MODEL SEWER USE BYLAW

Model Sewer Use Bylaw Guidance Document

–Final–

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Marbek Resource Consultants
300-222 Somerset Street West, Ottawa, ON K2P 2G3
Tel: 613.523.0784 • Fax: 613.523.0717 • www.marbek.ca

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MODEL SEWER USE BYLAW

OVERVIEW OF THIS DOCUMENT

This is a guidance document for development of sewer use bylaws by municipalities, utilities and other organizations providing wastewater services to communities in Canada.

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model bylaw, or any provision thereof, for their own purposes.

This Model Bylaw is a tool to assist Canadian municipalities and communities in implementing source controls for contaminants discharged to community sewer systems. It was developed as part of the *Canada-wide Strategy for the Management of Municipal Wastewater Effluent* to harmonize the management approach for municipal wastewater in Canadian provinces, territories and on federal and Aboriginal lands.

There are six parts to this document:

1. **How to Use This Document**, with a flowchart identifying steps and which parts of this Guidance are applicable to potential users of the Model Sewer Use Bylaw
2. **Scope** of the Model Sewer Use Bylaw
3. **Annotated Model Sewer Use Bylaw**, in two segments (Core Bylaw and Advanced Clauses) with notes and guidance within the text and Appendices with supplemental information
4. **Derivation of Model Bylaw Concentration Limits**, in two tables depicting the information and process used to develop recommended limits.
5. **Template for a Model Sewer Use Bylaw for Smaller Communities,** for communities with primarily residential customers
6. **Template for a Model Sewer Use Bylaw for Mixed Customer Communities** with customer connections that include residential, commercial, institutional and/ or industrial customers.

Readers are encouraged to also use as a reference the *Environmental Risk Management: Framework and Guidance* document, which is Technical Supplement 2 of the Canada-wide Strategy for Managing Municipal Wastewater Effluent. In particular, Part 5 of the document provides information on Effluent Characterization and Monitoring that is relevant to assessing source control issues. This document is available from the CCME website (URL: http://www.ccme.ca/assets/pdf/mwwe_techsuppl2_ermm_guidance_e.pdf).

Acknowledgements

In developing this Model Sewer Use Bylaw, Marbek Resource Consultants referenced several existing bylaws and model bylaws as a basis for text development. In addition, several municipalities contributed information regarding waste prohibitions, restrictions and limits. Steering Committees for the development of the initial draft and the final bylaw provided numerous reference documents and input for the document development. During the public comment period for the initial draft, stakeholders also provided comments and information that improved the final product.

IMPORTANT NO TES AND LIMITATIO NS OF THIS MODEL SEWER USE BYLAW

Source control is an important part of the CCME *Canada-wide Strategy for the Management of Municipal Wastewater Effluent (the Strategy)*. Source control is important because many substances are not treatable or only partially treatable in conventional municipal wastewater treatment systems, or they are partitioned into wastewater sludges limiting their reuse. Therefore, if these substances are not controlled at source, they can be introduced into the environment via wastewater infrastructure. The Environmental Risk Assessment (ERA) component of the Strategy requires many municipalities to consider their impacts on the local environment relative to surface water quality guidelines. (Refer to the Strategy for additional information on the ERA protocol, mixing zone considerations, effluent discharge objectives and other requirements.)

This Model Bylaw is a synthesis of bylaw provisions from several Canadian municipalities. CCME consulted stakeholders and peer reviewers during the development of the Model. The Model suggests ways to deal with issues that have been faced collectively by the municipal wastewater sector. Wording of clauses is intended to be as generic as possible so that provisions can be adopted or modified by communities of all sizes and types. The administrative program, such as forms and permits (provided in Appendix A), will likely require some modifications to suit individual community approaches. Guidance is provided in text boxes such as this one throughout the Model for various municipal situations and specific provisions. Overall, the Model conveys important principles and considerations for community sewer use controls.

The Model Bylaw has been developed to provide guidance and as a reference model for municipalities to use. However, municipalities and other communities should obtain proper legal advice before using this model bylaw or any provisions for their own purposes. It will also be important for municipalities to identify the specific objectives that are to be achieved through the implementation of a sewer use bylaw. (Refer to the following section for an outline of the necessary steps to create a bylaw.)

The model contains a number of Schedules which, generally, outline requirements that could change relatively frequently in terms of additional contaminants or concentration limits. The use of schedules anticipates that it is more expedient to amend a schedule than the body of a bylaw, but this depends on your municipal bylaw processes.

The limits identified in this Model Bylaw provide guidance and a starting point for consideration of community limits. It will be very important for each municipality to consider the features and circumstances of the community when identifying limits for substances in their bylaw. Considerations include: a risk assessment for receiving waters, effluent discharge objectives, public treatment plant capacity and operations, biosolids disposal requirements, and local industrial, commercial and institutional discharges.

There are numerous emerging substances that are not addressed in this bylaw because scientific information and technological options to address these substances are not well established. Emerging substances include endocrine disrupting substances, pharmaceuticals, personal care products, nanotechnology products and nanotechnology process wastes.

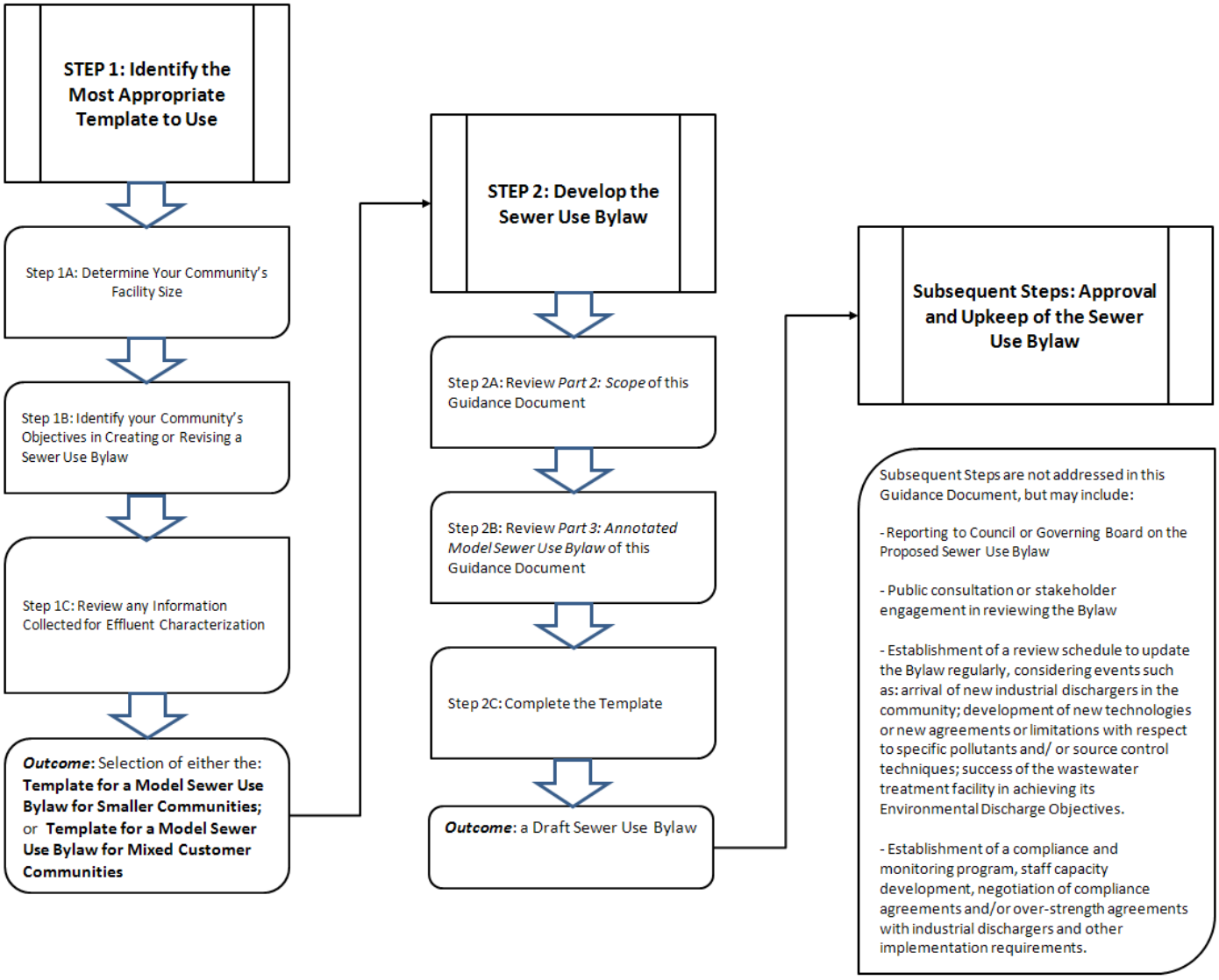
Other bylaws and tools, such as development permits, can also be used by Municipalities to assist in the protection of public health and the environment. These complementary measures may mean that it is not necessary to incorporate all of the controls or measures identified in this Model Bylaw.

PART 1: HOW TO USE THIS DOCUMENT

Overview

This Model Sewer Use Bylaw was developed for communities of all sizes and with a wide range of inputs to the sewer system. Due to significant differences between the needs of smaller, primarily residential communities and those communities with flows that include industrial effluents, the Model Sewer Use Bylaw has been developed in two segments: Core Bylaw and Advanced Clauses. Two Templates (under separate cover) have been developed to ease compilation of the applicable clauses for a sewer use bylaw: the first Template provides the Core Bylaw and the second Template incorporates the Advanced Clauses into the Core Bylaw.

The following flowchart provides an overview of the steps recommended for using this document to guide development or revision of your Sewer Use Bylaw. The two key steps covered by this Guidance Document are explained in more detail following the flowchart.



DESCRIPTION OF STEP 1: IDENTIFY THE MOST APPROPRIATE TEMPLATE TO USE

Step 1A: Determine Your Community's Facility Size

The size of your community's wastewater treatment facility will provide a good indication of which Template for the Model Sewer Use Bylaw is most suited for your use. If your community has more than one facility, take the size of both facilities together into consideration to make your assessment. Note the *Medium Facility* definition includes Small and Very Small facilities with industrial inputs.

Definitions of Facility Size
(from the Canadian Council of Ministers of the Environment (CCME) *Canada-wide Strategy for the Management of Municipal Wastewater Effluent*)

Very Small Facility
Facility discharge is less than 500 m3 per day on an annual average, based on facility design capacity. Where the actual discharge meets or exceeds design capacity, the actual flow will be used. Under this category, only residential input is considered. Very small facilities receiving industrial input must meet the requirements of Medium sized facilities.

Small Facility
Facility discharge is greater than 500 m3 per day (m3/day) but less than 2,500 m3/day on an annual average, based on facility design capacity. Where the actual discharge meets or exceeds design capacity, the actual flow will be used. Under this category, only residential input is considered. Small facilities receiving industrial input must meet the requirements of a Medium sized facility.

Medium Facility
Facility discharge is greater than 2,500 m3/day and less than 17,500 m3/day on an annual average, based on facility design capacity. Where the actual discharge meets or exceeds design capacity, the actual flow will be used. All discharge types are considered. Small and Very Small facilities with industrial input are considered to be Medium facilities.

Large Facility
Facility discharge is greater than 17,500 m3/day and less than 50,000 m3/day on an annual average, based on facility design capacity. Where the actual discharge meets or exceeds design capacity, the actual flow will be used. All discharge types are considered.

Very Large Facility
Facility discharge is greater than 50,000 m3/day on an annual average, based on facility design capacity. Where the actual discharge meets or exceeds design capacity, the actual flow will be used. All discharge types

For communities with industrial input, including those falling within the definition for medium and larger facilities as well as small and very small facilities with industrial input, the **Template for a Model Sewer Use Bylaw for Mixed Customer Communities** should be used.

Communities with very small and small facilities without industrial input may use the **Template for a Model Sewer Use Bylaw for Smaller Communities**, although the community's objectives may lead to a decision to use some of the Advanced Clauses (see Step 1B).

Step 1B: Identify your Community's Objectives in Creating or Revising a Sewer Use Bylaw

Both the Core Bylaw and Advanced Clauses of this Model Bylaw have been developed to suit a wide scope of objectives for sewer use bylaws, including:

- Protect public health
- Protect the environment
- Protect property
- Municipal staff and infrastructure protection
- Enable optimum wastewater system efficiency and use
- Prevent storm water and 'clear' water from entering the system
- Some considerations for the protection of wastewater sludge quality (see Part 2: Scope)

More specific objectives may be developed by the community for control of certain sources of pollution or certain pollutants of particular concern. Objectives for the sewer use bylaw may take into consideration the Effluent Discharge Objectives (EDOs), as determined through a risk assessment process (as outlined by the province or territory to implement the CCME *Canada-wide Strategy for the Management of Municipal Wastewater Effluent).* Risk assessment considerations include the receiving water capacity to assimilate waste materials and the capacity of the Municipality's infrastructure. The Advanced Clauses segment contains sections for Codes of Practice and Pollution Prevention Plans. Codes of Practice are designed to control the practices of designated commercial or industrial dischargers. Pollution Prevention Plans are designed to control the release of specific substances and, when used, are usually implemented as a requirement of a specified list of dischargers.

Very Small and Small communities may wish to consider implementation of one or both of these tools for specific dischargers within their communities (such as garages, dry cleaners, dental offices or restaurants, for example) or to target pollutants that are in, or may be in, the wastewater effluent. These tools can be of particular interest if a community wastewater effluent is not meeting its EDOs. (Refer to the CCME *Canada-wide Strategy for the Management of Municipal Wastewater Effluent* and Technical Supplements for information on EDOs.)

Communities wishing to use Codes of Practice or Pollution Prevention Plans within their Sewer Use Bylaw should use the **Template for a Model Sewer Use Bylaw for Mixed Customer Communities**. Very Small and Small communities not wishing to apply these tools, should use the **Template for a Model Sewer Use Bylaw for Smaller Communities**.

Step 1C: Review any Information Collected for Effluent Characterization

As the CCME *Canada-wide Strategy for the Management of Municipal Wastewater Effluent* is implemented, many communities will be conducting studies on wastewater treatment facility effluents, including characterization and monitoring of medium and larger facilities. The results of these studies may highlight certain pollutants of concern. As indicated in Step 1B above, Codes of Practice and/or Pollution Prevention Plans are tools that can address specific source control issues and objectives.

Outcome of Step 1: Selection of the Core Bylaw only or inclusion of Advanced Clauses also, and Matching Template

In consideration of the results of Steps 1A to 1C, select the Template that will form the basis for your Sewer Use Bylaw.

DESCRIPTION OF STEP 2: DEVELOP THE SEWER USE BYLAW

Step 2A: Review Part 2- Scope of this Guidance Document

The CCME *Canada-wide Strategy for Management of Municipal Wastewater Effluent* focuses on wastewater products of treatment facilities and receiving water body protection. Prior to completion of the Template, it is important to consider the limitations of this Model Bylaw (see Part 2: Scope) and determine what, if any, additional work will be needed to create a comprehensive bylaw. The Model Bylaw is organized for stormwater provisions to be included as Section 3 of the bylaw; as indicated in Part 2, no stormwater provisions are included in the model.

Step 2B: Review Part 3- Annotated Model Sewer Use Bylaw of this Guidance Document

Part 3 of this Guidance provides the clauses with notations and background information to assist in completion of the appropriate Template. It is recommended that the user read through Part 3 prior to completing the Template.

The concentration limits are recommended limits; municipalities should consider whether or not these are stringent enough to meet their objectives and other factors that may influence concentrations chosen for their bylaw (such as concentrations of substances in drinking water and presence of combined sewers). Notations on certain limits within Part 3 draw attention to specific issues. *Part 4: Derivation of Model Bylaw Concentration Limits* provides the process, references and rationale for recommended concentrations.

Step 2C: Complete the Appropriate Template

In preparing a Sewer Use Bylaw, municipalities should consult with regulatory agencies to ensure that the standards set through the bylaw will enable the resulting wastewater treatment plant effluent to be in compliance with regulatory requirements.

With an understanding of the regulatory agency requirements and this Guidance Document, complete the appropriate Template (either Part 5 or Part 6 of this Guidance Document).

Outcome of Step 2: a Draft Sewer Use Bylaw

As a result of completion of Steps 2A to 2C, you will have developed a draft Sewer Use Bylaw.

POSSIBLE SUBSEQUENT STEPS: APPROVAL AND UPKEEP OF THE SEWER USE BYLAW

This Guidance Document addresses the two steps described above. Subsequent Steps are not addressed in this Guidance Document, but may include:

- Legal review of all aspects of the proposed sewer use bylaw
- Reporting to Council or Governing Board on the Proposed Sewer Use Bylaw.
- Public consultation or stakeholder engagement in reviewing the Bylaw.
- Establishment of a review schedule to update the Bylaw regularly, considering events such as: arrival of new industrial dischargers in the community; development of new technologies or new agreements or limitations with respect to specific pollutants and/ or source control techniques; success of the wastewater treatment facility in achieving its Environmental Discharge Objectives.
- Establishment of a compliance and monitoring program and staff capacity development.
- Development of a pricing strategy for treatment, permitting, and Extra Strength Agreements.
- Negotiation of approved compliance programs and/or Extra Strength Surcharge Agreements with industrial dischargers.

Other implementation requirements should also be identified.

PART 2: SCOPE OF THE MODEL SEWER USE BYLAW

This Model Bylaw applies to all discharges to sanitary and combined sewer works, including:

(1) Domestic wastewater
(2) Industrial/commercial/institutional wastewater
(3) Hauled waste and wastewater, including septage
(4) Extra strength matter, clear-water waste and subsurface water.

As indicated in Part 1 above, the CCME *Canada-wide Strategy for Management of Municipal Wastewater Effluent* focuses on wastewater products of treatment facilities and receiving water body protection. As such, some significant outstanding issues, in particular biosolids products of treatment and storm water management, were not addressed by the Strategy (except storm water as a component of combined sewage). This Model Bylaw focuses on wastewater effluents; municipalities may wish to also develop provisions and requirements pertaining to storm water and a placeholder for storm sewer requirements are included in this Model Bylaw. Inclusion of requirements to protect storm water quality and/ or quantity control may be appropriate to meet your community's objectives for aquatic environment protection.

Similarly, municipalities will need to consider the biosolids quality conditions, risks and disposal options to ascertain whether the recommended concentration limits on discharges into the wastewater system identified in this Model will be appropriate and sufficient. Requirements of your community's governing jurisdiction with respect to biosolids quality need to be considered to ensure the concentration limits specified for pollutants of potential concern (metals, for example) are stringent enough to satisfy land application specifications, if applicable.

Waste disposal site leachate is not specifically addressed in the bylaw. Practice varies across Canada with respect to acceptance of leachate by wastewater facilities. Unless specific wastewater and wastewater sludge treatment capability is in place to address leachate contaminants, it is recommended that municipalities add leachate to the schedule of prohibited wastes (i.e. Schedule A of the Model Bylaw).

This Model Bylaw may be modified to complement other municipal bylaws and initiatives, for example to control or ban pesticides, to require owners to stoop and scoop pet wastes, to prevent car washing on outdoor properties or other initiatives. If your Municipality has, or intends to create, these bylaws, the target substances or activities can be identified as appropriate within the sewer use bylaw to provide additional support for these initiatives.

This Model Bylaw does not directly address rates and charges for wastewater services; rates and charges for services can provide incentives for broader environmental goals and therefore a Rates and Charges Bylaw can complement and support the objectives of a Sewer Use Bylaw.

PART 3: ANNOTATED MODEL SEWER USE BYLAW

Overview of the Model Sewer Use Bylaw

As indicated in Part 2, the Model Bylaw is presented in two segments:

- The first segment, Core Bylaw, outlines a basic bylaw for communities that are primarily residential. It is anticipated that primarily residential communities have some commercial activities, such as restaurants and auto repair garages and have local services, in particular, dental services. The Core Bylaw addresses sanitary, combined and storm sewer use. Schedules A and B outline prohibited and restricted wastes for sanitary and combined sewers. (A Supplementary List of Substances provides a list of substances from which municipalities may select additional substances to add to either Schedule A or B, as appropriate for the mix of community sewer dischargers and the municipality's bylaw objectives.)

- The second segment, Advanced Clauses, outlines additional bylaw options for industrial sewer use controls and other source protection initiatives, including pollution prevention planning, codes of practice and associated programs, such as compliance programs. Schedules C, D, E and F outline additional management measures (including codes of practice and pollution prevention plans) for industrial sectors and provide a template for pollution prevention subject pollutants. Communities with both residential and industrial sewer connections can combine the two segments, Core Bylaw and Advanced Clauses, for a comprehensive bylaw to address sanitary sewer dischargers.

- Other supplementary information is also available, including sample forms for permits (Appendix A) and a searchable database available from CCME to identify potential pollutant sources.

Following is an outline of each of the two segments and their sections. The Templates for each of the two options consolidate the relevant sections and, for the Core Bylaw, eliminate unnecessary clauses and Schedules for ease of completion. The Templates also eliminate, to the extent possible, explanatory text and guidance material so that, once completed, they form a draft Bylaw document. The Templates are provided under separate cover in Word format for ease of completion.

Core Bylaw

Introduction to Bylaw

This section provides introductory text for use by the municipality in identifying the objectives of the sewer use bylaw.

Section 1 – Definitions

This section defines the terms used in the bylaw such as "industrial", "sanitary sewer", "sewage", "storm water" and "storm sewer".

Section 2 – Sanitary and Combined Sewer Requirements

Conditions and restrictions for the discharge of sewage to sanitary and combined sewer system works are listed, with schedules

Section 3 – Storm Water Requirements
Municipalities are responsible for storm water entering municipal sewers that is discharged to natural watercourses. A placeholder for storm water requirements is identified in this Model; specific requirements are not identified (see Part 2 Scope, above).

Section 4 – Prohibition of Dilution
Discharge of additional water is prohibited to achieve the conditions and restrictions of Section 2.

Section 5 – Sampling and Analytical Requirements
A municipality requires information to assess potential impacts of the various sources which discharge to the sewer system. A suggested format for the gathering of information is appended to the bylaw.

Section 6 – Discharger Self-Monitoring and Sampling
Self-monitoring by the discharger may be required where a municipality requires additional information on the nature of sewage from a specific site.

Section 7 – Additional Connection Requirements
Requirements for food-related grease, vehicle service oil and grease, sediment interceptors and dental amalgam separators.

Section 8 – Hauled Wastewater
Requirements for haulers depositing wastewater into the public system.

Section 9 – Hauled Waste
Requirements for haulers depositing waste into the public system.

