program representative at 613-580-2424, ext. 23326.

Compliance Program

Facilities discharging wastewater which exceeds By-law limits, can request the implementation of a compliance program. The objective of the compliance program is to bring the discharge within the requirements of the Sewer Use By-law while providing the facility with sufficient time to implement the required corrective action. The compliance program sets conditions and time frames under which the facility may be allowed to discharge the waste to the sanitary or combined sewer.

The compliance program is in effect for a specified length of time. During this time, the facility plans, designs, constructs, installs or implements the required equipment and practices to come into compliance.

Facilities will be required to assess the quality of their wastewater and provide a progress report for each of the compliance program activities they have undertaken. The program is in line with pollution prevention as it emphasizes source reduction and encourages facilities to implement waste reduction practices.

As part of a compliance program, facilities may bring their discharge into compliance by implementing one or more of the following activities:

a) Change a process, method or technique to reduce, avoid, or eliminate the generation of hazardous waste.
b) Install pre-treatment equipment to remove contaminants from wastewater before it is discharged into the sewer system.
c) Substitute materials and chemicals to reduce or eliminate the use of hazardous materials.
d) Recycle waste materials or specific chemicals for reuse within the existing processes or operations. By recycling and utilizing waste materials, facilities can realize long-term economic and social benefits.
e) Improve maintenance and operational procedures to avoid equipment breakdown that may result in contaminant discharges into drains and sewers.

Best Management Practices Plans

Best Management Practices (BMPs) Plans outline operating standards for an industrial sector. They contain detailed requirements for special handling of waste, and minimum requirements for the installation of pre-treatment equipment, maintenance, and record keeping. They may also include pollution prevention initiatives, good housekeeping practices, training requirements, fire safety measures, and emergency response procedures. Under specific conditions, exemptions or variances may be provided for some By-law limits if the facility is operating in accordance with an approved BMP.

BMPs contain special requirements beyond those outlined in this publication. For further details, or to initiate the approval process, contact a Sewer Use Program representative at 613-580-2424,ext. 23326.

Hauled Liquid Waste

Industrial, institutional, and commercial facilities, which discharge non-residential wastewater into septic or holding tanks, must comply with the Sewer Use By-law. Dischargers that are uncertain if a material can be discharged at the wastewater treatment plant should contact a representative of the Sewer Use Program at 613-580-2424, ext. 23326.

If the waste in question is subject to Ontario Regulation 347 (General Waste Management), specific manifesting and discharge procedures must be followed.

Waste haulers wishing to dispose of any liquid material must obtain an annual permit from the City and abide by its terms and conditions. The permit specifies the types of waste that are acceptable for discharge and the times and location of the discharge. Haulers must provide a manifest for each load of waste they discharge, and must ensure that the liquid material meets the Sewer Use By-law requirements. Since access to the wastewater treatment plant is controlled electronically, haulers using the site must have their trucks equipped with an electronic access card.

To obtain an application form for an annual permit, please contact a representative of the Sewer Use Program at 613-580-2424, ext. 23326. When you contact the City, please ensure that you have a copy of your up-to-date Ontario Ministry of the Environment (MOE) approvals and permits on hand.

Spills and Unusual Discharges

Every individual or facility who accidentally discharges prohibited waste into the sanitary, combined, or storm sewer system, or discharges material which is not normally discharged regardless of the quantity, **must notify a representative of the Sewer Use Program immediately at 613-580-2424 ext. 23326,** during regular business hours, Emergency calls will be accepted outside of regular operating hours by the City's Call Centre at 3-1-1. These reporting requirements are in addition to any other legal reporting requirements.

The following information should be provided when reporting a discharge:

- Location of the spill
- Names of the individual who discharged the waste and the individual who reported the event
- The time of the discharge
- Type and volume of material discharged and any associated hazards
- Corrective actions being taken to control the discharge

The discharger must also do everything reasonably possible to contain the spill, minimize damages and clean up the spill. In the event that this does not occur, the City is authorized to undertake the remediation and recover any associated costs from those responsible.

The discharger is then required to submit a written report to the Sewer Use Program within five days following the discharge. In addition to the information outlined above, the report must describe:

- The material spilled
- The characteristics of the material
- The volume and duration of the discharge
- The work completed to mitigate the spill
- The preventative measures that the discharger will take to avoid recurrence of a similar incident in the future.

Enforcement

In most cases, the favoured approach to dealing with violations of the Sewer Use By-law is to enlist cooperation and commitment from the discharger to promptly address and correct the non-compliance. Lack of cooperation, or failure to resolve non-compliance within a reasonable time frame is met with escalated enforcement until the desired results are achieved.