Section 10 – Non-contact Cooling Water
Prohibition of deposit of non-contact cooling water to the wastewater system.

Section 11 – Water Originating from a Source other than a Municipal Water Supply
Prohibition, with conditions, of water other than municipally supplied water to the wastewater system.

Section 12 – Spills
Information to be reported to the municipality and actions to be completed by the persons responsible for the spill to the sanitary, combined or storm sewer are listed. *Note*: Requirements for reporting a spill event to appropriate provincial or territorial ministry still apply.

Section 13 – Authority of Designated Sewer Officer to Investigate
Identifies the authority of a Designated Sewer Officer to investigate inspect, observe, sample and measure the flow in any private drainage system, wastewater disposal system, or storm water management facility.

Section 14 – Disconnection of Sewer
Provisions for the Municipality to disconnect wastewater sewer services.

Section 15 – Offences
Fines are provided for as applicable under the delegated authority of municipalities or communities.

Section 16 – Access to Information
Information submitted to the municipality is subject to public access unless such information is confidential or proprietary or otherwise, it may be exempt from disclosure upon demonstration of the nature of the information

Advanced Clauses

Section 1 – Additional Definitions
This section defines the terms used in the advanced clauses, such as "codes of practice" and "pollution prevention plans".

Section 7 – Additional Requirements
Optional requirement for prohibition of food waste grinders and other pretreatment requirements.

Section 12 – Spills
Additional clause pertaining to spills.

Section 17 – Monitoring Access Points
Location, accessibility, construction and maintenance requirements are listed for monitoring access points which are used for monitoring and sampling.

Section 18 – Extra Strength Surcharge
A municipality may require a discharger to enter into an Extra Strength Surcharge Agreement where:

- A site is discharging a contaminant treatable by the receiving sewage treatment plant
- The concentration of the discharge exceeds the limit in the local sewer use bylaw
- And the sewage treatment plant has sufficient capacity to treat the additional waste loadings.

All conditions are defined by the municipality. The CCME recommends recovery of the cost for the treatment of the additional loadings.

Section 19 – Compliance Programs
A municipality may require a discharger to enter into a compliance program where:

- The discharger is out of compliance with the bylaw
- No immediate negative impact is expected
- And the discharger is willing to work towards compliance in a reasonable period of time.

All conditions are defined by the municipality.

Section 20 – Codes of Practice

Municipalities may identify suitable codes of practice to be undertaken by specified industrial or commercial sectors to improve wastewater discharge characteristics or to reduce volumes of wastewater discharged.

Section 21 – Pollution Prevention Planning

Municipalities may identify specific pollutants of concern and the industrial or commercial sectors associated with the release of the substances of concern. These sectors can be required to develop pollution prevention plans to reduce or eliminate the discharge of the pollutants.

Part 3: ANNOTATED MODEL SEWER USE BYLAW

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CORE BYLAW (FOR PRIMARILY RESIDENTIAL COMMUNITIES AND BASE FOR INCORPORATION OF MIXED COMMUNITY CLAUSES)

INTRODUCTION

General Guidance:
The word "Municipality" has been used generically in the model bylaw. Replace it, as appropriate, to suit your circumstance; e.g., Village, County, etc.

All text highlighted in grey and associated text should be substituted with the terminology appropriate to your jurisdiction.

Guidance for writing an Introduction: Each municipality should adjust the introduction as appropriate for its infrastructure and objectives for source control.

This Bylaw outlines controls for the discharge of pollutants to the sewer system. The objectives of the bylaw are to:

- Protect the sewer collection system from corrosion, other damage and obstruction
- Protect the wastewater treatment process from upset
- Protect the public, municipal workers and property from hazardous conditions (such as explosions)
- Assist optimum wastewater system efficiency by preventing uncontaminated water from entering the system
- Protect wastewater sludge quality
- Protect the environment from contaminants that are not removed by the public treatment system(s)
- Assist the Municipality in maintaining compliance with the operating conditions established by [the province of (insert applicable jurisdiction name) or Water Board of (name)]

1. DEFINITIONS

As used in this bylaw, the following terms shall have the meanings indicated:

ACCREDITED LABORATORY – Any laboratory accredited by an authorized accreditation body in accordance with a standard based on "*CAN-P-1585: Requirements for the Accreditation of Environmental Testing Laboratories*" established by the Standards Council of Canada, as amended, or "*ISO/IEC/EN 17025: General Requirements for Competence of Calibration and Testing Laboratories*" established by the International Organization for Standardization, as amended.

Guidance on Accreditation: Some analyses required to measure substances in this bylaw may not

be covered specifically by accreditation programs or supported by associated proficiency testing. The Municipality may need to identify suitable analytical methods for some contaminants; alternatively it may require the discharger to propose a suitable method for municipal approval.

Some communities may not have ready access to accredited laboratories. If this is the case, the applicable clauses in this Model Bylaw, including this definition, may be modified to enable "authorized laboratories" to carry out analysis; the community will need to establish how authorized laboratories are to be identified, by whom, and what proficiency requirements must be demonstrated by the laboratory in order to maintain authorization.

BIOCHEMICAL OXYGEN DEMAND (BOD) – The five-day BOD which is the determination of the molecular oxygen utilized during a five-day incubation period for the biochemical degradation of organic material (carbonaceous demand), and the oxygen used to oxidize inorganic material such as sulphides and ferrous iron, and the amount of oxygen used to oxidize reduced forms of nitrogen (nitrogenous demand) as determined by the appropriate procedure in Standard Methods.

BIOMEDICAL WASTE – Biomedical waste as defined in the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended from time to time.

Guidance on "Biomedical Waste": It may be useful guidance to copy the definition from your pertinent provincial/territorial legislation.

BLOWDOWN WATER – Recirculating water that is discharged from a cooling or heating water system for the purpose of controlling the level of water in the system or for the purpose of discharging from the system materials contained in the system, the further build-up of which would or might impair the operation of the system.

CHEMICAL OXYGEN DEMAND (COD) – A measure of the capacity of water to consume oxygen as a result of oxidation of inorganic chemicals and decomposition of organic matter.

CLEAR-WATER WASTE – Includes non-contact cooling water and other water that has not come into contact with wastewater contaminant sources.

COMBINED SEWER – A sewer intended to function simultaneously as a storm sewer and a sanitary sewer.

COMBUSTIBLE LIQUID – A liquid that has a flash point not less than 37.8 degrees Celsius and not greater than 93.3 degrees Celsius.

COMPOSITE SAMPLE – A volume of wastewater, storm water, uncontaminated water, clear-water or effluent made up of three or more grab samples that have been combined automatically or manually and taken at intervals during the sampling periods.

CONNECTION or DRAIN – That part or those parts of any pipe or system of pipes leading directly to a wastewater works.

COOLING WATER – Water that is used in a process for the purpose of removing heat and that has not, by design, come into contact with any raw material, intermediate product, waste product or finished product, but does not include blowdown water.

DENTAL AMALGAM – A dental filling material consisting of an amalgam of mercury, silver and other materials such as copper, tin or zinc.

DENTAL AMALGAM SEPARATOR – Any technology, or combination of technologies, designed to separate dental amalgam particles from dental operation wastewater.

DESIGNATED SEWER OFFICER – The person appointed by the Municipality, and his or her successors or his or her duly authorized representative. (Note the Designated Sewer Officer may hold the position of General Manager, City Manager, Inspector or other position suitable to the organization of the community.)

DOMESTIC WASTEWATER – Waste produced on a residential premises, or sanitary waste and wastewater from showers and restroom washbasins produced on a non-residential property.

Guidance on "Domestic Wastewater": The following, expanded, definition of domestic wastewater could be used (note that pharmaceuticals are mentioned but are not specifically dealt with in this version of the Model): "Wastewater that is the composite of liquid and water-carried wastes associated with the use of water for drinking, cooking, cleaning, washing, hygiene, sanitation or other domestic purposes, but does not include disposal of unused waste consumer products, including pharmaceuticals, or other household wastes which can be otherwise collected including, but not limited to, oil and grease of animal and vegetable origin. This definition includes institutions where no laboratory, medical, necropsy or other "non-domestic" procedures leading to discharges to sewer are performed, with the exception of requirements of food-related grease interceptors which apply to their cafeterias."

EXTRA STRENGTH – Refers to wastewater released to the sewer that is higher in concentration for one or more constituent concentrations set out in Schedule B or containing constituents identified in Schedule B.

FLOW MONITORING POINT – An access place to the sewer service for the purpose of:

(1) Measuring the rate or volume of wastewater, storm water, clear water waste or subsurface water released from the premises; and

(2) Collecting representative samples of the wastewater, storm water, clear water waste or subsurface water released from the premises.

FUELS – Alcohol, gasoline, naphtha, diesel fuel, fuel oil or any other ignitable substance intended for use as a fuel.

GRAB SAMPLE – A volume of wastewater, storm water, uncontaminated water or effluent which is collected over a period not exceeding 15 minutes.

GROUND WATER – Water beneath the earth's surface accumulating as a result of seepage.

HAULED WASTE – Any industrial waste which is transported to and deposited into any location in the wastewater works, excluding hauled wastewater.

HAULED WASTEWATER – Waste removed from a wastewater system, including a cesspool, a septic tank system, a privy vault or privy pit, a chemical toilet, a portable toilet or a wastewater holding tank.

HAZARDOUS SUBSTANCES **–**

A. Any substance or mixture of substances, other than a pesticide, that exhibits characteristics of flammability, corrosivity, reactivity or toxicity; and

B. Any substance that is designated as a hazardous substance within the meaning of [*federal, provincial or territorial Statute or Regulation as appropriate for the municipality*], as amended from time to time.

HAZARDOUS WASTE – Any Hazardous Substance disposed of as waste.

IGNITABLE WASTE – A substance that:

A. Is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has a flash point less than 93 degrees Celsius, as determined by the Tag Closed Cup Tester (ASTM D-56-97a), the Setaflash Closed Cup Tester (ASTM D-3828-97 or ASTM D-3278-96e1), the Pensky-Martens Closed Cup Tester (ASTM D-93-97), or as determined by an equivalent test method;

B. Is a solid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a danger;

C. Is an ignitable compressed gas as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended; or

D. Is an oxidizing substance as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended.

INDUSTRIAL – Of or pertaining to manufacturing, commerce, trade, business or institutions as distinguished from domestic or residential.

INDUSTRY – Any owner or operator of industrial, commercial or institutional premises from which there is a discharge of any matter directly or indirectly into a sanitary sewer, combined sewer or storm sewer of the Municipality.

INSPECTOR – A person authorized by the Municipality to carry out observations and inspections and take samples as prescribed by this bylaw.

INSTITUTION – A facility, usually owned by a government, operated for public purposes, such as schools, universities, medical facilities (hospitals, nursing stations, nursing homes), museums, prisons, government offices, military bases. Some of these facilities produce non-residential discharges to sewers from, for example, laboratories, chemical use, industrial processes.

MATTER – Includes any solid, liquid or gas.

MONITORING ACCESS POINT – An access point, such as a chamber, in a private sewer connection to allow for observation, sampling and flow measurement of the wastewater, uncontaminated water or storm water therein.

MUNICIPALITY – means the Municipality of "_____".

MUNICIPAL SEWER CONNECTION – That part of any drain leading from the private sewer connection and connected to the municipal sewer and located within the limits of the public road allowance, or other public lands or public land interests held for sewerage purposes.

MULTIPLE MUNICIPAL SEWER CONNECTION – A municipal sewer connection providing service to two or more premises.

NON-CONTACT COOLING WATER – Water which is used to reduce temperature for the purpose of cooling and which does not come into direct contact with any raw material, intermediate or finished product other than heat.

NON-DOMESTIC WASTEWATER – All Wastewater except Domestic Wastewater, Storm Water, Uncontaminated Water, and Septic Tank Waste.

OIL AND GREASE – *n*-Hexane extractable matter as described in Standard Methods.

PATHOLOGICAL WASTE – Pathological waste within the meaning of [federal, provincial or territorial Statute or Regulation as appropriate for the municipality].

PCBs – Any monochlorinated or polychlorinated biphenyl or any mixture of them or mixture that contains one or more of them.

PERSON — An individual, association, partnership, corporation, municipality or an agent or employee of such a person.

PESTICIDE – A pesticide regulated under [federal, provincial or territorial Statute or Regulation as appropriate for the municipality].

POLLUTION PREVENTION – The use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and wastes, at the source.

PRETREATMENT – The reduction, elimination or alteration of pollutants in wastewater prior to discharge into the sanitary sewer. This reduction or alteration can be obtained by physical, chemical, or biological processes, through pollution prevention, or by other means, except by diluting the concentration of the pollutants.

PRIVATE SEWER CONNECTION – That part of any drain or system of drains, including drains or subsurface drainage pipe for surface or subsurface drainage of the land in or adjacent to a building, lying within the limits of the private lands and leading to a municipal sewer connection whose responsibility for maintenance is the property owner's.

PROHIBITED WASTE – means prohibited waste as defined in Schedule "A" to this bylaw

REACTIVE WASTE – A substance that:

A. Is normally unstable and readily undergoes violent changes without detonating;
B. Reacts violently with water;
C. Forms potentially explosive mixtures with water;
D. When mixed with water, generates toxic gases, vapours or fumes in a quantity sufficient to present danger to human health or the environment;
E. Is a cyanide or sulphide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapours or fumes in a quantity sufficient to present danger to human health or the environment;
F. Is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;
G. Is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or
H. Is an explosive (Class 1) as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended.

RESTRICTED WASTE – means restricted waste as defined in Schedule "B" to this bylaw

SANITARY SEWER – A sewer for the collection and transmission of domestic or industrial wastewater or any combination thereof.

SEPTIC TANK WASTE – any Waste extracted from a cesspool, septic tank, sewage holding tank, seepage pit, interceptor or other containment for human excretion and wastes.

SEWER – A pipe, conduit, drain, open channel or ditch for the collection and transmission of wastewater, storm water or uncontaminated water, or any combination thereof.

SPILL – A direct or indirect discharge into the wastewater works, storm sewer or the natural environment which is abnormal in quantity or quality in light of all the circumstances of the discharge.

STANDARD METHODS – A procedure or method set out in *Standard Methods for the Examination of Water and Wastewater* published jointly by the American Public Health Association, American Water Works Association and the Water Environment Federation, recent or latest edition or approved in writing by the Designated Sewer Officer.

Guidance for definition of Standard Methods: Other reference documents may be cited for applicable Standard Methods, such as the US Environmental Protection Agency, a current provincial/ territorial methods manual or approved custom method. Modify the definition of Standard Methods to suit as appropriate.

A reference to a particular method provides a reference point and certainty for both the Municipality and dischargers. It is not necessary to use the latest version of a standard procedure, but it is a good idea to provide a schedule of methods used locally for clarity. Should you choose a method other than a published method, keep in mind you may have to defend the method in court. Be prepared to provide a copy of custom procedures to dischargers so they can use the same method for self-monitoring.

STORM SEWER – A sewer for the collection and transmission of uncontaminated water, storm water, drainage from land or from a watercourse or any combination thereof but excluding any portion of a combined sewer works.

STORM WATER – The water running off the surface of a drainage area during and immediately after a period of rain or snow melt.

SUBSURFACE DRAINAGE PIPE – A pipe that is installed underground to intercept and convey subsurface water, and includes foundation drain pipes.

SUBSURFACE WATER – Groundwater including foundation drain water.

TOTAL SUSPENDED SOLIDS (TSS) – Insoluble matter in liquid that is removable by filtration, as determined by the appropriate procedure described in Standard Methods.

TOTAL PAHs – The total of all of the following polycyclic aromatic hydrocarbons: Acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i,)perylene, benzo(k)fluoranthene, chrysenes, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, methylnaphthalene, naphthalene, phenanthrene, pyrene.

TOXIC SUBSTANCE – any substance defined as toxic under the *Canadian Environmental Protection Act* 1999, as amended from time to time and within the meaning of [provincial or territorial Statute or Regulation as appropriate for the municipality], as amended from time to time.

UNCONTAMINATED WATER – Water with a level of quality which is typical of potable water normally supplied by the Municipality.

WASTE DISPOSAL SITE LEACHATE – The liquid containing dissolved or suspended contaminants which emanates from waste (solid waste or garbage) and is produced by water percolating through waste or by liquid in waste.

WASTE RADIOACTIVE SUBSTANCES – Substances defined in the federal *Nuclear Safety and Control Act* and the regulations passed thereunder, as amended from time to time.

WASTEWATER – means the composite of water and water-carried wastes from residential, commercial, industrial or institutional premises or any other source.

WASTEWATER SLUDGE – Solid material recovered from the wastewater treatment process.

WASTEWATER TREATMENT FACILITY – means any structure or thing used for the physical, chemical, biological or radiological treatment of wastewater, and includes sludge treatment, wastewater sludge storage and disposal facilities.

WASTEWATER WORKS – Any works for the collection, transmission, treatment and disposal of wastewater, storm water or uncontaminated water, including a combined sewer, sanitary sewer or storm sewer, or any part of such works, but does not include plumbing or other works to which the applicable Building Code applies.

WATERCOURSE – An open channel, ditch or depression, either natural or artificial, in which flow of water occurs either continuously or intermittently.

2. SANITARY AND COMBINED SEWER REQUIREMENTS

Guidance for Section 2, Administrative Requirements: This section contains clauses with administrative requirements for tracking and controlling discharges through permits. The clauses used represent a synthesis of practices found in bylaws across the country. These can be adjusted to suit your local administrative systems and capacity. Permitting approaches may also be influenced by the risk of exceeding effluent discharge objectives or other considerations identified through the Environmental Risk Assessment. A key consideration in determining the most appropriate permitting approach for your Municipality is to be aware of local ICI discharges which could affect your treatment processes, effluent quality and sludge and/or biosolids quality and to control these through the bylaw.

(1) No person shall release, or permit the release of, any matter into the sanitary or combined sewer system wastewater works except:

(a) Domestic wastewater;
(b) Non-domestic wastewater that complies with the requirements of this bylaw;
(c) Hauled wastewater, including septage, that complies with the requirements of this bylaw, or where a Waste Discharge Permit has been issued by the Designated Sewer Officer;
(d) Storm water, clear-water waste, subsurface water or other matter where a Waste Discharge Permit has been issued by the Designated Sewer Officer;
(e) Extra Strength matter where an Extra Strength Surcharge Agreement is in place.

Guidance for 2(1)(c) Hauled Wastewater: It can be expected that hauled wastewater will be more concentrated than the typical domestic sewage flowing in a centralized wastewater collection system. If the hauled wastewater does not meet the general requirements of the bylaw, the municipality may set conditions for its discharge to the sewer under permit.

Guidance for 2(1)(e) Extra strength matter: Individual permitting of dischargers with extra strength matter may be used at the discretion of the Municipality in instances when a discharger cannot meet the general requirements of the bylaw. In some cases, a surcharge for treatable material can be applied; in other cases, the permit will indicate that the municipality has considered special circumstances for the discharger, which may include local economic impacts. It is recommended that considerations when issuing these permits include: the CCME Environmental Risk Assessment process to evaluate Effluent Discharge Objectives for local situations; and, a means and plan for achieving the general model bylaw limit within a specified time frame (see Compliance Program).

(2) No person shall release, or permit the release of, any prohibited substance listed in Schedule ‘A’ of this bylaw.

(3) No person shall release, or permit the release of, any restricted substance which exceeds the respective concentrations listed in Schedule ‘B’ of this bylaw into the wastewater works.

(4) If required by the Municipality, all non-domestic and hauled wastewater dischargers shall complete and submit **Form 1 "Abbreviated Discharger Information Report"** (Appendix A) to the Municipality.

(5) If required by the Municipality, non-domestic and hauled wastewater dischargers shall complete and submit **Form 2 "Complete Discharger Information Report"** (Appendix A) to the Municipality.

(6) If required by the Municipality, non-domestic and hauled wastewater dischargers shall not discharge to the sanitary sewer system until the discharger has obtained **Form 3 "Waste Discharge Permit"** (Appendix A) from the Designated Sewer Officer.

Guidance for 2(6) Waste Discharge Permit: Some Municipalities may find it onerous to issue permits for all wastewater discharges. Subsection (6) above is written to allow the Municipality to determine the conditions under which it will require permits to be obtained. Alternatively, this subsection can be modified to require permits of all dischargers by removing the first phrase "If required by the Municipality".

(7) The Designated Sewer Officer may issue, and amend, a Waste Discharge Permit to allow the discharge of non-domestic waste and hauled wastewater into a sewer upon such terms and conditions as the Designated Sewer Officer considers appropriate and, without limiting the generality of the foregoing, may in the Waste Discharge Permit:

(a) Place limits and restrictions on the quantity, composition, frequency and nature of the waste permitted to be discharged;
(b) Require the holder of a Waste Discharge Permit to repair, alter, remove, or add to works or construct new works; and
(c) Provide that the Waste Discharge Permit will expire on a specified date, or upon the occurrence of a specified event.

(8) The Designated Sewer Officer may issue a **Discharge Abatement Order** to:

(a) Require a person to alter the quantity, composition, duration and timing of the discharge or cease discharge of non-domestic waste or hauled wastewater to a sewer or wastewater facility;
(b) Include any terms or conditions that could be included in a Waste Discharge Permit; and
(c) Shut down all non-compliant releases.

The Designated Sewer Officer may amend or cancel a Discharge Abatement Order.

3. STORM SEWER REQUIREMENTS

Guidance for Storm Sewer Requirements: As indicated in the Scope of the Model Bylaw, the focus of the Model is on wastewater effluents. Many municipalities also include consideration for storm water in their sewer use bylaws however this document does not address storm water at this time. This section is provided as a placeholder for storm sewer requirements: this Model Sewer Use Bylaw is organized with the assumption that municipalities will include provisions in Section 3.

In Section 3, municipalities may wish to identify prohibitions on deposits and discharges to storm sewers, establish specific concentration limits for certain pollutants, control runoff from snow disposal sites, landfill drainage and/or construction sediments. Practices pertaining to reduced impacts of impervious surface areas could be included. Tailored monitoring and reporting requirements may also be warranted, depending on the goals of the community in protecting aquatic ecosystems and municipal capacity to manage sewer use bylaw provisions.

4. PROHIBITION OF DILUTION

(1) No person shall discharge directly or indirectly, or permit the discharge or deposit of wastewater into a sanitary sewer or combined sewer works where water has been added to the discharge for the purposes of dilution to achieve compliance with Schedule "A" or Schedule "B" of this bylaw.

(2) No person shall discharge directly or indirectly, or permit the discharge or deposit of matter into a storm sewer where water has been added to the discharge for the purposes of dilution to achieve compliance with Section 3 of this bylaw.

5. SAMPLING

(1) Where sampling is required for the purposes of determining the concentration of constituents in the wastewater, storm water or uncontaminated water, the sample may:

(a) be collected manually or by using an automatic sampling device; and
(b) contain additives for its preservation.

(2) For the purpose of determining compliance with Schedule B or Section 3, discrete wastewater streams within premises may be sampled, at the discretion of the Designated Sewer Officer.

(3) Any single grab sample may be used to determine compliance with Schedules A and B or Section 3.

(4) All tests, measurements, analyses and examinations of wastewater, its characteristics or contents pursuant to this Bylaw shall be carried out in accordance with "Standard Methods" and be performed by a laboratory accredited for analysis of the particular substance(s) using a method which is within the laboratory's scope of accreditation or to the satisfaction of the Designated Sewer Officer as agreed in writing prior to sample analysis.

6. DISCHARGER SELF-MONITORING

Guidance for discharger self-monitoring: Some industrial dischargers may have Certificate of Approval (CofA) requirements, or equivalent in your jurisdiction, in place. Under the CofA requirements, the discharger may be required to report monitoring results to the municipality; discharger may also be required to use accredited laboratories and Standard Methods. The municipality has a right to request additional requirements and/or external sampling or auditing results; this section can be used to indicate additional requirements. Clauses in this section can be modified in order to replace "as required by the Municipality" with "as required by [an applicable provincial ministry document or other source]".

(1) The discharger shall complete any monitoring or sampling of any discharge to a wastewater works as required by the Municipality, and provide the results to the Municipality in the form specified by the Municipality.

(2) The obligations set out in or arising out of 6(1) shall be completed at the expense of the discharger.

7. ADDITIONAL REQUIREMENTS

Guidance on New Interceptor Standards: If the Municipality has not previously had bylaw provisions requiring interceptors, there may be a need to allow a grace period for existing facilities to upgrade to the new standard or requirements. There are several options to implement a grace period, including: identifying a future deadline for all facilities; setting future deadlines that vary by factors related to risk, facility size, facility location, etc.; or, upgrade as ownership changes.

7.1 FOOD-RELATED GREASE INTERCEPTORS

Guidance on Food-Related Grease Interceptors: Grease Interceptors are often required under other legislation like a "Public Health Act" or Plumbing Code. However oil and grease are common enough problems that this provision is also recommended for inclusion in a sewer-use bylaw. Municipalities may legislate requirements similar to those in provincial/territorial or federal legislation provided the requirements are not weakened. The recommended wording herein represents the latest standards and may strengthen other requirements because of the emphasis on maintenance and record keeping.

The main problem associated with oil and grease of animal and vegetable origin is not related to environmental pollution or treatment, because these are treated easily, but is usually one of collection system and headworks equipment blockages. Thus, the urgency of implementing food-related grease interceptor requirements and related education, inspection and/or monitoring programs will depend on whether or not blockage problems are being experienced.

This subsection allows companies that meet the bylaw limits for oil and grease to not have to install grease interceptors.

Grease has been a traditional concern with respect to sewer blockages; oils may bypass older grease traps but can also cause handling problems in collections systems and treatment plants. All oil and grease interceptors will perform better with regular maintenance. Many existing interceptors will control grease effectively if cleaned regularly and discharge of oils can often be controlled through best managements practices (e.g., not pouring it down the drain in bulk). Education, inspection, and monitoring programs play a more important role in minimizing adverse effects when outdated technologies are used.

(1) Every owner or operator of a restaurant or other industrial, commercial or institutional premises where food is cooked, processed or prepared, for which the premises is connected directly or indirectly to a sanitary or combined sewer, shall take all necessary measures to ensure that oil and grease are prevented from entering the sanitary or combined sewer in excess of the provisions of this bylaw. Grease interceptors shall not discharge to storm sewers.

(2) The owner or operator of the premises as set out in this Subsection shall install, operate, and properly maintain an oil and grease interceptor in any piping system at its premises that connects directly or indirectly to a sewer. The oil and grease interceptors shall be installed in compliance with the most current requirements of the applicable Building Code. The installation of the oil and grease interceptor shall meet the requirements of the Canadian Standards Association national standard CAN/CSA B-481.2, as amended.

(3) All oil and grease interceptors shall be maintained according to the manufacturer's recommendations. The testing, maintenance and performance of the interceptor shall meet the requirements of CAN/CSA B-481. Traps should be cleaned before the thickness of the organic material and solids residuals is greater than twenty-five percent of the available volume; cleaning frequency should not be less than every four weeks. Maintenance requirements should be posted in the workplace in proximity to the grease interceptor.

(4) A maintenance schedule and record of maintenance shall be available to the Designated Sewer Officer upon request for each interceptor installed.

(5) The owner or operator of the restaurant or other industrial, commercial or institutional premises where food is cooked, processed or prepared, shall, for two years, keep the document of proof for interceptor clean-out and oil and grease disposal.

(6) Emulsifiers shall not be discharged to the sewer system into interceptors. No person shall use enzymes, bacteria, solvents, hot water or other agents to facilitate the passage of Oil and Grease through a Grease Interceptor.

(7) In the case of failure to adequately maintain the grease interceptor to the satisfaction of the Designated Sewer Officer, the Designated Sewer Officer may require an alarmed monitoring device to be installed, at the expense of the owner, in accordance with specifications of CAN/CSA B-481.

7.2 VEHICLE AND EQUIPMENT SERVICE OIL AND GREASE INTERCEPTORS

(1) Every owner or operator of a vehicle or equipment service station, repair shop or garage or of an industrial, commercial or institutional premises or any other establishment where motor vehicles are repaired, lubricated or maintained and where the sanitary discharge is directly or indirectly connected to a sewer shall install an oil and grease interceptor designed to prevent motor oil and lubricating grease from passing into the sanitary or combined sewer in excess of the limits in this bylaw.

(2) The owner or operator of the premises as set out in Subsection 7.2(1) shall install, operate, and properly maintain an oil and grease interceptor in any piping system at its premises that connects directly or indirectly to a sewer. The oil and grease interceptors shall be installed in compliance with the most current requirements of the applicable Building Code and be maintained as recommended by the Canadian Petroleum Products Institute (CPPI).

(3) All oil and grease interceptors and separators shall be maintained in good working order and according to the manufacturer's recommendations and shall be inspected regularly to ensure performance is maintained to the manufacturer's specifications for performance and inspected to ensure the surface oil and sediment levels do not exceed the recommended level.

(4) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer annually for each oil and grease interceptor installed.

(5) The owner or operator of the premises as set out in Subsection 7.2(1), shall, for two years, keep the document of proof for interceptor clean-out and oil and grease disposal.

(6) Emulsifiers shall not be discharged to the sewer system into interceptors. No person shall use enzymes, bacteria, solvents, hot water or other agents to facilitate the passage of oil and grease through an oil and grease interceptor.

(7) In the case of failure to adequately maintain the oil and grease interceptor to the satisfaction of the Designated Sewer Officer, the Designated Sewer Officer may require an alarmed monitoring device to be installed, at the expense of the owner.

7.3 SEDIMENT INTERCEPTORS

(1) Every owner or operator of the premises from which sediment may directly or indirectly enter a sewer, including but not limited to premises using a ramp drain or area drain and vehicle wash establishments, shall take all necessary measures to ensure that such sediment is prevented from entering the drain or sewer in excess of the limits in this bylaw.

(2) Catch basins installed on private property for the purposes of collecting storm water and carrying it into the storm sewers shall be equipped with an interceptor and the installation of these catch basins on private property shall comply with the Municipality's Standard Construction Specifications and Drawings, as they may be amended from time to time.

(3) All sediment interceptors shall be maintained in good working order and according to manufacturer's recommendations and shall be inspected regularly to ensure performance is maintained to the manufacturer's specifications for performance.

(4) The owner or operator of a premises as set out in Subsection 7.3(1), shall, for 2 years, keep documentation of interceptor clean-out and sediment disposal.

(5) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer upon request for each sediment interceptor installed.

7.4 DENTAL WASTE AMALGAM SEPARATOR

(1) Every owner or operator of the premises from which dental amalgam may be discharged, which waste may directly or indirectly enter a sewer, shall install, operate and properly maintain dental amalgam separator(s) with at least 95% efficiency in amalgam weight and certified *ISO 11143 – "Dental Equipment: Amalgam Separators"*, in any piping system at its premises that connects directly or indirectly to a sewer by no later than [*date to be specified by municipality*], except where the sole dental-related practice at the premises consists of one or more of the following specialties or type of practice:

(a) Orthodontics and dentofacial orthopaedics;
(b) Oral and maxillofacial surgery;
(c) Oral medicine and pathology;
(d) Periodontics; or
(e) A dental practice consisting solely of visits by a mobile dental practitioner who prevents any dental amalgam from being released directly or indirectly to the wastewater works.

(2) Notwithstanding Subsection 7.4(1), any person operating a business from which dental waste amalgam is or could be discharged directly or indirectly to a sewer, at premises which are constructed or substantially renovated on or after the date that Section 7.4 comes into force, shall install, operate and properly maintain dental waste amalgam separator(s) in any piping system which is connected directly or indirectly to a sewer.

(3) Notwithstanding compliance with Subsection 7.4 (1) and 7.4 (2), all persons operating or carrying on the business of a dental practice shall comply with Schedule "A" and Schedule "B" of this bylaw.

(4) All dental waste amalgam separators shall be maintained in good working order and according to the manufacturer's recommendations.

(5) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer upon request for each dental amalgam separator installed.

(6) The operator of a dental clinic shall, for five years, keep the documents covering amalgam shipment provided for under the bylaw respecting transportation of hazardous material *[insert applicable bylaw for municipality]*.

8. HAULED WASTEWATER

(1) No person shall discharge hauled wastewater to the wastewater works unless:

(a) The carrier of the hauled wastewater operating as a waste management system has certificate of approval or provisional certificate of approval issued under the [*applicable federal, provincial, territorial environment protection act]* or is exempt from the requirement to have a certificate or provisional certificate of approval;
(b) A copy of the most recent certificate of approval or provisional certificate and any amendment is provided to the Municipality and
(c) The carrier meets all conditions for discharge that are or may be set from time to time with respect to the haulage of wastewater by the Municipality.

(2) No person shall discharge or permit the discharge of hauled wastewater:

(a) At a location other than a hauled wastewater discharge location approved by the Municipality.
(b) Without a manifest, in a form approved by the Designated Sewer Officer, completed and signed by the carrier and deposited in an approved location at the time of discharge.
(c) Without the use of a discharge hose placed securely in the discharge portal at the approved location.

9. HAULED WASTE

(1) No person shall discharge hauled waste to the wastewater works unless:

(a) The carrier of the hauled waste operating as a waste management system has a certificate of approval or provisional certificate of approval issued under the [*applicable*

federal, provincial, territorial environment protection act] or is exempt from the requirement to have a certificate or provisional certificate of approval;
(b) A copy of the most recent certificate or provisional certificate and any amendment of approval is provided to the Municipality;
(c) Hauled waste meets the conditions set out in [*applicable federal, provincial, territorial environment protection regulation*], as amended from time to time; and
(d) The carrier meets all conditions for discharge that are or may be set from time to time with respect to the haulage of waste by the Municipality.

(2) No person shall discharge or allow or cause hauled waste to be discharged into a Sewer, except at sites designated by the Designated Sewer Officer.

10. NON-CONTACT COOLING WATER

Guidance for Non-Contact Cooling Water: This section deals with existing non-contact cooling water practices. However, this practice is being questioned from a water conservation perspective and it is recommended any new development be encouraged or required to apply current water conservation technologies and techniques.

(1) The discharge of non-contact cooling water or uncontaminated water to a sanitary sewer or combined sewer from any residential property is prohibited. The discharge of non-contact cooling water or uncontaminated water to a sanitary or combined sewer from industrial, commercial or institutional properties is permissible where:

(a) In the case of a proposed building, no storm sewer exists adjacent to the building and no opportunity exists to discharge to yard drainage; or
(b) In the case of an existing building, no storm connection exists to the building.

11. WATER ORIGINATING FROM A SOURCE OTHER THAN THE MUNICIPAL WATER SUPPLY

Guidance for water originating from a source other than the municipal water supply: Where the municipality does not own or operate a Municipal water supply system, this section does not apply and can be removed. This section can be useful where customers may have private wells (e.g. historic, prior to municipal connections). Discharges to the sewer system would not be captured by sewer rates based on potable water consumption. Similarly, the section provisions can be applied to prevent discharge of groundwater collected by sump pumps.

(1) The discharge of water originating from a source other than the Municipality water supply, including storm water or groundwater, directly or indirectly to a sanitary sewer or combined sewer works is prohibited, unless:

(a) The discharge is in accordance with a Waste Discharge Permit; and

(b) The discharge does not exceed the limits set out under Schedule B, with respect to biochemical oxygen demand, total phosphorus or total suspended solids; or
(c) In the event the discharge does exceed the limits set out under Schedule B, with respect to any of biochemical oxygen demand, total phosphorus or total suspended solids, the discharge is in accordance with an Extra Strength Surcharge Agreement.

12. SPILLS

Guidance for Section 12, Spills: The purpose of this section is to require immediate notification in the event of spills. Review suggested wording to ensure it is appropriate for your local systems. For example, some Municipalities may handle spills through 9-1-1, or there may be a 24-hr response line at the Municipality or more senior jurisdiction (province/ territory).

(1) In the event of a spill to a wastewater works and/or storm sewer works, the person responsible or the person having the charge, management and control of the spill shall immediately notify and provide any requested information with regard to the spill to:

(a) If there is any immediate danger to human health and/or safety
    (i) 9-1-1 emergency

or

(b) If there is no immediate danger:
    (i) the Municipality [*insert organization name*] by contacting the [*insert contact information]*, and
    (ii) the owner of the premises where the release occurred, and
    (iii) any other person whom the person reporting knows or ought to know may be directly affected by the release.

(2) The person shall provide a detailed report on the spill to the Municipality, within five working days after the spill, containing the following information to the best of his or her knowledge:

(a) Location where spill occurred;
(b) Name and telephone number of the person who reported the spill and the location and time where they can be contacted;
(c) Date and time of spill;
(d) Material spilled;
(e) Characteristics and composition of material spilled;
(f) Volume of material spilled;
(g) Duration of spill event;
(h) Work completed and any work still in progress in the mitigation of the spill;
(i) Preventive actions being taken to ensure a similar spill does not occur again; and
(j) Copies of applicable spill prevention and spill response plans.

(3) The person responsible for the spill and the person having the charge, management and control of the spill shall do everything reasonably possible to contain the spill, protect the health

and safety of citizens, minimize damage to property, protect the environment, clean up the spill and contaminated residue and restore the affected area to its condition prior to the spill.

(4) Nothing in this Bylaw relieves any persons from complying with any notification or reporting provisions of:

(a) Other government agencies, including federal and provincial [or *territorial*] agencies, as required and appropriate for the material and circumstances of the spill; or,
(b) Any other Bylaw of the Municipality.

(5) The Municipality may invoice the person responsible for the spill to recover costs of time, materials and services arising as a result of the spill. The person responsible for the spill shall pay the costs invoiced.

(6) The Municipality may require the person responsible for the spill to prepare and submit a spill contingency plan to the Municipality to indicate how risk of future incidents will be reduced and how future incidents will be addressed.

13. AUTHORITY OF DESIGNATED SEWER OFFICER TO INVESTIGATE

Guidance for Section 13: Each municipality must confirm the authority of its inspectors to enter buildings. Although municipal inspectors generally have rights to enter onto property, they may need permission to enter buildings. This is usually granted in provincial legislation defining the powers of municipalities.

(1) The Designated Sewer Officer has the authority to carry out any inspection reasonably required to ensure compliance with this bylaw, including but not limited to:

(a) Inspecting, observing, sampling and measuring the flow in any private
    (i) drainage system,
    (ii) wastewater disposal system,
    (iii) storm water management facility, and
    (iv) flow monitoring point;
(b) Determine water consumption by reading water meters;
(c) Test flow measuring devices;
(d) Take samples of wastewater, storm water, clear-water waste and subsurface water being released from the premises or flowing within a private drainage system;
(e) Perform on-site testing of the wastewater, storm water, clear-water waste and subsurface water within or being released from private drainage systems, pretreatment facilities and storm water management facilities;
(f) Collect and analyze samples of hauled wastewater coming to a discharge location;
(g) Make inspections of the types and quantities of chemicals being handled or used on the premises in relation to possible release to a drainage system or watercourse;
(h) Require information from any person concerning a matter;

(i) Inspect and copy documents or remove documents from premises to make copies;

(j) Inspect chemical storage areas and spill containment facilities and request Material Safety Data Sheets (MSDS) for materials stored or used on site;

(j) Inspect the premises where a release of prohibited or restricted wastes or of water containing prohibited or restricted wastes has been made or is suspected of having been made, and to sample any or all matter that in his/her opinion could have been part of the release.

(2) No person shall hinder or prevent the Designated Sewer Officer from carrying out any of his/her powers or duties.

14. DISCONNECTION OF SEWER

(1) Where wastewater which:

(a) Is hazardous or creates an immediate danger to any person;

(b) Endangers or interferes with the operation of the wastewater collection system; or

(c) Causes or is capable of causing an adverse effect;

is discharged to the wastewater collection system, the Designated Sewer Officer may, in addition to any other remedy available, disconnect, plug or seal off the sewer line discharging the unacceptable wastewater into the wastewater collection system or take such other action as is necessary to prevent such wastewater from entering the wastewater collection system.

(2) The wastewater may be prevented from being discharged into the wastewater collection system until evidence satisfactory to the Designated Sewer Officer has been produced to assure that no further discharge of hazardous wastewater will be made to the wastewater collection system.

(3) Where the Director, Water Services takes action pursuant to subsection (1), the Designated Sewer Officer may by notice in writing advise the owner or occupier of the premises from which the wastewater was being discharged, of the cost of taking such action and the owner or occupier, as the case may be, shall forthwith reimburse the City for all such costs which were incurred.

15. OFFENCES

Guidance for Section 15: Each municipality must check the applicable statutes that govern the limit on the fines and penalties they can pursue for contraventions of the bylaw.

(1) Every person other than a corporation who contravenes any provision of this bylaw is guilty of an offence and on conviction is liable, for every day or part thereof upon which such offence occurs or continues, to a fine of not more than $25,000 for a first offence and $100,000 for a second offence.

(2) Every corporation that contravenes any provision of this bylaw is guilty of an offence and on conviction is liable, for every day or part thereof upon which such offence occurs or continues, to

a fine of not more than $250,000 for a first offence and not more than $500,000 for a second offence.

16. ACCESS TO INFORMATION

(1) All information submitted to and collected by the Municipality that is contained in plan summaries, reports, surveys, monitoring and inspection and sampling activities will, except as otherwise provided in this section, be available for disclosure to the public in accordance with the [*applicable Freedom of Information legislation that governs the Province or Territory*].

(2) In the event that any person in submitting information to the Municipality, as required under this article, where such information is confidential or proprietary or otherwise, may be exempt from disclosure under the [*applicable Freedom of Information legislation that governs the Province or Territory*], the person submitting the information shall so identify that information upon its submission to the Municipality or the Municipality and where such information is confidential or proprietary or otherwise, may be exempt from disclosure.

(3) The Designated Sewer Officer shall have access to information contained in the Certificate of Approval [*or equivalent document in your jurisdiction*] of any wastewater dischargers to the Municipal sewer system.

SCHEDULE "A" PROHIBITED WASTES

Guidance for Schedule "A": Review the list of prohibited wastes to identify which ones, if any, should not be included in the sewer use bylaw. Note that, as a default, the CCME recommends including the full list of wastes identified in the Schedules to the Model Bylaw unless specific rationale can be identified for exclusion.

A. No person shall discharge directly or indirectly or deposit or cause or permit the discharge or deposit of wastewater into a sanitary sewer, combined sewer, municipal or private sewer connection to any sanitary sewer or combined sewer works in circumstances where:

(1) To do so may cause or result in:

(a) A health or safety hazard to a person authorized by the Municipality to inspect, operate, maintain, repair or otherwise work on a wastewater works;
(b) An offence under the [*applicable federal, provincial, territorial environment protection or water resources act]*, as amended from time to time, or any regulation made thereunder from time to time;
(c) Wastewater sludge from the wastewater treatment facility works to which either wastewater discharges, directly or indirectly, to fail to meet the objectives and criteria as listed in the [*applicable federal, provincial, territorial environment protection or water resources act or policy]*, as amended from time to time;
(d) Interference with the operation or maintenance of a wastewater works, or which may impair or interfere with any wastewater treatment process;
(e) A hazard to any person, animal, property or vegetation;
(f) An offensive odour to emanate from wastewater works, and without limiting the generality of the foregoing, wastewater containing hydrogen sulphide, carbon disulphide, other reduced sulphur compounds, amines or ammonia in such quantity as may cause an offensive odour;
(g) Damage to wastewater works;
(h) An obstruction or restriction to the flow in wastewater works.

(2) The wastewater has two or more separate liquid layers.

(3) The wastewater contains:

(a) Hazardous substances;
(b) Combustible liquid;
(c) Biomedical waste, including any of the following categories: human anatomical waste, animal waste, untreated microbiological waste, waste sharps and untreated human blood and body fluids known to contain viruses and agents listed in "Risk Group4" as defined in "Laboratory Biosafety Guidelines" published by Health Canada, dated, 2004, as amended.

(d) Specified risk material for bovine spongiform encephalopathy as defined in the federal Fertilizers Regulations (C.R.C., c. 666), as amended from time to time, including material from the skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal root ganglia of cattle aged 30 months or older, or material from the distal ileum of cattle of all ages.
(e) Dyes or colouring materials which may or could pass through a wastewater works and discolour the wastewater works effluent;
(f) Fuel;
(g) Ignitable waste.
(h) Pathological waste.
(i) PCBs.
(j) Pesticides which are not otherwise regulated in this bylaw.
(k) Reactive waste.
(l) Toxic substances which are not otherwise regulated in this Bylaw.
(m) Waste radioactive substances in excess of concentrations greater than those specified for release to the environment under the *Nuclear Safety and Control Act* and Regulations or amended versions thereof.
(n) Solid or viscous substances in quantities or of such size to be capable of causing obstruction to the flow in a sewer, including but not limited to ashes, bones, cinders, sand, mud, soil, straw, shaving, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, animal parts or tissues, and paunch manure.