A facility or individual not complying with the Sewer Use By-law could be subject to enforcement actions ranging from the issuance of a Notice of Violation, ticket, permit suspension or revocation, as well as prosecution. The Sewer Use By-law has provisions for fines in the event of conviction.

Sewer Use By-Law Fine Structure

	Individual	Facility
First offence (maximum)	$10,000	$50,000
Second offence (maximum)	$25,000	$100,000

If you have knowledge of a spill or unusual discharge to the sewer system, please call a representative of the Sewer Use Program at 613-580-2424 ext. 23326, or the City's Call Centre at 3-1-1. Your identity will be kept confidential. Compliance Officers will investigate and follow up to see that corrective actions are taken.

Appendix

List of Contacts

City of Ottawa

Sewer Use Program:
- 613-580-2424, ext. 23326
- sup-pue@ottawa.ca

Sewer Back Up, Flooding:
- 3-1-1
- 311@ottawa.ca

City of Ottawa Call Centre
(Monday through Saturday, 7 am to 7 pm):
- 3-1-1
- Open 24 hours for urgent* issues
- 613-580-2400 (outside city limits)
- 866-261-9799 (toll free)
- 311@ottawa.ca
- TTY (for the deaf, deafened and hard of hearing): 613-580-2401

For urgent* issues please call 3-1-1 since e-mail responses may take up to five business days.

Ontario Ministry of the Environment (MOE)
613-521-3450 or 1-800-565-4923

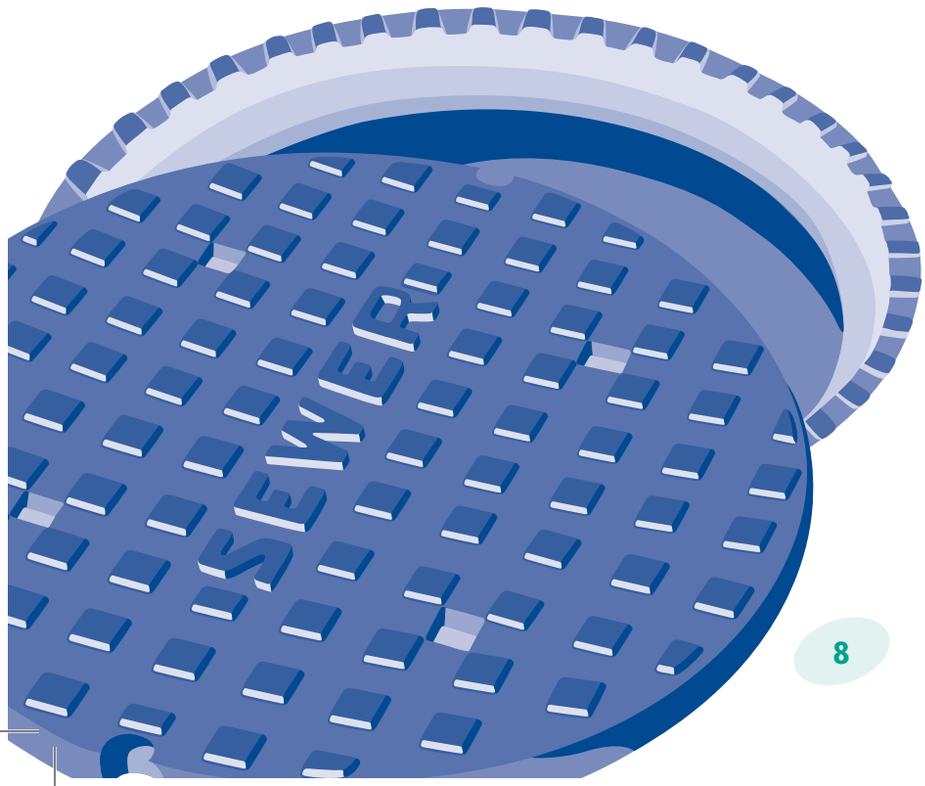
Environmental Spill Reporting

- Spills Action Centre
  1-800-268-6060

- Sewer Use Program, City of Ottawa
  613-580-2424, ext. 23326
  sup-pue@ottawa.ca

Environment Canada
613-997-2800

Consult your local yellow pages under **Liquid Waste Removal** for listings of Industrial Waste Haulers.
For listings of Environmental Engineers and Consultants, check listings under **Environmental Consultants and Services**.



This booklet has been produced by the
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Cette brochure est aussi disponible en français.

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