(4) The wastewater contains a concentration, expressed in milligrams per litre, in excess of any one or more of the limits in Schedule "B" of this Bylaw, unless:

(a) The discharge is in accordance with a valid Sanitary Discharge Agreement, Extra Strength Surcharge Agreement or compliance program;
(b) The discharge is authorized in a Code of Practice approved by the Municipality;
(c) All requirements of Section 7 Additional Requirements have been fully satisfied.

Guidance for Subsection 4: Careful review of the requirements of subsection 4 (a), (b) and (c) is required to ensure only exceptions acceptable to the community are made. The Model presented here anticipates that some Codes of Practice and some interceptors, as specified in Section 7 Additional Requirements, may not meet the discharge limits as specified in Schedule "B". Specifically, for example, dental amalgam separators may not achieve the mercury limits identified in Schedule "B". Subsection (4) above allows exceptions to be made to the discharge limits as long as specified agreements, practices or technological systems are in place. As Codes of Practice are refined and as technologies, such as interceptors, improve, the exceptions allowed in this section should be reviewed.

SCHEDULE "B" RESTRICTED WASTES – SANITARY AND COMBINED SEWER DISCHARGES

Guidance for Schedule "B": Review the list of restricted wastes to identify which ones, if any, should not be included in the sewer use bylaw. Note that, as a default, the CCME recommends including the full list of wastes identified in the Schedules to the Model Bylaw unless specific rationale can be identified for exclusion.

Concentration limits are recommended based on a methodology focusing on effluent quality and best available treatment technologies. (See Part 4 for details on how these were developed.) Review of the limits is recommended to suit municipal wastewater sludge quality requirements and pollution prevention goals.

Additional substances may be appropriate to add to Schedule A or Schedule B, depending on community dischargers and municipal bylaw objectives. See the Supplemental List of Substances (following Schedule B).

Consider additional substances, from the Supplemental List of Substances, not identified in Schedules A or B that may be of particular concern in the community and add these to the Schedules, as appropriate. Information on potential industrial sources of these substances is available from CCME as a searchable database to assist municipalities in identifying particular substances of potential concern based on the industrial client base of the municipality. [*Reference website.*]

Table A - CONVENTIONAL CONTAMINANTS and PHYSICAL PARAMETERS

Substance	Concentration Limit– [mg/L, except as noted]
Biochemical Oxygen Demand	300
Chemical Oxygen Demand	600
Oil and grease - animal and vegetable	150
Oil and grease - mineral and synthetic/hydrocarbon	15
Total Suspended Solids	300
pH	6.0 - 10.5 (unitless)
Temperature	60 Degrees Celsius

Guidance on BOD vs. COD: Biochemical oxygen demand (BOD) is the traditional parameter used to measure organic loading in wastewater in terms of its impact on dissolved oxygen levels in the receiving aquatic environment; oxygen is consumed as organic material is biodegraded by micro-organisms. Removal of BOD is commonly used as a basis for municipal wastewater treatment plant design. In turn, it follows that BOD is commonly regulated in sewer-use bylaws to ensure treatment plant capabilities are not overloaded.

Chemical oxygen demand (COD) is increasingly being used as an alternative to BOD for measuring oxygen demand. While BOD indicates oxygen demanded for microbial oxidation, COD testing assesses all chemically oxidizable substances. The COD laboratory analysis procedure uses an aggressive chemical oxidant to determine oxidizable matter; the numerical results are typically significantly higher than BOD results on the same sample. The ratio of COD to BOD can vary substantially depending on the content of the waste, but 2:1 is often used as a rule of thumb for municipal wastewater treatment plant influents. BOD results for ICI effluents with toxic substances present may not reflect the true oxygen demand since toxicity can interfere with the BOD test results; COD testing may be informative where toxicity is suspected or known. If the COD:BOD ratio is high, further investigation may be warranted.

The COD laboratory method has the advantages of having a much quicker turn-around time (approx. 2 hrs, vs. the 5-day bioassay for BOD). In addition, it is not affected by toxicity.

Either or both can be used for regulatory purposes, although it is important to understand the differences between the two. COD is a useful parameter for bylaw compliance since toxicity does not interfere with the test; BOD is a useful parameter in surcharge agreements since the additional cost of treatment can be estimated based on treatment design and operational parameters.

Guidance on Oil and Grease: The limits for "oil and grease" in municipal bylaws relate to the analytical methods used to measure these substances, as described in Standard Methods. Standard Methods states: "It is important to understand that, unlike some constituents that represent distinct chemical elements, ions, compounds, or groups of compounds, oils and greases are defined by the method used for their determination." Extraction solvent(s) have changed over the years; the current solvent of choice is *n*-hexane. Standard Methods also states: "In the absence of specially modified industrial products, oil and grease has two primary components: fatty matter from animal and vegetable sources and hydrocarbons of petroleum origin."

Municipal wastewater treatment plants can normally only treat oil and grease of "animal and vegetable" origin. This limitation is significant for assessing the cost of service for treating extra strength effluents. However, the testing method for animal and vegetable origin material is more labour and material intensive that the test for total oil and grease, and would have to be performed in addition to the total extraction to determine the "animal and vegetable" portion. Thus, it is not uncommon to use simply "oil and grease" to establish surcharge monitoring requirements and rates.

The prime concern for oil and grease of animal and vegetable origin is not treatability but, rather, blockages in the collection system. The prime concern for oil and grease of hydrocarbon, or petroleum origin, is their harmful nature and the fact they are not treated readily by conventional wastewater treatment processes.

Depending on the characteristics of, and problems encountered in, a collection system and

treatment facilities, it is fairly conventional to have a lower limit of 150 mg/L for oil and grease of animal or vegetable origin. Extra Strength Surcharges may be applied to higher values (see Advanced Clauses) to a maximum regulatory limit, for example of 450 mg/L (Note that municipalities with severe blockage problems may wish to set the surcharge limits at a much lower value).

Table B - ORGANIC CONTAMINANTS

Substance	Concentration Limit– [mg/L, except as noted]
Benzene	0.01
Chloroform	0.04
Dichlorobenzene (1,2-)	0.05
Dichlorobenzene (1,4)	0.08
Ethylbenzene	0.06
Hexachlorobenzene	0.0001
**Methylene chloride (dichloromethane)	0.09
PCBs (chlorobiphenyls)	0.004
**Phenols, Total (or Phenolic compounds)	0.1
**Tetrachloroethane (1,1,2,2 -)	0.06
**Tetrachloroethylene	0.06
Toluene	0.02
Trichloroethylene	0.05
Xylenes, total	0.3

***Note to Bylaw Author:* **Substances with asterisks require particular review to identify appropriate limits for bylaws. All limits in these tables are intended to provide guidance, not to establish required limits; those substances with asterisks may be problematic for particular sectors or dischargers within communities. See Part 4 of the Model Bylaw Guidance Document, Table 2, *Other Considerations for Core Substances Limits and Recommended Limits* for information and considerations of limit development. Note that limits in this Model Bylaw are not based on average limits in existing Canadian bylaws.

Table C - INORGANIC CONTAMINANTS

Substance	Concentration Limit– [mg/L, except as noted]	Notes to Bylaw Author: Considerations for Setting Limits
Arsenic, total	1.0	
Cadmium, total	0.7	Codes of Practice or P2[1] Plans may be required to achieve this limit
**Chromium, total	2.8	Codes of Practice or P2 Plans may be required to achieve this

[1] P2 means Pollution Prevention

Substance	Concentration Limit– [mg/L, except as noted]	Notes to Bylaw Author: Considerations for Setting Limits
		limit
Cobalt, total	5.0	
Copper, total	2.0	Codes of Practice or P2 Plans may be required to achieve this limit
**Cyanide, total	1.2	Codes of Practice or P2 Plans may be required to achieve this limit
**Lead, total	0.7	This limit is based on a USEPA technology standard; some Canadian Bylaws contain higher limits (e.g. Toronto's limit is 10 mg/L)
Mercury	0.01	Codes of Practice or P2 Plans may be required to achieve this limit
Molybdenum, total	5.0	
**Nickel, total	2.0	Codes of Practice or P2 Plans may be required to achieve this limit
Nitrogen, Total Kjeldahl	50	
Phosphorus, total	10	
**Selenium, total	0.8	Codes of Practice or P2 Plans may be required to achieve this limit
**Silver, total	0.4	Codes of Practice or P2 Plans may be required to achieve this limit. This limit may be problematic for photo finishing dischargers
Sulphide (as H_2S)	1.0	
**Zinc, total	2.0	Municipalities with high zinc in drinking water sources may need to match the zinc concentration to that of the finished drinking water

***Note to Bylaw Author:* **Substances with asterisks require particular review to identify appropriate limits for bylaws. All limits in these tables are intended to provide guidance, not to establish required limits; those substances with asterisks may be problematic for particular sectors or dischargers within communities. See Part 4 of the Model Bylaw Guidance Document, Table 2, *Other Considerations for Core Substances Limits and Recommended Limits*, for information and considerations of limit development. Note that limits in this Model Bylaw are not base on average limits in existing Canadian bylaws.

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SUPPLEMENTAL LIST OF SUBSTANCES

Guidance for the Supplemental List of Substances: substances identified in this supplemental list may be appropriate for addition to Schedule A or Schedule B, depending on the Municipality's objectives and risk assessment outcomes. Some of these substances are controlled through federal, provincial and/or territorial measures. Information is available in a searchable database from the CCME, by substance, on the industrial sectors potentially discharging all contaminants in Schedule B and this Supplemental List of Substances [reference website]. With this information and information on your community profile, refer to the following list to supplement and tailor the Schedules of the model bylaw for your community, as appropriate.

The first column identifies the substance; other columns identify Acts or Agreements by senior levels of government that include objectives and/or management measures for the substances.

SUPPLEMENTAL LIST OF SUBSTANCES [for tailored additions to Schedules A or B]

Substance Group 1: Substances of National and International Concern	Substance Identifier		
	CEPA[2] Schedule 1	Tier I or Tier II Canada Ontario Agreement (COA) (2002)	Level I or Level II Canada-US Binational Toxics Strategy (1997)
Acetaldehyde	CEPA-Sch.1		
Acrolein	CEPA-Sch.1		
Acrylonitrile	CEPA-Sch.1		
Aldrin/dieldrin		Tier I COA	Level I Binational Toxic
Alkyl-lead		Tier I COA	Level I Binational Toxic
Benzo(a)pyrene		Tier I COA	Level I Binational Toxic
Bis(2-ethylhexyl)phthalate	CEPA-Sch.1		
Bis(chloromethyl) ether	CEPA-Sch.1		
Bromochlorodifluoromethane	CEPA-Sch.1		
Bromochloromethane	CEPA-Sch.1		
Bromotrifluoromethane	CEPA-Sch.1		
Butadiene (1,3-)	CEPA-Sch.1		
Butoxyethanol (2-) (ethylene glycol monobutyl ether)	CEPA-Sch.1		
Carbon tetrachloride (tetrachloromethane)	CEPA-Sch.1		
Chlordane		Tier I COA	Level I Binational Toxic
Chloromethyl methyl ether	CEPA-Sch.1		
Chromium (hexavalent)	CEPA-Sch.1		
DDT	CEPA-Sch.1	Tier I COA	Level I Binational Toxic
Dibenzofuran	CEPA-Sch.1		
Dibenzo-para-dioxin	CEPA-Sch.1		
Dibromotetrafluoroethane	CEPA-Sch.1		
Dichlorobenzidine (3,3' -) (3,3-dichlorobenzene)	CEPA-Sch.1	Tier II COA	Level II Binational Toxics

[2] CEPA is the Canadian Environmental Protection Act, 1999

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Substance Group 1: Substances of National and International Concern	Substance Identifier		
	CEPA[2] Schedule 1	Tier I or Tier II Canada Ontario Agreement (COA) (2002)	Level I or Level II Canada-US Binational Toxics Strategy (1997)
Dichloroethane (1,2-)	CEPA-Sch.1		
Fluoride	CEPA-Sch.1		
Formaldehyde	CEPA-Sch.1		
Hexachlorobutadiene (hexachloro-1-3-butadiene)	CEPA-Sch.1		Level II Binational Toxic
Methoxyethanol (2-)	CEPA-Sch.1		
Methyl bromide	CEPA-Sch.1		
Mirex	CEPA-Sch.1	Tier I COA	Level I Binational Toxic
N-nitrosodimethylamine	CEPA-Sch.1		
Nonylphenol	CEPA-Sch.1		
Nonylphenol ethoxylate	CEPA-Sch.1		
Octachlorostyrene		Tier I COA	Level I Binational Toxic
PAHs	CEPA-Sch.1	Tier II COA	Level II Binational Toxic
PCDD (Dioxins)	CEPA-Sch.1	Tier I COA	Level I Binational Toxic
PCDF (Furans)	CEPA-Sch.1	Tier I COA	Level I Binational Toxic
Pentachlorobenzene	CEPA-Sch.1		Level II Binational Toxic
Polybrominated biphenyls	CEPA-Sch.1		
Polychlorinated terphenyls	CEPA-Sch.1		
Tetrachlorobenzene (1,2,3,4- and 1,2,4,5-)	CEPA-Sch.1		Level II Binational Toxic
Toxaphene		Tier I COA	Level I Binational Toxic
Tributyltetradecylphosphonium chloride	CEPA-Sch.1		
Trichloroethane (1,1,1-) (methyl chloroform)	CEPA-Sch.1		
Vinyl chloride (chloroethylene)	CEPA-Sch.1		

Substance Group 2: Other Substances of Potential Concern for Discharges to Community Wastewater Systems	Substance Identifier		
	CEPA[3] Schedule 1 (N/A for Group 2)	Tier I or Tier II Canada Ontario Agreement (COA) (2002)	Level I or Level II Canada-US Binational Toxics Strategy (1997)
2,4-D			
Aluminum			
Anthracene		Tier II COA	Level II Binational Toxic
Benzo(a)anthracene		Tier II COA	Level II Binational Toxic
Boron			
Chlorinated paraffins			
Chlorophenol (Phenols, chlorinated)			
Chromium (trivalent)			

[3] CEPA is the Canadian Environmental Protection Act, 1999

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Substance Group 2: Other Substances of Potential Concern for Discharges to Community Wastewater Systems	Substance Identifier		
	CEPA[3] Schedule 1 (N/A for Group 2)	Tier I or Tier II Canada Ontario Agreement (COA) (2002)	Level I or Level II Canada-US Binational Toxics Strategy (1997)
Dichloroethylene (Cis-1,2-)			
Dichlorophenol (2,4-)			
Dichloropropylene (Trans-1,3-)			
Di-n-butyl phthalate			
Dinitropyrene		Tier II COA	Level II Binational Toxic
Endosulfan			
Endrin			Level II Binational Toxic
Fluoranthene			
Fluorene			
Heptachlor (+heptachlor epoxide)			Level II Binational Toxic
Iron			
Lindane (Hexachlorocyclohexane)		Tier II COA	Level II Binational Toxic
MCPA			
Methylenebis (4,4-) (2-chloraniline)		Tier II COA	Level II Binational Toxic
Nitrate			
Pentachlorophenol		Tier II COA	Level II Binational Toxic
Phenanthrene		Tier II COA	Level II Binational Toxic
Phenolics (4AAP - specific compound)			
Pyrene			
Quinoline			
Thallium			
Tin			
Titanium (total)			
Tributyl tin		Tier II COA	Level II Binational Toxics
Trichlorophenoxyacetic acid (2,4,5-)			
Xylene (o-)			

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ADVANCED CLAUSES (CLAUSES FOR ADDITION TO THE CORE BYLAW FOR MIXED CUSTOMER COMMUNITIES)

Guidance for the Advanced Clauses: These clauses do not form a stand-alone document. This segment outlines additional clauses for municipalities with industrial sector discharges or other discharges of potential concern (such as ground food wastes from residential or industrial/ commercial/ institutional sectors). The segment includes clauses for additional definitions, potential requirements for food waste grinders, requirements for monitoring access points, Extra Strength Surcharge Agreements and compliance programs. Refer to the **Template for a Model Sewer Use Bylaw for Mixed Customer Communities** for a consolidated document incorporating the advanced clauses into the core bylaw for use in drafting a suitable bylaw.

In addition, two key features of the Advanced Clauses are:

- Codes of Practice; and
- Pollution Prevention Plans.

Considerations for Choosing to Apply Codes of Practice and/or Pollution Prevention Plans: Municipalities may choose to use both or either one of these options in developing their sewer use bylaws. The use and mix of these instruments will depend on the municipality's sewer use objectives, substances of concern in the community wastewater stream, the industrial/ commercial sector profile in the community, capacity of the industrial/ commercial sector to meet requirements and municipal resources for communication of the requirements.

Codes of Practice outline requirements for a commercial or industrial sector to undertake as a requirement for discharge to the sewer. These Codes of Practice can be thought of as best management practices with respect to sewer discharges. Once implemented, Codes of Practice will reduce pollutant loads to sewers, such as food waste (and therefore BOD) from the Food Industry for example. Codes of Practice are also educational tools for the specific sector addressed. Codes of Practice are prescriptive in terms of equipment, practices and other measures required.

Pollution Prevention Plans originate from the need to reduce specific substances of concern, such as toxic, bioaccumulative or carcinogenic substances. Industrial and commercial sectors within the community that may potentially release these substances of concern are identified and required to develop plans to reduce or eliminate releases of the substances. The identified sectors choose the methods most suitable to them to meet the pollution prevention planning requirements outlined in this Model Bylaw. Therefore pollution prevention plans allow more flexibility, unlike Codes of Practice which are prescriptive. However, pollution prevention plans require a higher degree of sophistication within the industrial / commercial sectors in order to respond with appropriate plans and may require more effort on the part of the municipality to review and approve. Pollution prevention plans can be expected to be more effective in addressing specific pollutants than Codes of Practice.

Note that pretreatment facilities or techniques to remove constituents from wastewater prior to discharge to the public sewer system present a third approach that may assist industrial dischargers in meeting the requirements of the sewer use bylaw. Subsection 7.6 following provides for this option.

1. ADDITIONAL DEFINITIONS

BEST MANAGEMENT PRACTICES (BMP) — An integrated plan to control and reduce the release of restricted and prohibited waste into the wastewater works to a practicable extent, through methods including physical controls, Pretreatment Processes, operational procedures and staff training.

CODE OF PRACTICE - means a set of practices applicable to specific industrial, commercial or institutional sector operations; a code of practice identifies mandatory procedures, equipment, training or other provisions required as a condition of wastewater discharge into the sewer system by the specified sector discharger.

COMPLIANCE PROGRAM – The necessary steps undertaken by a discharger to bring wastewater discharged into the municipal sewer into compliance with the terms and conditions of this Bylaw or related permit. Compliance programs are applicable to existing dischargers only; new discharges must fully comply with the requirements of this bylaw.

DESIGNATED SECTOR OPERATIONS – means industrial, commercial or institutional sectors required to adopt Codes of Practice or Best Management Practices or Pollution Prevention Plans.

PRETREATMENT PROCESSES – one or more treatment processes or devices designed to remove sufficient matter from wastewater discharged into the municipal sewer to enable compliance with effluent limits established in this Bylaw. Pretreatment processes prevent or reduce and control the discharge or deposit of matter from the discharger's premises into the municipal sewer connection.

POLLUTION PREVENTION PLAN — A detailed plan that identifies operations or activities of an owner or operator of commercial, institutional or industrial premises identifying specific pollution prevention methods to be implemented within a specific time frame.

POLLUTION PREVENTION PLAN SUMMARY — A summary of the pollution prevention plan and a brief summary of an owner's or operator's progress towards its pollution prevention goals.

SAMPLING PORT – A valve, tap, or similar device on equipment, a drain pipe or at another suitable location, to allow for sampling, consistent with technical guidelines that the Municipality may establish from time to time.

7. ADDITIONAL REQUIREMENTS

7.5 FOOD WASTE GRINDERS

(1) No person shall install or operate within the Municipality any food waste grinding devices for domestic purposes, the effluent from which will discharge directly or indirectly into a sanitary, combined or storm sewer.

(2) In the case of industrial, commercial or institutional properties where food waste grinding devices are installed in accordance with the Building Code, the effluent from such food waste grinding devices must comply with Schedule 'A' and Schedule 'B'.

(3) Food waste grinders shall not be equipped with motors in excess of ½ horsepower.

Guidance for food waste grinders: Food waste grinders, or garborators, are banned by some Municipalities under all circumstances. To ban food waste grinders, modify subsection (2) above to mimic subsection (1) for industrial, commercial or institutional properties.

7.6 PRETREATMENT FACILITIES

(1) Where required by the Designated Sewer Officer, the owner or operator shall install on the premises, and prior to the sampling point, a wastewater pretreatment facility.

(2) The owner or operator shall ensure the design, operation and maintenance of the pretreatment facility achieves the treatment objectives and is in accordance with the manufacturer's recommendations.

(3) The owner or operator shall ensure any waste products from the pretreatment facility are disposed of in a safe manner.

(4) The maintenance records and waste disposal records shall be available to the Designated Sewer Officer upon request.

(5) The owner or operator shall keep documentation pertaining to the pretreatment facility and waste disposal for two years.

12. SPILLS

(7). Industries at whose premises a spill has occurred which are required to have a Pollution Prevention Plan as a requirement of this bylaw shall prepare an updated plan and plan summary incorporating the information set out in this Section and shall submit the plan summary so updated to the Municipality within 30 days of the spill.

17. MONITORING ACCESS POINTS

Guidance on "Monitoring Access Points": This section suggests specifications and locations of fixtures to allow a municipality to obtain samples of discharger wastewater. These locations are typically manholes, but alternatives are becoming more common.

This section suggests wording for the case where a municipality requires the premises owner to construct and maintain these fixtures on an owner's property. Municipalities should verify their authority to enter premises for this purpose by checking applicable provincial/territorial legislation. Pollution events are transient, so ideally the Designated Sewer Officer will have unimpeded access to such fixtures. An alternative is to have such fixtures on the municipality's side of a property line.

Some ICI dischargers are located within larger complexes and sampling their wastewater streams separately at a property line may be impossible. Provision (2) of this section allows the municipality to specify a "sampling port" within premises to sample a "discrete wastewater stream". Two sectors requiring sampling ports are identified in subsection (5), below; additional sectors can easily be added. It may be appropriate to include such a list in Schedule for easier amendment. The requirement for a sampling port could be specified in a Waste Discharge Permit or in a Code of Practice, depending on the approach chosen by a municipality.

In all cases when the monitoring access point is to be the property of the owner, it is necessary for a municipality to provide specifications. This could be in the form of standard drawings or specifications, or custom requirements for a given location. The municipality should specify the location clearly and require that it be designed and constructed in accordance with good engineering practice. This also implies a need for the municipality to approve each monitoring access point and/or have sector-specific requirements for the more common situations.

(1) The owner or operator of commercial, institutional or industrial premises or multi-storey residential buildings with one or more connections to a wastewater works shall install and maintain in good repair in each connection a suitable monitoring access point to allow observation, sampling and flow measurement of the wastewater, uncontaminated water or storm water therein, provided that, where installation of a monitoring access point is not possible, an alternative device or facility may be substituted with the prior written approval of the Designated Sewer Officer.

(2) The monitoring access point or alternative device such as a sampling port shall be located on the property of the owner or operator of the premises, as close to the property line as possible, unless the Designated Sewer Officer has given prior written approval for a different location.

(3) Each monitoring access point, device or facility installed shall be designed and constructed in accordance with good engineering practice and the requirements of the Municipality, and shall be constructed and maintained by the owner or operator of the premises at his or her expense.

(4) The owner or operator of an industrial, commercial or institutional premises or a multi-storey residential building shall at all times ensure that every monitoring access point, alternative device or facility installed as required by this bylaw is accessible to the Designated Sewer Officer for the purposes of observing, sampling and flow measurement of the wastewater, uncontaminated water or storm water therein.

(5) The following discharger activities require sampling ports when it is not possible to install a monitoring access point:

(a) Dental offices
(b) Businesses using photographic processing units.

18. EXTRA STRENGTH SURCHARGE

Guidance for Section 18, Extra Strength Surcharge: Extra Strength Surcharges are related to the costs of providing treatment. The surcharge rate is typically based on an average strength; other options, such as peak concentrations could also be explored. Options for establishing surcharge rates include: monitoring by the Municipality (as described in subsection 3, following); self-monitoring; fixed rates by ICI sector applied to water usage; or, flat rates by ICI sector based on size of premises. A municipality's latitude in this regard may be guided by provincial legislation related to the powers of municipalities.

The sampling and testing requirements in subsection (3) is a means to develop a surcharge rate based on an average strength, calculated for cost of service recovery. The surcharge is not intended to be a penalty. The sampling approach and this subsection would require modification should an alternative basis for extra strength calculation be applied (such as peak concentration over a certain operating period, for example).

(1) The discharge or deposit of wastewater by a person that would otherwise be prohibited by this bylaw may be permitted to an extent fixed by:

(a) An **Extra Strength Surcharge Agreement** , including conditions for payment of additional costs of operation, repair and maintenance of the wastewater works, and on other terms and conditions as may be deemed appropriate by the Municipality; and/or
(b) A **Sanitary Discharge Agreement** , including conditions for payment for water pollution control treatment that otherwise would have been obtained from a surcharge on the water had it been supplied by the Municipality and on other terms and conditions as may be deemed appropriate by the Municipality.

(2) The Designated Sewer Officer may assess an extra strength surcharge for wastewater releases that exceed the limits of treatable parameters. An Extra Strength Surcharge Agreement may only be entered into with respect to the discharge of the following treatable parameters in wastewater: biochemical oxygen demand and/or chemical oxygen demand, total phosphorus, oil and grease of animal and vegetable origin, total suspended solids and total Kjeldahl nitrogen. Schedule "C"

provides the maximum concentrations the Designated Sewer Officer will consider for Extra Strength Surcharge Agreements. The discharger shall pay the assessed amount per the terms established by the Designated Sewer Officer for the duration of the discharge.

(3) Should testing of the wastewater being discharged into the wastewater collection system be required for the purpose of determining the wastewater surcharge rate, such testing shall be conducted by the Designated Sewer Officer, or by the owner to the satisfaction of the Designated Sewer Officer, using automated sampling devices or in accordance with the following manual sampling protocol:

(a) Samples from the effluent produced at a location will be collected each day for a minimum of two days;
(b) A minimum of four grab samples of equal volume shall be taken each day, such samples to be taken at least one hour apart;
(c) The analysis shall be conducted on a composite sample made of each day's grab samples;
(d) The respective results of these tests shall be averaged to determine the characteristics and concentration of the effluent being discharged into the City wastewater collection system.

(4) A Sanitary Discharge Agreement may be entered with respect to the discharge of wastewater, which contains water that has originated from a source other than the Municipal water supply system.

(5) Extra Strength Surcharge Agreement and Sanitary Discharge Agreements shall be generally in the form designated by the Designated Sewer Officer from time to time. The Designated Sewer Officer shall be authorized to execute Extra Strength Surcharge Agreements and Sanitary Discharge Agreements on behalf of the Municipality.

(6) The extra strength surcharge rate and the sanitary discharge rate will be reviewed and adjusted accordingly from time to time as determined by the Municipality.

(7) The agreements contemplated in this Section may be terminated by the Municipality by written notice at any time, including but not limited to an emergency situation of immediate threat or danger to any person, property, plant or animal life, water or wastewater works.

19. COMPLIANCE PROGRAMS

(1) An Industry may submit to the Designated Sewer Officer a proposed compliance program setting out activities to be undertaken by the Industry that would result in the prevention or reduction and control of the discharge or deposit of matter from the Industry’s premises into municipal or private sewer connections to any sanitary sewer or combined sewer. Compliance program submissions will only be considered for existing industries.

(2) An Industry may submit to the Designated Sewer Officer a proposed compliance program setting out activities to be undertaken by the Industry that would result in the prevention or reduction and control of the discharge or deposit of uncontaminated water, ground water or storm water from the Industry's premises to eliminate the discharge of matter into municipal or private sewer connections to any storm sewer.

(3) Upon receipt of an application pursuant to Subsection 19 (1) or (2) above, the Designated Sewer Officer may issue an approval for a compliance program for an Industry to discharge an effluent that does not comply with Schedule "A" and "B" or Section 3 of this bylaw, such approval to be in accordance with [*insert Municipality Name, Municipal Code*] guidelines therefore adopted by the Municipality from time to time. The Industry shall be entitled to make non-complying discharges in the amount and only to the extent set out in the Municipality's approval during the planning, design and construction or installation of facilities or works needed to implement the approved compliance program.

(4) Every proposed compliance program shall be for a specified length of time during which pretreatment facilities or other measures are to be installed or implemented and shall be specific as to the remedial actions to be implemented by the Industry, the dates of commencement and completion of the activity and the materials or other characteristics of the matter to which it relates. The final activity completion date shall not be later than the final compliance date in the compliance program.

(5) The Industry to which a compliance program has been issued shall submit a compliance program progress report to the Municipality within 14 days after the scheduled completion date of each activity listed in the compliance program.

(6) The Municipality may terminate any proposed compliance program by written notice at any time to the Industry in the event that the Industry fails or neglects to carry out or diligently pursue the activities required of it under its approved compliance program.

(7) The Municipality is authorized to execute agreements with industries with respect to approved compliance programs. These agreements may, in accordance with guidelines adopted by the Municipality from time to time, include a provision for a reduction in the payment otherwise required from the Industry to the Municipality pursuant to an Extra Strength Surcharge Agreement. The reduction in payment to the Municipality may be in such an amount and for such duration as the agreement may specify.

(8) The Municipality may terminate any approved compliance program entered into pursuant to Section 19 by written notice at any time to the Industry in the event that the Industry fails or neglects to carry out or diligently pursue the activities required of it under its approved compliance program, and in the event of any such termination, the Industry shall pay to the Municipality the full difference in amount between what it was required to pay to the Municipality pursuant to the Extra Strength Surcharge Agreement, and the amount actually paid to the Municipality as a result of having entered into an agreement with respect to the approved compliance program.

20. CODES OF PRACTICE

(1) Application:

(a) A code of practice applies to the Designated Sector Operations, as outlined in Schedule "D" of this bylaw

(b) A code of practice does not apply to a discharging operation that is subject to a Waste Discharge Permit, unless otherwise specified in the Waste Discharge Permit.

(c) A code of practice does not apply to the discharge of domestic wastewater.

(2) Nothing in a code of practice relieves a person discharging waste from complying with this bylaw, a Waste Discharge Permit or any other applicable enactment.

(3) The Designated Sewer Officer may require a discharging operation to obtain a Waste Discharge Permit if considered necessary by the Designated Sewer Officer because of circumstances not covered by a code of practice.

(4) As a condition of discharge of waste into a sewer connected to a wastewater facility, an operator of a discharging operation must submit to the manager a completed code of practice registration form attached as Schedule "D" to this bylaw:

(a) Within 90 days of the date of adoption of the applicable code of practice in the case of a discharging operation in existence on the adoption date; or

(b) In all other cases, within 30 days of the discharging operation commencing the discharge of waste into a sewer connected to a wastewater facility.

(5) An operator must report any change in the ownership, name, location, contact person, telephone number, or fax number of a discharging operation registered under a code of practice to the Designated Sewer Officer within 30 days of the change by submitting a completed code of practice registration form referred to in Section 15.4 showing the changes.

(6) An operator must report any change in the discharging operation registered under a code of practice resulting in the operation no longer meeting the definition applicable to that type of discharging operation within 30 days of the change by submitting a completed code of practice registration form referred to in Section 15.4 describing the changes.

(7) If a code of practice establishes a requirement in relation to a specific discharging operation which differs from a provision in this bylaw, the requirement in the code of practice prevails.

21. POLLUTION PREVENTION PLANNING

(1) Every subject sector Industry identified in Schedule "E" of this bylaw and every Industry which discharges any amount of a subject pollutant identified in Schedule "F" of this bylaw shall

prepare a Pollution Prevention Plan and submit a copy to the Municipality with respect to the premises from which the discharge occurs, unless the industry is participating in a Code of Practice or BMP plan. [*Dates for the submissions to be identified by the Municipality.*]

(2) Pollution Prevention Plans submitted to the Municipality shall be approved by the Municipality unless the Municipality determines that the pollution prevention plan does not comply with the requirements of this article.

(3) The Pollution Prevention Plan shall be in the form designated by the Municipality for that purpose from time to time.

(4) In addition to any other matter or requirement designated by the Municipality, and notwithstanding Subsection 21(3), each Pollution Prevention Plan shall include the following:

(a) A description of the processes at the premises which use or produce subject pollutants.
(b) A description of those processes at the premises which are to be the subject of pollution prevention planning.
(c) A list of the subject pollutants present at the premises at any stage of the operations of the premises.
(d) A description setting out the types, quantities and concentrations of all subject pollutants discharged, directly or indirectly, to a sewer.
(e) A description of current waste reduction, recycling, waste treatment and pollution prevention activities with respect to sewer discharges at the premises.
(f) A description of pollution prevention options for subject pollutants and sewer discharge and an evaluation of those options.
(g) A list of possible targets and timeframes [*as specified by the municipality*] to reduce or eliminate the discharge of subject pollutants to the Municipality's sewers.
(h) A declaration from an authorized person that the content of the plan is, to the best of that person's knowledge, true, accurate and complete.

(5) In the event that the activity or business of an Industry which discharges any amount of a subject pollutant listed in Schedule "F" is not listed in Schedule "E" of this bylaw, then that Industry shall prepare a Pollution Prevention Plan and submit a copy of the Pollution Prevention Plan by no later than [*date specified by municipality*].

(6) Any subject sector Industry and any Industry discharging any amount of a subject pollutant which commences business operations after [*date specified by municipality*], shall have one year from the date of the commencement of its business operations to prepare a Pollution Prevention Plan and submit a copy of the Pollution Prevention Plan to the Municipality.

(7) In the event that an Industry submitting a Pollution Prevention Plan is not sent written notice from the Municipality that its Pollution Prevention Plan is not approved by the Municipality within 90 days of the Industry delivering a copy of the Pollution Prevention Plan to the

Municipality, the Pollution Prevention Plan shall be deemed to have been approved by the Municipality.

(8) Where an Industry receives notice from the Municipality that its Pollution Prevention Plan has not been approved, the Industry shall have 90 days to amend and resubmit its Pollution Prevention Plan to the Municipality for approval in accordance with this article.

(9) In the event that a Pollution Prevention Plan resubmitted to the Municipality in accordance with Subsection 21 (8) of this section continues to fail to comply with the requirements of this bylaw, the Municipality shall so notify the Industry, and the Industry shall be in contravention of Subsection 21 (1) and shall continue to be in contravention of this section until such time as the Municipality approves of an amended Pollution Prevention Plan resubmitted by the Industry, in accordance with this section.

(10) Every subject sector Industry and every Industry discharging a subject pollutant shall submit a revised Pollution Prevention Plan for the approval of the Municipality at least once every three years from the date which the original plan was required to be submitted. Such revised and updated Pollution Prevention Plan shall, in addition to the requirements otherwise set out in this section, detail and evaluate the progress of the Industry to accomplish the objectives set out in its Pollution Prevention Plan and the Industry's ability to accomplish those pollution prevention objectives.

(11) Every subject sector Industry and every Industry discharging a subject pollutant shall prepare a revised and updated Pollution Prevention Plan no less frequently than once every six *[or number of years to be specified by the Municipality*] years from the date which the original plan was required to be prepared, and shall prepare and submit for the Municipality's approval a copy of the Pollution Prevention Plan with respect thereto no later than the date by which any revised and updated Pollution Prevention Plan must be prepared.

(12) Where a subject sector Industry makes changes to the process(es), product(s) or facility configuration that will result in changes to the Pollution Prevention Plan, a revised or updated Pollution Prevention Plan must be prepared and a copy of the Pollution Prevention Plan shall be submitted for the Municipality's approval within 2 calendar months of the change(s). Alternately if a company changes the numbers it wishes to achieve without altering the completeness aspect of the Pollution Prevention Plan, a municipality need not approve it again (unless it was a 2nd cycle submission of the P2 plan).

(13) The Municipality may designate any class of business or activity not included in Schedule "E" of this bylaw, as a subject sector Industry and may designate a date with respect to which any such subject sector shall be required to submit to the Municipality a copy of the Pollution Prevention Plan.

(14) The Municipality may designate any matter as a subject pollutant and may designate a date with respect to which any Industry discharging such subject pollutant shall be required to submit to the Municipality a copy of the Pollution Prevention Plan.

(15) A copy of the Pollution Prevention Plan shall be kept at all times at the premises in respect to which it was prepared and shall be available for inspection by the Municipality at any time.

(16) Implementation of the Pollution Prevention Plan shall be initiated within [*one year, or timeframe as identified by the municipality*] of Plan approval by the Municipality.

Guidance on Implementation: Municipalities can stagger the implementation to two years starting with the highest potential sector to ensure the municipality can properly support, implement and enforce the project.

22. PENALTIES

Guidance for Penalties: Each municipality must check the applicable statutes that govern the limit on the fines they can pursue for contraventions of the bylaw.

This section allows ticketing of offences, if you have such powers. Ticketing does not prevent a person or company from contesting the offence in court, but has been found to be an effective way to deal with smaller offences.

When there is a specified penalty for an offence, this does not prevent a municipality from proceeding with laying a charge and attempting to go for a higher penalty in court.

An additional Schedule will be required to be developed by the Municipality that lays out the penalties for identified infractions. This schedule is not provided in this Model Bylaw.

(1) Where the Designated Sewer Officer believes that a person has contravened any provision of this Bylaw, he or she may commence proceedings by issuing a summons by means of a violation ticket in accordance with the [*Provincial Offences Procedure Act or similar applicable Act in your jurisdiction*].

(2) The specified penalty payable in respect of a contravention of a provision of this Bylaw is the amount shown in Schedule X of this Bylaw in respect of that provision. [*Note a sample of Schedule X is not provided in the Model Bylaw*]

(3) Notwithstanding subsection (2):

(a) Where any person contravenes the same provisions of this Bylaw twice within one twelve month period, the specified penalty payable in respect of the second contravention is double the amount shown in Schedule X of this Bylaw in respect of that provision, and
(b) Where any person contravenes the same provision of this Bylaw three or more times within one twelve month period, the specified penalty payable in respect of the third or subsequent contravention is triple the amount shown in Schedule X of this Bylaw in respect of that provision.

SCHEDULE "C" MAXIMUM WASTEWATER STRENGTH LIMITS UNDER EXTRA STRENGTH SURCHARGE AGREEMENT

Substance	Maximum Concentration Limits under an Extra Strength Surcharge Agreement, mg/L
Biochemical Oxygen Demand (BOD)	1200
Chemical Oxygen Demand (COD)	[determined by municipality based on industrial sector and treatment capacity]
Total Suspended Solids (TSS)	1200
Oil and grease - animal and vegetable (O&G)	450
Total Phosphorus (TP)	[determined by municipality based on treatment capacity]
Total Kjeldahl Nitrogen (TKN)	[determined by municipality based on treatment capacity]

Guidance on Schedule "C": The values in this table, where indicated, are the "textbook limits" to which sewer systems are often designed, but you may wish to specify different limits, depending on your system characteristics and dischargers. Some cautions about allowing extra strength discharge above the maxima:

- Oil & grease of animal and vegetable origin is quite readily treated at the municipal wastewater treatment plant. However, oil and grease have the potential to cause blockage in the collection system and therefore may be suitable for an Extra Strength Surcharge Agreement. It is recommended that the maximum not be exceeded at the source. The City of Toronto uses 150 mg/L as a maximum, which they have determined to be readily achievable with a well maintained "grease trap" (i.e., the "Food-Related Grease Interceptor") used by restaurants, a primary source of oil & grease of animal and vegetable origin. Consider the characteristics of your collection system in setting this limit.

- TSS are also readily removed at the municipal wastewater treatment plant. However, excessive levels may settle in a collection system causing blockages. Consider the characteristics of your collections system in setting this limit.

- BOD is the substance most amenable to Extra Strength Surcharge Agreements. It is not common to have collection system problems related to BOD, although rapidly biodegradable BOD can lead to septic conditions and odour problems. BOD is difficult to treat on-site because the required processes are normally biological and there is the need to maintain a fairly constant flow of organic loading to maintain the healthy required biomass (although new on-site technologies are emerging). Thus, if you have the capacity and it doesn't cause collection system problems, dealing with extra strength BOD beyond the "maximum" could be considered and may be seen by dischargers as a desirable service; applicable surcharges payable by dischargers are likely to be less that than the capital and operating costs of on-site private systems.

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model by-law, or any provision thereof, for their own purposes.

SCHEDULE "D" CODE OF PRACTICE REGISTRATION FORM FOR DESIGNATED SECTOR OPERATIONS

Guidance on Schedule "D": Municipalities may choose not to use a registration system due to the time and follow-up required. Alternately a municipality can create a database from different sources and identify the sector industries which are part of their program.

[*Designated Sewer Officer title and address*]

The following is an application to register a discharging operation under a CODE OF PRACTICE as outlined in [Municipality] Sewer Use Bylaw No. [number] **or** to change or cancel an existing registration. This application is to be filed with the Designated Sewer Officer, at the above address, per the requirements of the sewer use bylaw. To apply for a change of information or cancellation of an existing registration, an application is to be filed with the sewage control manager within 30 days of the date on which the applied changes will take effect at the operation.

1. Operation Name (name of company, partnership, individual or institution):

Hereby apply to: (Check one of the following)

. **Register as a discharging operation under one or more of the following Codes of Practice:**

Guidance for Sector Selection: Designated Sector Operations list should be reviewed and tailored for your community; some sectors following may be candidates for pollution prevention plan requirements where specific pollutants are of concern.

Check applicable code(s) below	Service or Industrial Category for Designated Sector Operations	Applicable Code of Practice
	Food Services Operations	[Identify Schedule or Source of Code of Practice]
	Dry Cleaning Operations	
	Photographic Imaging Operations	
	Dental Operations (including Dental Schools)	
	Automotive Repair Operations	
	Vehicle Wash Operations	
	Carpet Cleaning Operations	
	Fermentation Operations	
	Printing Operations	
	Recreation Facility Operations	
	Laboratory Operations	
	Etc, as determined by the municipality	

Or

Change an existing registration under a code of practice

Reason for change:

Or

Cancel an existing registration under a code of practice

Reason for cancellation:

Operation Located at:

Postal Code:

Telephone:

Fax:

Company Name (if different from above):

Mailing Address (if different from above):

Postal Code: Telephone: Fax:

Contact Information

Owner
Name:
Telephone:
Fax:

Facility Manager
Name:
Telephone:
Fax:

2. Code of Practice Information (Please check the appropriate box for each question)

Is this operation **connected to a municipal sanitary sewer system**? Yes No Don't know

Is waste from this operation discharged to **pretreatment works** specified in the applicable code of practice? Yes No Don't know

Does this operation use **off-site waste management** to comply with the requirements of the applicable code of practice? Yes, all wastes Yes, some wastes No Don't know

3. Declaration

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model by-law, or any provision thereof, for their own purposes.

I hereby acknowledge that the information on this form is correct to the best of my knowledge.

Signature:
Name (please print):
Title:
Date:

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model by-law, or any provision thereof, for their own purposes.

SCHEDULE "E" SUBJECT SECTORS FOR POLLUTION PREVENTION PLANS

Guidance on Schedule "E": The industrial categories identified for pollution prevention plans should be reviewed and tailored for your community for those sectors with specific pollutants requiring reduction; specific sub-sectors by NAICS Code should be identified for clarity.

North American Industry Classification System (NAICS) Code	Industrial Category	Due Date for P2[4] Plan (as determined by the municipality)
[Insert NAICS Code by Sub-sector, as appropriate for the municipal industrial customer base]	**Metal finishing/metal plating industries**	
	Chemical manufacturing industries	
	Other manufacturing industries, as appropriate for the community	
	ICI[5] sectors discharging Schedule "F" pollutants	

[4] P2 is Pollution Prevention

[5] ICI is industrial, commercial, institutional sectors

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model by-law, or any provision thereof, for their own purposes.

SCHEDULE "F" SUBJECT POLLUTANTS FOR SUBJECT SECTORS REQUIRING POLLUTION PREVENTION PLANS

Guidance on Schedule "F": Identify substances requiring specific reductions through pollution prevention plans by industrial sectors noted in Schedule "D". Substances in this Schedule may be drawn from Schedules A or B or from the Supplemental list of Substances found in this Model. Additional substances of particular concern for the community may also be added as appropriate.

Substance
Arsenic
Cadmium
Cobalt
Chromium
Copper
Mercury
Molybdenum
Nickel
Lead
Selenium
Zinc
Additional substances, for example organic parameters, as determined by the municipality for its customer base and pollution prevention goals

MARBEK
Resource Consultants Ltd.

APPENDIX "A"

DISCHARGE APPLICATION AND DISCHARGE PERMIT FORMS

Form #1 Abbreviated Discharger Information Report
The Municipality of _____ Sewer Use Program

The completion of this form is required by all dischargers to sewage works under Bylaw #_____ addressing sewer use in the Municipality of _____ .

**If you have any questions on the form, please call [*Phone number*]

The completed form is to be forwarded to :
Attention : Designated Sewer Officer, the Municipality of _____
[*Mailing Address*]

Please print clearly while completing the form.

The Abbreviated Discharger Information Report	
1	**Name of Company**
2	**Address of Company** Phone: Fax:
3.	**Owner of property** (if different from Company listed above) Phone: Fax:
4	**Brief Description of Product or Service**
5	**Brief Description of the Process(es) used in the Manufacturing or Servicing**

The Abbreviated Discharger Information Report

6	**'Are there' or 'Will there be' any of the following wastewater discharges from the description as provided in #5?** Process wastewater Yes / No Non-contact cooling water Yes / No Other sources of wastewater (other than sanitary) Yes / No (if yes, brief description)
7	**Does the site have any existing connections to the following sewers?** sanitary Yes / No combined Yes / No storm Yes / No
8	Location of Process units? Inside / Outside / Outside but covered Storage of raw materials? Inside / Outside / Outside but covered Storage of intermediate products? Inside / Outside / Outside but covered Storage of final products? Inside / Outside / Outside but covered
9	**Does the site have any of the following programs in place to address discharges to the sewer system?** Pollution Prevention Yes / No Best Management Plan Yes / No Environmental Management System Yes / No Other program / practices Yes / No

Date form completed :
Name and Title of Company Representative:

Signature of Authorized Company Representative

Note: Completion of the "Complete Discharger Information Report" may be required based on this report and/or subsequent verification of the site by the Municipality.

For Municipality use only - date completed form received :

Form #2 Detailed Discharger Information Report

The Municipality of _____ Sewer Use Program

The completion of this form by dischargers to the sewage works is required under certain circumstances by Bylaw #_____ addressing sewer use in the Municipality of _____.

**If you have any questions on the form, please call [*Phone number*]

The completed form is to be forwarded to :
Attention : Designated Sewer Officer, the Municipality of _____
[*Mailing Address*]

Please note the following:
Print clearly while completing the form.
Additional information and attachments - are required.
Indicate what material has been attached to ensure that the municipality is aware of all the information provided.

The Detailed Discharger Information Report	
1	**Name of Company**
2	**Address of Company** Phone: Fax:
3.	**Owner of property** (if different from Company listed above) Phone: Fax:
4	**General Site Operation Information** Number of Employees involved in plant: office: other: Total: Number of Shifts per day: Number of operating days per week:
5	**Description of Product(s) or Service** Include Standard Industrial Code (SIC) - state if SIC is Canadian or American

The Detailed Discharger Information Report

6	**Description of the Process(es) used in the Manufacturing or Servicing** Include characteristics such as Batch (how many per time period), Continuous, or Both (explanation to be provided), Seasonal Production Cycles, Specific Clean-up Periods and Clean-up Activities, Production Rates
7	**Average Daily Water Use and Sources** Municipal Supply Yes / No _____m3/day Estimated or Measured Surface Water** Yes / No _____m3/day Estimated or Measured Groundwater* Yes / No _____m3/day Estimated or Measured Other sources** Yes / No _____m3/day Estimated or Measured If flow rate varies significantly provide peak flow rates per day and month and explanation. * Provide copy of the Permit to Take Water [*or other documentation per relevant jurisdictional requirements*] ** If 'Yes' - provide explanation as an attachment.
8	**Discharge Points from Site** List all liquid effluent discharge points from the site and average daily flow for each point in cubic metres per day of sanitary, noncontact cooling water, process wastewater, contact cooling water and other discharge water to the sanitary sewer, combined sewer, storm sewer, groundwater, surface water, evaporation losses (if applicable), and percent of water in final manufactured product (if significant and applicable to the site). For example: process wastewater from manufacturing line to sanitary sewer at an average daily flow of 200 m3/day (measured)
9	**Known Characteristics of Discharges** Provide existing data on the chemical composition and constituent concentrations of the discharges listed above in #8
10	**Physical Layout** • Provide sketch of property (to scale or approximate) showing buildings, pretreatment works, property boundaries, effluent lines, and connections to sanitary, combined and storm sewers. • Please identify sewers as listed on the Parameter Information Form as completed above. • Layout may be attached as separate document - leave note to indicate submission with this form. • A flow diagram of the site flows/processes is also required.
11	**Generation Registration Information** Provide any Generator Registration Numbers that the site under the requirements of the governing jurisdiction [***Note to Bylaw Author***: for example, Ontario Regulation 347 under the Environmental Protection Act].
12	**Extra Strength Surcharge Agreements (ESSA)** Does the site have an existing ESSA with the Municipality? Yes / No Did the site previously have an ESSA with the Municipality? Yes / No If Yes to either question - Attach a copy of each agreement to this form

The Detailed Discharger Information Report

13	**Pretreatment of Discharges Prior to Discharge** Does the site have any pretreatment systems for process effluents prior to discharge to the sewer system? Yes / No If Yes, provide a description of the pretreatment systems and associated processes, design capacities, contaminants removed, performance objectives and operational procedures for the devices.
14	**Does the site have any of the following programs addressing discharges to the sewer system in place?** Pollution Prevention Yes / No Best Management Plan Yes / No Environmental Management System Yes / No Water Conservation Yes / No Other program / practices Yes / No If yes - attach copy of each to the form and explanation for implementation.

Date form completed:

Name and Title of Company Representative:

Signature of Authorized Company Representative:

The information submitted in this form may subject to verification by the municipality:

For Municipality use only Date completed form received:
Date information verified/approved:

FORM 3 – MUNICIPALITY OF _____ WASTE DISCHARGE PERMIT

Under the provisions of the Municipality of _____ Sewer Use Bylaw No. _____, _____ hereinafter referred to as the Permittee, is authorized to discharge Non-Domestic Waste to the Sanitary located at _____

This Waste Discharge Permit, hereinafter referred to as the "Permit", has been issued under the terms and conditions, including definitions, prescribed in the Municipality of _____ Sewer Use Bylaw No. _____ hereinafter referred to as the "Bylaw".

This Permit sets out the standard conditions, engineering units, and the requirements for emergency procedures.

A. STANDARD CONDITIONS

1. Except as otherwise provided in this Permit, all terms and conditions stipulated in the Bylaw shall apply to this Permit.

2. The terms and conditions of this Permit may be amended by the Municipality pursuant to the Bylaw.

B. MAINTENANCE AND OPERATION OF WORKS AND PROCEDURES

Wastewater control works and procedures associated with maintaining the discharge criteria and/or the monitoring requirements specified in the Permit shall be employed at all times during the discharge of industrial/commercial wastes to sewer. All such works and procedures shall be inspected regularly and maintained in good working condition.

C. EMERGENCY PROCEDURES

In the event of an emergency or condition which prevents the continuing operation of any wastewater works or procedures designated by this Permit or results, or may result in a violation of any discharge criteria specified in this Permit, the Permittee shall notify the Municipality at [phone number] (24 hours) at the first available opportunity, and shall undertake appropriate remedial action as soon as possible.

D. BY-PASSES

The discharge of wastes which by-pass any wastewater works, or which are not in accordance with procedures designated by the Permit, is prohibited unless prior approval of the Municipality is obtained and confirmed in writing.

E. DISCHARGE MONITORING

1. Discharge measurement, sampling, analysis and reporting shall be undertaken by the Permittee when required by the Designated Sewer Officer. The Designated Sewer Officer may also undertake audit sampling, at the Designated Sewer Officer's discretion.

F. pH MONITORING

Enforcement of pH levels, as listed in this Permit, shall be based on grab samples. The Permittee should be aware that pH levels measured in a Composite Sample [if required] will provide an average pH of the waste stream and will not indicate the total range of pH in the effluent. The Permittee is encouraged to do periodic grab sample pH analyses to ensure permit compliance.

G. DISCHARGE SAMPLING AND ANALYSES

The Permittee shall carry out the following sampling and analysis program, to commence on _____.

1. Continuous Discharges

(a) Effective _____, the Permittee shall measure or estimate, using an approved flow monitoring device(s) or method(s), the daily discharge for each sampling location during each month of operation. The following information shall be recorded for each sampling location:

Total flow for the month (m3)
Number of operating days during the month
Average daily flow for the month (m3/day)
Maximum daily flow for the month (m3/day)

2. Continuous and Batch Discharges

(a) Composite Samples – A 24 hour [if facility operates 24 hours per day] or 8 hour [if facility operates 8 hours per day] composite sample shall be taken by the discharger using sampling equipment installed in the monitoring access point(s), or other sample point(s) approved by the Designated Sewer Officer at the following frequency: _____. The Discharge flow for the periods that the Composite Sample(s) [if required] are collected shall be recorded. *[If the Industry does not have a composite sampler or samplers available to be installed in the monitoring access point(s), the Municipality will use its own composite sampling equipment to collect required samples, and may recover costs of sample collection from the Industry.]*

Composite Sample(s) shall be analyzed for the following parameters:

[insert parameters]

(b) One grab sample shall be collected from each monitoring access point(s), or other sample point(s) approved by the Designated Sewer Officer during normal facility operating hours, and at the time of day approved by the Designated Sewer Officer, at the following frequency: _____. The sample date and time shall be recorded.

Grab samples(s) shall be analyzed for the following parameters:

[insert parameters]

3. Sample Analysis

All sampling, measurements, tests and analyses of waste discharges shall be carried out in accordance with the latest edition of STANDARD METHODS or an alternate method approved by the Designated Sewer Officer. Samples shall be submitted for analysis to an ACCREDITED LABORATORY, at the expense of the discharger, unless other arrangements have been approved by the Designated Sewer Officer. The owner shall supply hard copies of the results of the analysis to the Designated Sewer Officer in a format acceptable to the inspector within the time specified by the inspector.

H. LOCATION OF APPROVED SAMPLE POINTS

The approved sample points are as follows and as shown on the attached schematic of approved sample points and treatment processes. Sample point _____ is considered to be the point of discharge to sewer.

SAMPLE POINT NO. DESCRIPTION
Sample Point 1 _____
Sample Point 2 _____

PHOTOGRAPH OF APPROVED SAMPLING POINT
SUPPLIED BY PERMITTEE

I. AUTHORIZED DISCHARGE CHARACTERISTICS

1. Authorized Rate of Discharge
The Permittee shall not exceed the following:

[insert flow rates]

2. Authorized Discharge Criteria
This Permit sets out requirements for the quantity and quality of the discharge of Non-Domestic Wastewater from a _____. Where a compliance program has been specified, existing works or procedures must be maintained in good operating condition and operated in a manner to minimize the discharge of contaminants during the interim period until the new works have been installed.

a) The Permittee shall not discharge prohibited waste, as defined in Schedule "A" of the Bylaw.

b) The Permittee shall not discharge restricted waste, as defined in Schedule "B" of the Bylaw with the following exceptions:

[insert Parameter Authorized Range or Maximum Concentration]

Compliance with the above-noted exceptions is to be achieved by: _____

c) The Permittee shall not discharge storm water or cooling water into the sanitary sewer system.

J. AUTHORIZED WORKS AND PROCEDURES

This Permit sets out the waste sources, works and procedures for the authorized discharges to sewers. The Designated Sewer Officer may require that further works be installed if the existing works, in his opinion, do not provide an acceptable level of treatment. New works or alterations to existing works must be approved, in principle, by the Designated Sewer Officer.

New waste sources must be authorized, in writing, by the Designated Sewer Officer.

The authorized waste sources, works and procedures to treat and/or control the waste discharge are:

SOURCE COMPLETION DATE WORKS & PROCEDURES
1. _____ _____ _____
2. _____ _____ _____

K. REPORTING REQUIREMENTS FOR WASTE DISCHARGE PERMIT

The Permittee is required to submit the following reports to the Designated Sewer Officer:

a) The Permittee shall submit the results of effluent sampling (as required by the Designated Sewer Officer) to the Designated Sewer Officer at the following frequency *[insert frequency]*.

b) By not later than _____, the Permittee shall submit a written report outlining the specifications of the flow monitoring device or method used to determine the discharge flow rate.

c) Additional reporting shall be undertaken by the Permittee when required by the Designated Sewer Officer. *[i.e. insert reporting requirements for compliance programs, status on pollution prevention activities, etc.]*

PART 4: DERIVATION OF MODEL BYLAW CONCENTRATION LIMITS

Overview

This Part of the Model Bylaw is provided for reference to describe the process, references and considerations applied in developing the concentration limits for Core Substances controlled through the Model Bylaw. The results are presented in two tables following.

Table 1 presents lower threshold limits for the Core Substances. These lower limits are developed to take into consideration the concentrations of substances in domestic wastewater. Bylaw concentration limits need to allow for expected or typical concentrations of these core substances. Two key considerations in developing Table 1 were:

- Drinking water concentrations. Since potable water is the primary source of domestic water to the sewer system, the Canadian Guidelines for Drinking Water Quality (CGDWQ) were used to help identify lower thresholds.
- Typical Domestic Wastewater. Since the focus of sewer use bylaws is industrial and other non-domestic discharges, domestic wastewater should be in compliance with the limits established. Medium strength wastewater concentrations were used where available. A literature review was undertaken to identify other sources of information; unfortunately, there is a data gap in the area of domestic wastewater quality.

Table 2 presents other considerations used in developing the recommended concentration limits, including:

- Method detection limits. For legal enforcement, the concentration of substances must be measurable. Unless otherwise noted, ten-times the method detection limit was used where this factor was the over-riding consideration.
- Inhibition of Biological Processes. Certain substances inhibit the biological processes in secondary treatment.
- Worker Protection. Certain substances pose a potential hazard to sewer workers.
- Technology Considerations. Technological limitations exist in terms of removal of certain substances from wastewater. Several references were documented to identify these limits. North American technology considerations were applied to develop the limits in this Bylaw; it is worth noting that European Union techniques identify that significantly lower concentrations are achievable for some substances.
- Water Quality Guidelines for Protection of Aquatic Life. In the absence of other information, the ambient water quality to protect aquatic life was considered.

Preliminary Concentration Limits were derived using the information described to this point, for comparison with existing bylaws. The limits per the Toronto Bylaw and limits for other municipal bylaws were then compared with the preliminary ones. In some cases, existing bylaw limits were lower than the technological limitations indicated through literature sources. In these cases, the existing bylaw limits were applied (i.e. arsenic, benzene, copper, mercury, nickel and sulphide). In the case of silver, literature sources indicate removals significantly better than the Toronto Bylaw; in keeping with one or more other bylaws, the technologically achievable limit was applied. In the case of zinc, an exception was made to the lower threshold limit since the CGDWQ aesthetic objective limit is very high (5.0 mg/L) and existing bylaws (e.g. Toronto)

apply lower limits. Notation is made in the Guidance Document (Table B of Schedule “B”) that municipalities with high zinc concentrations in potable water may need to adjust this limit.

Table 1
Threshold Limits for the Core Substance List

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
Ammonia (as N)	CEPA-Sch.1			Inhibitory inorganic compound on biological process	Worker safety parameter		-	-	25		25	Removed; captured as nitrogen; no limit applicable for ammonia except “inoffensive odour” which is already covered in the Bylaw provisions
Arsenic	CEPA-Sch.1			Inhibitory effect on activated sludge		OMOE Biosolids Parameter	0.025	-	-		0.025	
Benzene	CEPA-Sch.1			Inhibitory effect on activated sludge	OMOE - VOC limit for worker safety		0.005	-	-		0.005	

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
Benzidine and benzidine dihydrochloride	CEPA-Sch.1			Inhibitory effect on activated sludge			-	-	-		-	
Biochemical Oxygen Demand							-	-	190		190	
Cadmium	CEPA-Sch.1	Tier II COA	Level II Binational Toxics	Inhibitory effect on activated sludge		OMOE Biosolids Parameter	0.005	-	-		0.005	

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
Chloride				Inhibitory inorganic compound on biological process			-	≤ 250	50		250	
Chloroform					OMOE - VOC limit for worker safety		0.1 (total THMs)	-	-		0.01 (total THMs)	
Chromium (total)				Inhibitory effect on activated sludge		OMOE Biosolids Parameter	0.05	-	-		0.05	
Cobalt						OMOE Biosolids Parameter	-	-	-		-	

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
Copper				Inhibitory effect on activated sludge		OMOE Biosolids Parameter	-	≤ 1.0	-	0.10	1.0	
Cyanide (as total)				Inhibitory effect on activated sludge	Worker safety parameter		0.2	-	-		0.2 (as total CN)	
Dichlorobenzene (1,2-)				Inhibitory effect on activated sludge			0.2	≤ 0.003	-		0.2	
Dichlorobenzene (1,4)		Tier II COA	Level II Binatio nal Toxics	Inhibitory effect on activated sludge	OMOE - VOC limit for worker safety		0.005	≤ 0.001	-		0.005	
Ethylbenzene					OMOE - VOC limit for worker safety		-	≤ 0.0024	-		0.0024	
Hexachlorobenzene	CEPA-Sch.1	Tier I COA	Level I Binatio nal Toxics	Inhibitory effect on activated sludge			-	-	-		-	

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
Lead	CEPA-Sch.1			Inhibitory effect on activated sludge		OMOE Biosolids Parameter	0.01	-	-		0.01	
Mercury	CEPA-Sch.1	Tier I COA	Level I Binatio nal Toxics	Inhibitory effect on activated sludge		OMOE Biosolids Parameter	0.001	-	-		0.001	
Methylene chloride (dichloromethane)	CEPA-Sch.1				OMOE - VOC limit for worker safety		0.05	-	-		0.05	
Molybdenum						OMOE Biosolids Parameter	-	-	-		-	
Nickel	CEPA-Sch.1			Inhibitory effect on activated sludge		OMOE Biosolids Parameter	-	-	-		-	

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
Nitrogen, Total Kjeldahl							-	-	40		40	
Oil and grease – animal and vegetable							-	-	-		-	
Oil and grease – Hydrocarbon/mineral and synthetic/							-	-	-		-	
Oil and grease (total)							-	-	90		90	
PCBs (chlorobiphenyls)	CEPA-Sch.1	Tier I COA	Level I Binational Toxics				-	-	-		-	

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
pH (unitless)							-	6.5 - 8.5	-		6.5-8.5	
Phenols, Total (or Phenolic compounds)				Inhibitory effect on activated sludge			-	-	-		-	
Phosphorus (total)							-	-	7		7	
Selenium						OMOE Biosolids Parameter	0.01	-	-		0.01	
Silver				Inhibitory effect on activated sludge			-	-	-			

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
Sulphates (as SO_4)				Inhibitory inorganic compound on biological process			-	≤ 500	30		500	
Sulphide (as H_2S)				Inhibitory inorganic compound on biological process	Worker safety parameter		-	≤ 0.05	-		0.05	
Suspended Solids, Total							-	-	210		210	
Temperature (degrees C)							-	≤ 15	-		15	
Tetrachloroethane (1,1,2,2 -)					OMOE - VOC limit for worker safety		-	-	-		-	

	Reason for Inclusion in Core Group of Substances for Model Sewer Use Bylaw						STEP 1 Lower Threshold Levels (units: mg/L unless noted)					
Substance	**Schedule 1 - CEPA (November 30, 2005 version)**	**Tier I or Tier II Canada Ontario Agreement Respecting the Great Lakes Basin Ecosystem (2002)**	**Level I or Level II Canada-US Binational Toxics Strategy (1997)**	**Inhibits Wastewater Treatment - effect on activated sludge processes (Note 1) + chloride, sulphate, sulphide, ammonia (Note 1)**	**Worker Safety - 10 VOCs noted in Draft OMOE Document "Indirect Industrial Discharge Limits for VOCs" (1997) for Worker Safety + ammonia, H2S, cyanide (Note 2)**	**Biosolids Protection (Note 3)**	**Canadian Guidelines for Drinking Water Quality (Maximum Acceptable Concentration) (Note 5)**	**Canadian Guidelines for Drinking Water Quality (Aesthetic Objectives) (Note 5)**	**Medium Strength Untreated Domestic Wastewater (Note 6)**	**Domestic Concentrations from other literature sources (Note 7)**	**Lower Threshold Concentration (see Table 2 for other considerations)**	**Comments**
Tetrachloroethylene	CEPA-Sch.1				OMOE - VOC limit for worker safety		0.03	-	-		0.03	
Toluene					OMOE - VOC limit for worker safety		-	≤ 0.024	-		0.024	
Trichloroethylene	CEPA-Sch.1				OMOE - VOC limit for worker safety		0.05	-	-		0.05	
Xylenes (total)					OMOE - VOC limit for worker safety (o-xylene)		-	≤ 0.3	-		0.3	
Zinc				Inhibitory effect on activated sludge		OMOE Biosolids Parameter	-	≤ 5.0	-	0.6	5.0	Very high threshold limit based on Drinking Water Quality Limit

Table 2

Other Considerations for Core Substances Limits and Recommended Limits (units: mg/L unless noted)

Note: **Substances with asterisks require particular review to identify appropriate limits for bylaws.

All limits in these tables are intended to provide guidance, not to establish required limits; those substances with asterisks may be problematic for particular sectors or dischargers within communities.

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
Substance	**Lower Limit Concentration (From Table 1)**	**MOE Jan. 1999 Method Detection Limit (MDL) (Note 16)**	**City of Toronto Wastewater Quality Laboratory 2006 Method Detection Limit (MDL) (Note 17)**	**Threshold Inhibitory Effect for Activated Sludge or Anaerobic Digestion Processes (Note 14)**	**Thresholds Inhibiting Biological Processes (Note 15)**	**Worker Protection (Note 3, Note 18)**	**Best Demonstrated Available Technology (BDAT) (Note 8)**	**US EPA Universal Treatment Standards (Wastewater) 40 CFR 286.48) (Note 9)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 413) (Note 10)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 433) (Note 11)**	**European Commission Best Available techniques for Ferrous Metal Processing (Note 12)**	**European Commission Best Available techniques for Non-Ferrous Metal Processing (Note 13)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (FRESHWATER) (Note 4)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (MARINE) (Note 4)**	**Preliminary Concentration Limit**	**Limits, as per Toronto bylaw**	**Limits, as per other municipal bylaws**	**Other Bylaw - Considerations**	**Recommended Concentration Limit**	**Comments**
Ammonia (Removed from Model Bylaw Substances List)	25 as Nitrogen	0.25 as Nitrogen	0.008	1500-3000	480	24	-						0.019 as unionized ammonia	-	25 as Nitrogen	"Inoffensive Odour"	"Inoffensive Odour"	Bylaws typically have narrative limit; use narrative	"Inoffensive Odour"	See Table 1 comment.
Arsenic	0.025	0.005	0.006	0.05	0.1	-	5	1.4				0.01	0.005	0.0125	1.4	1.0	0.4-1.0	Industry is adjusting BDAT to meet Toronto's limit; use TO limit	1.0	European Union BDAT is significantly lower than North American references; this limit should be reviewed regularly to ensure Canadian limits reflect what can be done to limit release
Benzene	0.005	0.0005	0.001	125		0.01	0.14	0.14					0.37	0.11	0.14	0.01	0.01-0.5	Subject to federal control under CEPA as a toxic substance; use 10x the MDL (same as Toronto – essentially non-detect)	0.01	

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
Substance	**Lower Limit Concentration (From Table 1)**	**MOE Jan. 1999 Method Detection Limit (MDL) (Note 16)**	**City of Toronto Wastewater Quality Laboratory 2006 Method Detection Limit (MDL) (Note 17)**	**Threshold Inhibitory Effect for Activated Sludge or Anaerobic Digestion Processes (Note 14)**	**Thresholds Inhibiting Biological Processes (Note 15)**	**Worker Protection (Note 3, Note 18)**	**Best Demonstrated Available Technology (BDAT) (Note 8)**	**US EPA Universal Treatment Standards (Wastewater) 40 CFR 286.48) (Note 9)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 413) (Note 10)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 433) (Note 11)**	**European Commission Best Available techniques for Ferrous Metal Processing (Note 12)**	**European Commission Best Available techniques for Non-Ferrous Metal Processing (Note 13)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (FRESHWATER) (Note 4)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (MARINE) (Note 4)**	**Preliminary Concentration Limit**	**Limits, as per Toronto bylaw**	**Limits, as per other municipal bylaws**	**Other Bylaw - Considerations**	**Recommended Concentration Limit**	**Comments**
Benzidine and benzidine dihydrochloride (Removed from Model Bylaw substances list due to limited use in Canada)	-	-	-	5 (benzidine only)		-	-						-	-	Less than 5 (benzidine)	-		Targeted for minimal exposure under CEPA; very limited use in Canada	Non-detect	Benzidine and its salt are not produced in Canada; use is regulated except for specialty applications in laboratories and for R&D (in hospitals, universities and other research institutions). Removed due to limited use in Canada
Biochemical Oxygen Demand	190	2	1	-		-	-						-	-	190	300	300 - 600	Plants are designed to treat BOD; use 300 with option for extra strength surcharge agreements	300	Lower range of typical design limit to allow municipalities to recover costs of higher BOD discharges through extra strength agreements

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
Substance	**Lower Limit Concentration (From Table 1)**	**MOE Jan. 1999 Method Detection Limit (MDL) (Note 16)**	**City of Toronto Wastewater Quality Laboratory 2006 Method Detection Limit (MDL) (Note 17)**	**Threshold Inhibitory Effect for Activated Sludge or Anaerobic Digestion Processes (Note 14)**	**Thresholds Inhibiting Biological Processes (Note 15)**	**Worker Protection (Note 3, Note 18)**	**Best Demonstrated Available Technology (BDAT) (Note 8)**	**US EPA Universal Treatment Standards (Wastewater) 40 CFR 286.48) (Note 9)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 413) (Note 10)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 433) (Note 11)**	**European Commission Best Available techniques for Ferrous Metal Processing (Note 12)**	**European Commission Best Available techniques for Non-Ferrous Metal Processing (Note 13)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (FRESHWATER) (Note 4)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (MARINE) (Note 4)**	**Preliminary Concentration Limit**	**Limits, as per Toronto bylaw**	**Limits, as per other municipal bylaws**	**Other Bylaw - Considerations**	**Recommended Concentration Limit**	**Comments**
Cadmium	0.005	0.002	0.0003	1	0.02	-	0.2	0.69	1.2	0.69		0.05	0.000017	0.00012	0.69	0.7	0.05-4.0	Range from prohibited to 4 mg/L in bylaws reviewed. Based on BDAT, round to Toronto limit; note lower limit possible with treatment technology	0.7	European Union BDAT is significantly lower than North American references; this limit should be reviewed regularly to ensure Canadian limits reflect what can be done to limit release
Chloride (Removed from Model Bylaw substance list)	250	2	0.01	-		-	-						-	-	250	-	1500	Limit of 1500 mg/L in all bylaws w/ limit; some bylaws do not have a limit	1500	Not in Model Bylaw. Combined sewers may result in exceedences; Some municipalities may wish to establish Chloride limits
Chloroform	0.01 (total THMs)	0.0005	0.0005	1		0.04	0.046						0.0018	-	0.048	0.04	0.04-0.2	Toronto limit is slightly lower than BDAT reference; use Toronto limit	0.04	Use of Toronto limit assumes technological improvements have been made since reference BDAT limit was developed

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
Substance	**Lower Limit Concentration (From Table 1)**	**MOE Jan. 1999 Method Detection Limit (MDL) (Note 16)**	**City of Toronto Wastewater Quality Laboratory 2006 Method Detection Limit (MDL) (Note 17)**	**Threshold Inhibitory Effect for Activated Sludge or Anaerobic Digestion Processes (Note 14)**	**Thresholds Inhibiting Biological Processes (Note 15)**	**Worker Protection (Note 3, Note 18)**	**Best Demonstrated Available Technology (BDAT) (Note 8)**	**US EPA Universal Treatment Standards (Wastewater) 40 CFR 286.48) (Note 9)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 413) (Note 10)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 433) (Note 11)**	**European Commission Best Available techniques for Ferrous Metal Processing (Note 12)**	**European Commission Best Available techniques for Non-Ferrous Metal Processing (Note 13)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (FRESHWATER) (Note 4)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (MARINE) (Note 4)**	**Preliminary Concentration Limit**	**Limits, as per Toronto bylaw**	**Limits, as per other municipal bylaws**	**Other Bylaw - Considerations**	**Recommended Concentration Limit**	**Comments**
**Chromium (total)	0.05	0.01	0.0003	180-420	0.1	-	0.37	2.77	7	2.77	0.2-0.5		-	-	2.77	4.0	1.0-5.0	Range of 1 - 5 mg/L in bylaws w/ limits, with Cr prohibited in 1 bylaw; use BDAT limit	2.8	European Union BDAT is significantly lower than North American references; this limit should be reviewed regularly to ensure Canadian limits reflect what can be done to limit releases.
Cobalt	-	0.01	0.0006	-		-	-						-	-	-	5.0	5 mg/L - all bylaws w/ limit	Consistent limits in existing bylaws	5.0	Limited data available; use limit applied in all bylaws with limits
Copper	1.0	0.01	0.0004	1	0.05 (lower than domestic ww)	-	1.3		4.5	3.38		0.1	0.002-0.004	-	3.38	2.0	0.3-5.0	Industry is adjusting BDAT to meet Toronto's limit; use TO limit	2.0	European Union BDAT is significantly lower than North American references; this limit should be reviewed regularly to ensure Canadian limits reflect what can be done to limit release

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
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**Cyanide	0.2 (as total CN)	0.005 as HCN	0.056 as total CN	0.1	0.05	1.0 as total CN	-	1.2 (Total)	1.9 (Total)	1.2 (Total)			0.005 as free CN-	-	1.2 as total CN	2.0	1.0-10	BDAT limit falls within the range of limits in existing bylaws in Canada	1.2 as total CN	BDAT limit applied
Dichloro-benzene (1,2-)	0.2	0.0005	0.0005	5		-	0.088	0.088					0.0007	0.042	0.088	0.05			0.05	Industry is adjusting BDAT to meet Toronto's limit; use TO limit
Dichloro-benzene (1,4)	0.003	0.0005	0.0005	1.4		0.47	0.09	0.090					0.026	-	0.09	0.08	0.08-0.47		0.08	Industry is adjusting BDAT to meet Toronto's limit; use TO limit
Ethyl-benzene	0.0024	0.0005	0.001	339		0.16	0.057	0.057					0.09	0.025	0.057	0.16	0.16-1.0	Existing bylaws are higher than BDAT indicates	0.06	BDAT applied
Hexach-lorobenzene	-	0.00001	-	5		-	0.055	0.055					-	-	0.055	0.0001	Contained in two bylaws reviewed. Range from prohibited to 0.0001 mg/L in bylaws.		0.0001	Targeted for virtual elimination under CEPA; use limit of 10x MDL (i.e. non-detect)

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
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**Lead	0.01	0.02	0.002	0.1	0.1-10 (activated sludge)	-	0.28	0.69	0.6	0.69	0.5	0.05	0.001-0.007	-	0.69	1.0	0.2-5.0	Existing bylaws range lower and higher than BDAT; use BDAT (rounded)	0.7	European Union BDAT is significantly lower than North American references; this limit should be reviewed regularly to ensure Canadian limits reflect what can be done to limit release
Mercury	0.001	0.0001	0.00001	0.1	0.1	-	0.15	0.15					0.000026	0.000016	0.15	0.01	0.005-0.1		0.01	Industry is adjusting BDAT to meet Toronto's limit; use TO limit
**Methylene chloride (dichloro-methane)	0.05	0.0013	0.0006	-		0.21	0.089						0.0981	-	0.089	2.0	0.21-2.0	Existing bylaws are higher than BDAT indicates	0.09	BDAT applied (rounded)
Molybdenum	-	0.01	0.0005	-		-	-						0.073	-	-	5.0	1.0-5.0	Limited information to establish limit; use TO limit	5.0	Limit may need to be adjusted downwards for biosolids land application.

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
Substance	**Lower Limit Concentration (From Table 1)**	**MOE Jan. 1999 Method Detection Limit (MDL) (Note 16)**	**City of Toronto Wastewater Quality Laboratory 2006 Method Detection Limit (MDL) (Note 17)**	**Threshold Inhibitory Effect for Activated Sludge or Anaerobic Digestion Processes (Note 14)**	**Thresholds Inhibiting Biological Processes (Note 15)**	**Worker Protection (Note 3, Note 18)**	**Best Demonstrated Available Technology (BDAT) (Note 8)**	**US EPA Universal Treatment Standards (Wastewater) 40 CFR 286.48) (Note 9)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 413) (Note 10)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 433) (Note 11)**	**European Commission Best Available techniques for Ferrous Metal Processing (Note 12)**	**European Commission Best Available techniques for Non-Ferrous Metal Processing (Note 13)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (FRESHWATER) (Note 4)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (MARINE) (Note 4)**	**Preliminary Concentration Limit**	**Limits, as per Toronto bylaw**	**Limits, as per other municipal bylaws**	**Other Bylaw - Considerations**	**Recommended Concentration Limit**	**Comments**
**Nickel	-	0.02	0.0006	1	0.25	-	0.55	3.98	4.1	3.98	0.2-0.5	0.1	0.025 - 0.150	-	3.98	2.0	0.5-5.0	Industry is adjusting BDAT to meet Toronto's limit; use TO limit	2.0	European Union BDAT is significantly lower than North American references; this limit should be reviewed regularly to ensure Canadian limits reflect what can be done to limit release
Nitrogen, Total Kjeldahl	40	0.25	0.16	-		-	-						-	-	40	100	50 - 100	Range of 50 - 100 mg/L in bylaws with limits; use TO limit	50	Limit applied is at the lower range of existing bylaws; opportunity for extra strength agreements where applicable treatment process in place
Oil and grease – animal and vegetable	-	1	-	-		-	-						-	-	-	150	10-150	Limited information to establish a limit; use TO limit	150	

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
Substance	**Lower Limit Concentration (From Table 1)**	**MOE Jan. 1999 Method Detection Limit (MDL) (Note 16)**	**City of Toronto Wastewater Quality Laboratory 2006 Method Detection Limit (MDL) (Note 17)**	**Threshold Inhibitory Effect for Activated Sludge or Anaerobic Digestion Processes (Note 14)**	**Thresholds Inhibiting Biological Processes (Note 15)**	**Worker Protection (Note 3, Note 18)**	**Best Demonstrated Available Technology (BDAT) (Note 8)**	**US EPA Universal Treatment Standards (Wastewater) 40 CFR 286.48) (Note 9)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 413) (Note 10)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 433) (Note 11)**	**European Commission Best Available techniques for Ferrous Metal Processing (Note 12)**	**European Commission Best Available techniques for Non-Ferrous Metal Processing (Note 13)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (FRESHWATER) (Note 4)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (MARINE) (Note 4)**	**Preliminary Concentration Limit**	**Limits, as per Toronto bylaw**	**Limits, as per other municipal bylaws**	**Other Bylaw - Considerations**	**Recommended Concentration Limit**	**Comments**
Oil and grease – mineral and synthetic	-	1	1.5	-		-	-						-	-	-	15	15-100	Limited information to establish a limit	15	Limit of 15 applied to oil and grease – hydrocarbons; used Toronto limit
Oil and grease (total) (Removed from Model Bylaw substances list)	90	1	1.9	-		-	-						-	-	90	-	100 - 150	Limited information to establish a limit		
PCBs (chlorobiphenyls)	-	0.00005	0.0004 as Total PCBs	-		-	-	0.10 (Total)					-	-	0.10 (Total)	0.001	Several bylaws list PCBs as prohibited	10x City of Toronto Laboratory MDL	0.004 (total)	Non-detect limit due to the nature of the contaminant
pH (unitless)	6.5-8.5	-	-	-		-	-						6.5 - 9	7.0 - 8.7	6.5 - 9	6.0 - 11.5	5.5-12	Existing bylaws have a wide range; use TO limits	6.0 –10.5	
Phenols, Total (or Phenolic compounds)	-	0.002 (as Phenol)	0.0001	200 (as Phenol)		-	0.039 (as Phenol)	0.039 (as Phenol)					0.004 (mono- & dihydric)	-	0.039	-	0.05 - 50	Common limit of 1 mg/L in 12 bylaws with total phenol limit; use BDAT (rounded)	0.1	A treatable substance

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
Substance	**Lower Limit Concentration (From Table 1)**	**MOE Jan. 1999 Method Detection Limit (MDL) (Note 16)**	**City of Toronto Wastewater Quality Laboratory 2006 Method Detection Limit (MDL) (Note 17)**	**Threshold Inhibitory Effect for Activated Sludge or Anaerobic Digestion Processes (Note 14)**	**Thresholds Inhibiting Biological Processes (Note 15)**	**Worker Protection (Note 3, Note 18)**	**Best Demonstrated Available Technology (BDAT) (Note 8)**	**US EPA Universal Treatment Standards (Wastewater) 40 CFR 286.48) (Note 9)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 413) (Note 10)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 433) (Note 11)**	**European Commission Best Available techniques for Ferrous Metal Processing (Note 12)**	**European Commission Best Available techniques for Non-Ferrous Metal Processing (Note 13)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (FRESHWATER) (Note 4)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (MARINE) (Note 4)**	**Preliminary Concentration Limit**	**Limits, as per Toronto bylaw**	**Limits, as per other municipal bylaws**	**Other Bylaw - Considerations**	**Recommended Concentration Limit**	**Comments**
Phosphorus (total)	7	0.1	0.01	-		-	-						Depends on water body quality	-	7	10	10 - 100	Domestic ww typically just under the TO limit; use TO limit	10	Over-strength agreements for higher concentrations.
**Selenium	0.01	0.005	0.009	-		-	0.82	0.82					0.001	-	0.82	1.0	0.3-5.0	Existing bylaws range lower and higher than BDAT	0.82	BDAT applied
**Silver		0.01	0.0003	5	0.03	-	0.29	0.43	1.2	0.43			0.0001	-	0.43	5.0	0.5-5.0	BDAT is within lower range of existing bylaws; Range of 0.5 - 5.0 mg/L in bylaws reviewed	0.43	BDAT applied. Note: the BDAT used was not developed for the photo-finishing industry
Sulphates as SO_4 (Removed from Model Bylaw substances list)	500	5	0.03	-		-	-						-	-	500	-	1500 mg/L - all bylaws w/ limit	Sulphate limit of 1500 mg/L is protective of concrete sewer pipe, as per Vancouver		
Sulphide (as H_2S)	0.05 as H_2S	0.02 as H_2S	0.005	-	50	0.3	14 (assume as S^{2-})	14					-	-	14 as H_2S	-	1.0-10	Limit of 1.0 mg/L was adopted by Vancouver	1.0	Vancouver limit applied

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
Substance	**Lower Limit Concentration (From Table 1)**	**MOE Jan. 1999 Method Detection Limit (MDL) (Note 16)**	**City of Toronto Wastewater Quality Laboratory 2006 Method Detection Limit (MDL) (Note 17)**	**Threshold Inhibitory Effect for Activated Sludge or Anaerobic Digestion Processes (Note 14)**	**Thresholds Inhibiting Biological Processes (Note 15)**	**Worker Protection (Note 3, Note 18)**	**Best Demonstrated Available Technology (BDAT) (Note 8)**	**US EPA Universal Treatment Standards (Wastewater) 40 CFR 286.48) (Note 9)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 413) (Note 10)**	**US EPA Effluent limits, National Pretreatment Standards (40 CFR 433) (Note 11)**	**European Commission Best Available techniques for Ferrous Metal Processing (Note 12)**	**European Commission Best Available techniques for Non-Ferrous Metal Processing (Note 13)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (FRESHWATER) (Note 4)**	**Canadian Water Quality Guidelines for Protection of Aquatic Life (MARINE) (Note 4)**	**Preliminary Concentration Limit**	**Limits, as per Toronto bylaw**	**Limits, as per other municipal bylaws**	**Other Bylaw - Considerations**	**Recommended Concentration Limit**	**Comments**
Suspended Solids, Total	210	3	2	-		-	-						-	-	210	350	300 - 600	Use lower range of limits identified	300	Lower range of existing limits applied due to opportunity for extra strength surcharge agreements for higher limits.
Temperature (degrees C)	15	-	-	-		-	-						Narrative only	< +/- 1		60	60-75		60	Limited information available to set limit; use TO limit
**Tetrachloro-ethane (1,1,2,2 -)	-	0.001	-	20		0.04	0.057	0.057					-	-	0.057	1.4	0.04-1.4	Existing bylaws range lower and higher than BDAT	0.06	BDAT applied (rounded)
**Tetrachloro-ethylene	0.03	0.0005	0.0006	20		0.05	0.056	0.056					0.111	-	0.056	1.0	0.05-1.0	Existing bylaws range lower and higher than BDAT	0.06	BDAT applied (rounded)
Toluene	0.024	0.0005	0.002	-		0.27	0.08	0.08					0.002	0.215	0.08	0.016	0.016-0.27	Toronto limit is lower than CGDWQ	0.024	CGDWQ applied
Trichloro-ethylene	0.05	0.0005	0.0006	20		0.07	0.054	0.054					0.021	-	0.054	0.4	0.07-1.0	Existing bylaws are higher than BDAT indicates	0.054	BDAT applied

		Detection limits (Limit must be higher than MDL)		Inhibition of biological processes (Limit should be lower)		Worker Protection (Limit should be lower)	Technology Considerations (Limit may be higher; P2 and new technologies should be considered)						Water Quality Guideline (for use in absence of other considerations)						
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Xylenes (total)	0.3	0.0005	-	-		0.52 (for o-xylene)	0.32	0.32					-	-	0.32	1.4	0-2.0	Existing bylaws range lower and higher than BDAT	0.3	BDAT applied
**Zinc	5.0	0.01	0.002	1.0	0.01	-	1	2.61	4.2	2.61	2.0	0.15	0.03	-	5.0	2.0	0.5-10	Zinc has a high Aesthetic Objective for drinking water – most systems do not likely have this zinc concentration in drinking water	2.0	TO limit applied, which is lower than BDAT but higher than threshold inhibitory effects. Note that communities with high levels of zinc in their drinking water may need to adjust the limit upward to recognize local conditions.

Note: **Substances with asterisks require particular review to identify appropriate limits for bylaws. All limits in these tables are intended to provide guidance, not to establish required limits; those substances with asterisks may be problematic for particular sectors or dischargers within communities.

See Notes to Tables 1 and 2 on next page

NOTES TO TABLES 1 and 2

(1) Draft OMOE 1989 Development Document for 1988 Model Sewer Use By-law, which identified 14 metals and inorganic compounds able to inhibit biological treatment processes (organics not considered)

(2) Greater Vancouver Regional District, Policy & Planning Department. (September 2001). GVRD Sewer Use Bylaw Review: Background Paper and Recommendations – Discharge Limit Evaluation (DRAFT No. 1). Greater Vancouver Regional District, Policy & Planning Department. (January 2002). GVRD Sewer Use Bylaw Review: Background Paper and Recommendations – Discharge Limit Evaluation (DRAFT No. 2).

(3) Ontario Ministry of the Environment. (1996). Guidelines for the Utilization of Biosolids and Other Wastes on Agricultural Land

(4) Canadian Council of Ministers of the Environment. (2005). Canadian Water Quality Guidelines for the Protection of Aquatic Life: Summary Table. Updated 2005. Winnipeg, CCME.

(5) Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment. (2004). Summary of Guidelines for Canadian Drinking Water Quality.

(6) Metcalf & Eddy. (2003). Wastewater Engineering, Treatment and Reuse. Fourth Edition. McGraw Hill. Table 3-15 provides Low, Medium and High Strength concentrations of certain contaminants. Strength is a function of per capita water consumption with Low at 750 l/capita per day; Medium at 460 l/capita per day; High at 240 l/capita per day. Canadian water consumption in 1999 was approximately 638 l/cap per day (The Atlas of Canada, NRCan at http://atlas.nrcan.gc.ca/site/english/maps/freshwater/consumption/1). Using Medium strength concentrations (instead of the Low concentrations) results in higher thresholds that will allow domestic wastewater to meet By law requirements in Canadian communities.

(7) Based on domestic sewage samples in *Nielson, A.H., P. Lens, T. Hvitved-Jacobsen, and J. Vollertsen (2005). Effects of aerobic-anaerobic transient conditions on sufur and metal cycles in sewer biofilms.*

(8) United States Environmental Protection Agency, Centre for Environmental Research Information. (January 1995). Manual: Groundwater and Leachate Treatment Systems. Cincinnati, Ohio 45268. EPA/625/R-94/005.

(9) US EPA CFR 268.48 Universal Treatment Standards (UTS) identify minimum treatment levels for land disposal of wastewater. The UTS are developed by "evaluating all existing Agency data from various technologies." Available online: http://www.access.gpo.gov/nara/cfr/waisidx_05/40cfr268_05.html

(10) US EPA Regulation 40 CFR 413 with pretreatment standards covering all firms performing operations in the Electroplating Point Source Category that introduce effluent into publicly owned treatment. Available online: http://www.epa.gov/waterscience/guide/electroplating/

(11) US EPA Regulation 40 CFR 433 with pretreatment standards to regulate wastewater from wide variety of industries performing various metal finishing operations. Available online: http://www.epa.gov/waterscience/guide/metalfinishing/

(12) European Commission. Integrated Pollution Prevention and Control (IPCC) Reference Document on Best Available Techniques in the Ferrous Metals Processing Industry. Available online: http://eippcb.jrc.ec.europa.eu/pages/FActivities.htm

(13) European Commission. Integrated Pollution Prevention and Control (IPCC) Reference Document on Best Available Techniques in the Non-Ferrous Metals Processing Industry. Available online: http://eippcb.jrc.ec.europa.eu/pages/FActivities.htm

(14) Updated information from Table 16 – 2006 Hydromantis et.al Final Report; Listed in Table 16 [formerly Table 13 - 2005 Hydromantis et. Al (draft) report edited for the final report] "Tasks 2 and 3: Review of Existing and Emerging Technologies" as having a threshold inhibitory effect on activated sludge processes or anaerobic digestion (whichever is lower). CCME proposed standard is secondary treatment or equivalent. Further sludge and liquid treatment process requirements not defined to date. Refer to report for other substances listed as having an inhibitory effect on anaerobic digestion and nitrification processes.

(15) Source Guidance Manual for Preventing Interferences at POTWs, USEPA 1987; Table 2-1, Metal, Cyanide and Inorganic Compound Concentrations Inhibiting Biological Processes (in mg/L). This document considers four biological processes: Activated sludge, Nitrification, Aerobic Fixed Film and Anaerobic Digestion. The lowest inhibitory concentration is presented in this table.

(16) Ontario Ministry of the Environment. (1999). Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater. Municipal/Industrial Strategy for Abatement (MISA). Toronto, Queens Printer.

(17) Personal communication with Raymond McCurdy, City of Toronto Wastewater Laboratories, March 2006.

(18) Ontario Ministry of the Environment. Prepared by M.B. Campbell, Urban and Rural Section. (November 1996, Revised July 1997). Indirect Industrial Discharge Limits for Volatile Organic Compounds. DRAFT.

PART 5: BYLAW TEMPLATE FOR PRIMARILY RESIDENTIAL CUSTOMERS

Model Sewer Use Bylaw

Table of Contents

INTRODUCTION

This Bylaw outlines controls for the discharge of pollutants to the sewer system. The objectives of the bylaw are to:

- Protect the sewer collection system from corrosion, other damage and obstruction
- Protect the wastewater treatment process from upset
- Protect the public, municipal workers and property from hazardous conditions (such as explosions)
- Assist optimum wastewater system efficiency by preventing uncontaminated water from entering the system
- Protect wastewater sludge quality
- Protect the environment from contaminants that are not removed by the public treatment system(s)
- Assist the Municipality in maintaining compliance with the operating conditions established by [the province of (insert applicable jurisdiction name) or Water Board of (name)]

1. DEFINITIONS

As used in this bylaw, the following terms shall have the meanings indicated:

ACCREDITED LABORATORY – Any laboratory accredited by an authorized accreditation body in accordance with a standard based on "*CAN-P-1585: Requirements for the Accreditation of Environmental Testing Laboratories*" established by the Standards Council of Canada, as amended, or "*ISO/IEC/EN 17025: General Requirements for Competence of Calibration and Testing Laboratories*" established by the International Organization for Standardization, as amended.

BIOCHEMICAL OXYGEN DEMAND (BOD) – The five-day BOD which is the determination of the molecular oxygen utilized during a five-day incubation period for the biochemical degradation of organic material (carbonaceous demand), and the oxygen used to oxidize inorganic material such as sulphides and ferrous iron, and the amount of oxygen used to oxidize reduced forms of nitrogen (nitrogenous demand) as determined by the appropriate procedure in Standard Methods.

BIOMEDICAL WASTE – Biomedical waste as defined in the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended from time to time.

BLOWDOWN WATER – Recirculating water that is discharged from a cooling or heating water system for the purpose of controlling the level of water in the system or for the purpose of discharging from the system materials contained in the system, the further build-up of which would or might impair the operation of the system.

CHEMICAL OXYGEN DEMAND (COD) – A measure of the capacity of water to consume oxygen as a result of oxidation of inorganic chemicals and decomposition of organic matter.

CLEAR-WATER WASTE – Includes non-contact cooling water and other water that has not come into contact with wastewater contaminant sources.

COMBINED SEWER – A sewer intended to function simultaneously as a storm sewer and a sanitary sewer.

COMBUSTIBLE LIQUID – A liquid that has a flash point not less than 37.8 degrees Celsius and not greater than 93.3 degrees Celsius.

COMPOSITE SAMPLE – A volume of wastewater, storm water, uncontaminated water, clear-water or effluent made up of three or more grab samples that have been combined automatically or manually and taken at intervals during the sampling periods.

CONNECTION or DRAIN – That part or those parts of any pipe or system of pipes leading directly to a wastewater works.

COOLING WATER – Water that is used in a process for the purpose of removing heat and that has not, by design, come into contact with any raw material, intermediate product, waste product or finished product, but does not include blowdown water.

DENTAL AMALGAM – A dental filling material consisting of an amalgam of mercury, silver and other materials such as copper, tin or zinc.

DENTAL AMALGAM SEPARATOR – Any technology, or combination of technologies, designed to separate dental amalgam particles from dental operation wastewater.

DESIGNATED SEWER OFFICER – The person appointed by the Municipality, and his or her successors or his or her duly authorized representative. (Note the Designated Sewer Officer may hold the position of General Manager, City Manager, Inspector or other position suitable to the organization of the community.)

DOMESTIC WASTEWATER – Waste produced on a residential premises, or sanitary waste and wastewater from showers and restroom washbasins produced on a non-residential property.

EXTRA STRENGTH – Refers to wastewater released to the sewer that is higher in concentration for one or more constituent concentrations set out in Schedule B or containing constituents identified in Schedule B.

FLOW MONITORING POINT – An access place to the sewer service for the purpose of:

(3) Measuring the rate or volume of wastewater, storm water, clear water waste or subsurface water released from the premises; and

(4) Collecting representative samples of the wastewater, storm water, clear water waste or subsurface water released from the premises.

FUELS – Alcohol, gasoline, naphtha, diesel fuel, fuel oil or any other ignitable substance intended for use as a fuel.

GRAB SAMPLE – A volume of wastewater, storm water, uncontaminated water or effluent which is collected over a period not exceeding 15 minutes.

GROUND WATER – Water beneath the earth's surface accumulating as a result of seepage.

HAULED WASTE – Any industrial waste which is transported to and deposited into any location in the wastewater works, excluding hauled wastewater.

HAULED WASTEWATER – Waste removed from a wastewater system, including a cesspool, a septic tank system, a privy vault or privy pit, a chemical toilet, a portable toilet or a wastewater holding tank.

HAZARDOUS SUBSTANCES –

A. Any substance or mixture of substances, other than a pesticide, that exhibits characteristics of flammability, corrosivity, reactivity or toxicity; and

B. Any substance that is designated as a hazardous substance within the meaning of [*federal, provincial or territorial Statute or Regulation as appropriate for the municipality*], as amended from time to time.

HAZARDOUS WASTE – Any Hazardous Substance disposed of as waste.

IGNITABLE WASTE – A substance that:

A. Is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has a flash point less than 93 degrees Celsius, as determined by the Tag Closed Cup Tester (ASTM D-56-97a), the Setaflash Closed Cup Tester (ASTM D-3828-97 or ASTM D-3278-96e1), the Pensky-Martens Closed Cup Tester (ASTM D-93-97), or as determined by an equivalent test method;

B. Is a solid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a danger;

C. Is an ignitable compressed gas as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended; or

D. Is an oxidizing substance as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended.

INDUSTRIAL – Of or pertaining to manufacturing, commerce, trade, business or institutions as distinguished from domestic or residential.

INDUSTRY – Any owner or operator of industrial, commercial or institutional premises from which there is a discharge of any matter directly or indirectly into a sanitary sewer, combined sewer or storm sewer of the Municipality.

INSPECTOR – A person authorized by the Municipality to carry out observations and inspections and take samples as prescribed by this bylaw.

INSTITUTION – A facility, usually owned by a government, operated for public purposes, such as schools, universities, medical facilities (hospitals, nursing stations, nursing homes), museums, prisons, government offices, military bases. Some of these facilities produce non-residential discharges to sewers from, for example, laboratories, chemical use, industrial processes.

MATTER – Includes any solid, liquid or gas.

MONITORING ACCESS POINT – An access point, such as a chamber, in a private sewer connection to allow for observation, sampling and flow measurement of the wastewater, uncontaminated water or storm water therein.

MUNICIPALITY – means the Municipality of "_____".

MUNICIPAL SEWER CONNECTION – That part of any drain leading from the private sewer connection and connected to the municipal sewer and located within the limits of the public road allowance, or other public lands or public land interests held for sewerage purposes.

MULTIPLE MUNICIPAL SEWER CONNECTION – A municipal sewer connection providing service to two or more premises.

NON-CONTACT COOLING WATER – Water which is used to reduce temperature for the purpose of cooling and which does not come into direct contact with any raw material, intermediate or finished product other than heat.

NON-DOMESTIC WASTEWATER – All Wastewater except Domestic Wastewater, Storm Water, Uncontaminated Water, and Septic Tank Waste.

OIL AND GREASE – *n*-Hexane extractable matter as described in Standard Methods.

PATHOLOGICAL WASTE – Pathological waste within the meaning of [federal, provincial or territorial Statute or Regulation as appropriate for the municipality].

PCBs – Any monochlorinated or polychlorinated biphenyl or any mixture of them or mixture that contains one or more of them.

PERSON — An individual, association, partnership, corporation, municipality or an agent or employee of such a person.

PESTICIDE – A pesticide regulated under [federal, provincial or territorial Statute or Regulation as appropriate for the municipality].

POLLUTION PREVENTION – The use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and wastes, at the source.

PRETREATMENT – The reduction, elimination or alteration of pollutants in wastewater prior to discharge into the sanitary sewer. This reduction or alteration can be obtained by physical, chemical, or biological processes, through pollution prevention, or by other means, except by diluting the concentration of the pollutants.

PRIVATE SEWER CONNECTION – That part of any drain or system of drains, including drains or subsurface drainage pipe for surface or subsurface drainage of the land in or adjacent to a building, lying within the limits of the private lands and leading to a municipal sewer connection whose responsibility for maintenance is the property owner's.

PROHIBITED WASTE – means prohibited waste as defined in Schedule "A" to this bylaw

REACTIVE WASTE – A substance that:

A. Is normally unstable and readily undergoes violent changes without detonating;
B. Reacts violently with water;
C. Forms potentially explosive mixtures with water;
D. When mixed with water, generates toxic gases, vapours or fumes in a quantity sufficient to present danger to human health or the environment;
E. Is a cyanide or sulphide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapours or fumes in a quantity sufficient to present danger to human health or the environment;
F. Is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;
G. Is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or
H. Is an explosive (Class 1) as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended.

RESTRICTED WASTE – means restricted waste as defined in Schedule "B" to this bylaw

SANITARY SEWER – A sewer for the collection and transmission of domestic or industrial wastewater or any combination thereof.

SEPTIC TANK WASTE – any Waste extracted from a cesspool, septic tank, sewage holding tank, seepage pit, interceptor or other containment for human excretion and wastes.

SEWER – A pipe, conduit, drain, open channel or ditch for the collection and transmission of wastewater, storm water or uncontaminated water, or any combination thereof.

SPILL – A direct or indirect discharge into the wastewater works, storm sewer or the natural environment which is abnormal in quantity or quality in light of all the circumstances of the discharge.

STANDARD METHODS – A procedure or method set out in *Standard Methods for the Examination of Water and Wastewater* published jointly by the American Public Health Association, American Water Works Association and the Water Environment Federation, recent or latest edition or approved in writing by the Designated Sewer Officer.

STORM SEWER – A sewer for the collection and transmission of uncontaminated water, storm water, drainage from land or from a watercourse or any combination thereof but excluding any portion of a combined sewer works.

STORM WATER – The water running off the surface of a drainage area during and immediately after a period of rain or snow melt.

SUBSURFACE DRAINAGE PIPE – A pipe that is installed underground to intercept and convey subsurface water, and includes foundation drain pipes.

SUBSURFACE WATER – Groundwater including foundation drain water.

TOTAL SUSPENDED SOLIDS (TSS) – Insoluble matter in liquid that is removable by filtration, as determined by the appropriate procedure described in Standard Methods.

TOTAL PAHs – The total of all of the following polycyclic aromatic hydrocarbons: Acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i,)perylene, benzo(k)fluoranthene, chrysenes, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, methylnaphthalene, naphthalene, phenanthrene, pyrene.

TOXIC SUBSTANCE – any substance defined as toxic under the *Canadian Environmental Protection Act* 1999, as amended from time to time and within the meaning of [provincial or territorial Statute or Regulation as appropriate for the municipality], as amended from time to time.

UNCONTAMINATED WATER – Water with a level of quality which is typical of potable water normally supplied by the Municipality.

WASTE DISPOSAL SITE LEACHATE – The liquid containing dissolved or suspended contaminants which emanates from waste (solid waste or garbage) and is produced by water percolating through waste or by liquid in waste.

WASTE RADIOACTIVE SUBSTANCES – Substances defined in the federal *Nuclear Safety and Control Act* and the regulations passed thereunder, as amended from time to time.

WASTEWATER – means the composite of water and water-carried wastes from residential, commercial, industrial or institutional premises or any other source.

WASTEWATER SLUDGE – Solid material recovered from the wastewater treatment process.

WASTEWATER TREATMENT FACILITY – means any structure or thing used for the physical, chemical, biological or radiological treatment of wastewater, and includes sludge treatment, wastewater sludge storage and disposal facilities.

WASTEWATER WORKS – Any works for the collection, transmission, treatment and disposal of wastewater, storm water or uncontaminated water, including a combined sewer, sanitary sewer or storm sewer, or any part of such works, but does not include plumbing or other works to which the applicable Building Code applies.

WATERCOURSE – An open channel, ditch or depression, either natural or artificial, in which flow of water occurs either continuously or intermittently.

2. SANITARY AND COMBINED SEWER REQUIREMENTS

(1) No person shall release, or permit the release of, any matter into the sanitary or combined sewer system wastewater works except:

(a) Domestic wastewater;
(b) Non-domestic wastewater that complies with the requirements of this bylaw;
(c) Hauled wastewater, including septage, that complies with the requirements of this bylaw, or where a Waste Discharge Permit has been issued by the Designated Sewer Officer;
(d) Storm water, clear-water waste, subsurface water or other matter where a Waste Discharge Permit has been issued by the Designated Sewer Officer;
(e) Extra Strength matter where an Extra Strength Surcharge Agreement is in place.

(2) No person shall release, or permit the release of, any prohibited substance listed in Schedule 'A' of this bylaw.

(3) No person shall release, or permit the release of, any restricted substance which exceeds the respective concentrations listed in Schedule 'B' of this bylaw into the wastewater works.

(4) If required by the Municipality, all non-domestic and hauled wastewater dischargers shall complete and submit **Form 1 "Abbreviated Discharger Information Report"** (Appendix A) to the Municipality.

(5) If required by the Municipality, non-domestic and hauled wastewater dischargers shall complete and submit **Form 2 "Complete Discharger Information Report"** (Appendix A) to the Municipality.

(6) If required by the Municipality, non-domestic and hauled wastewater dischargers shall not discharge to the sanitary sewer system until the discharger has obtained **Form 3 "Waste Discharge Permit"** (Appendix A) from the Designated Sewer Officer.

(7) The Designated Sewer Officer may issue, and amend, a Waste Discharge Permit to allow the discharge of non-domestic waste and hauled wastewater into a sewer upon such terms and conditions as the Designated Sewer Officer considers appropriate and, without limiting the generality of the foregoing, may in the Waste Discharge Permit:

(a) Place limits and restrictions on the quantity, composition, frequency and nature of the waste permitted to be discharged;
(b) Require the holder of a Waste Discharge Permit to repair, alter, remove, or add to works or construct new works; and
(c) Provide that the Waste Discharge Permit will expire on a specified date, or upon the occurrence of a specified event.

(8) The Designated Sewer Officer may issue a **Discharge Abatement Order** to:

(a) Require a person to alter the quantity, composition, duration and timing of the discharge or cease discharge of non-domestic waste or hauled wastewater to a sewer or wastewater facility;
(b) Include any terms or conditions that could be included in a Waste Discharge Permit; and
(c) Shut down all non-compliant releases.

The Designated Sewer Officer may amend or cancel a Discharge Abatement Order.

3. STORM SEWER REQUIREMENTS

[*Insert Municipal Provisions*]

4. PROHIBITION OF DILUTION

(1) No person shall discharge directly or indirectly, or permit the discharge or deposit of wastewater into a sanitary sewer or combined sewer works where water has been added to the discharge for the purposes of dilution to achieve compliance with Schedule "A" or Schedule "B" of this bylaw.

(2) No person shall discharge directly or indirectly, or permit the discharge or deposit of matter into a storm sewer where water has been added to the discharge for the purposes of dilution to achieve compliance with Section 3 of this bylaw.

5. SAMPLING

(1) Where sampling is required for the purposes of determining the concentration of constituents in the wastewater, storm water or uncontaminated water, the sample may:
(a) be collected manually or by using an automatic sampling device; and
(b) contain additives for its preservation.

(2) For the purpose of determining compliance with Schedule B or Section 3, discrete wastewater streams within premises may be sampled, at the discretion of the Designated Sewer Officer.

(3) Any single grab sample may be used to determine compliance with Schedules A and B or Section 3.

(4) All tests, measurements, analyses and examinations of wastewater, its characteristics or contents pursuant to this Bylaw shall be carried out in accordance with "Standard Methods" and be performed by a laboratory accredited for analysis of the particular substance(s) using a

method which is within the laboratory's scope of accreditation or to the satisfaction of the Designated Sewer Officer as agreed in writing prior to sample analysis.

6. DISCHARGER SELF-MONITORING

(1) The discharger shall complete any monitoring or sampling of any discharge to a wastewater works as required by the Municipality, and provide the results to the Municipality in the form specified by the Municipality.

(2) The obligations set out in or arising out of 6(1) shall be completed at the expense of the discharger.

7. ADDITIONAL REQUIREMENTS

7.1 FOOD-RELATED GREASE INTERCEPTORS

(1) Every owner or operator of a restaurant or other industrial, commercial or institutional premises where food is cooked, processed or prepared, for which the premises is connected directly or indirectly to a sanitary or combined sewer, shall take all necessary measures to ensure that oil and grease are prevented from entering the sanitary or combined sewer in excess of the provisions of this bylaw. Grease interceptors shall not discharge to storm sewers.

(2) The owner or operator of the premises as set out in this Subsection shall install, operate, and properly maintain an oil and grease interceptor in any piping system at its premises that connects directly or indirectly to a sewer. The oil and grease interceptors shall be installed in compliance with the most current requirements of the applicable Building Code. The installation of the oil and grease interceptor shall meet the requirements of the Canadian Standards Association national standard CAN/CSA B-481.2, as amended.

(3) All oil and grease interceptors shall be maintained according to the manufacturer's recommendations. The testing, maintenance and performance of the interceptor shall meet the requirements of CAN/CSA B-481. Traps should be cleaned before the thickness of the organic material and solids residuals is greater than twenty-five percent of the available volume; cleaning frequency should not be less than every four weeks. Maintenance requirements should be posted in the workplace in proximity to the grease interceptor.

(4) A maintenance schedule and record of maintenance shall be available to the Designated Sewer Officer upon request for each interceptor installed.

(5) The owner or operator of the restaurant or other industrial, commercial or institutional premises where food is cooked, processed or prepared, shall, for two years, keep the document of proof for interceptor clean-out and oil and grease disposal.

(6) Emulsifiers shall not be discharged to the sewer system into interceptors. No person shall use enzymes, bacteria, solvents, hot water or other agents to facilitate the passage of Oil and Grease through a Grease Interceptor.

(7) In the case of failure to adequately maintain the grease interceptor to the satisfaction of the Designated Sewer Officer, the Designated Sewer Officer may require an alarmed monitoring device to be installed, at the expense of the owner, in accordance with specifications of CAN/CSA B-481.

7.2 VEHICLE AND EQUIPMENT SERVICE OIL AND GREASE INTERCEPTORS

(1) Every owner or operator of a vehicle or equipment service station, repair shop or garage or of an industrial, commercial or institutional premises or any other establishment where motor vehicles are repaired, lubricated or maintained and where the sanitary discharge is directly or indirectly connected to a sewer shall install an oil and grease interceptor designed to prevent motor oil and lubricating grease from passing into the sanitary or combined sewer in excess of the limits in this bylaw.

(2) The owner or operator of the premises as set out in Subsection 7.2(1) shall install, operate, and properly maintain an oil and grease interceptor in any piping system at its premises that connects directly or indirectly to a sewer. The oil and grease interceptors shall be installed in compliance with the most current requirements of the applicable Building Code and be maintained as recommended by the Canadian Petroleum Products Institute (CPPI).

(3) All oil and grease interceptors and separators shall be maintained in good working order and according to the manufacturer's recommendations and shall be inspected regularly to ensure performance is maintained to the manufacturer's specifications for performance and inspected to ensure the surface oil and sediment levels do not exceed the recommended level.

(4) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer annually for each oil and grease interceptor installed.

(5) The owner or operator of the premises as set out in Subsection 7.2(1), shall, for two years, keep the document of proof for interceptor clean-out and oil and grease disposal.

(6) Emulsifiers shall not be discharged to the sewer system into interceptors. No person shall use enzymes, bacteria, solvents, hot water or other agents to facilitate the passage of oil and grease through an oil and grease interceptor.

(7) In the case of failure to adequately maintain the oil and grease interceptor to the satisfaction of the Designated Sewer Officer, the Designated Sewer Officer may require an alarmed monitoring device to be installed, at the expense of the owner.

7.3 SEDIMENT INTERCEPTORS

(1) Every owner or operator of the premises from which sediment may directly or indirectly enter a sewer, including but not limited to premises using a ramp drain or area drain and vehicle wash establishments, shall take all necessary measures to ensure that such sediment is prevented from entering the drain or sewer in excess of the limits in this bylaw.

(2) Catch basins installed on private property for the purposes of collecting storm water and carrying it into the storm sewers shall be equipped with an interceptor and the installation of these catch basins on private property shall comply with the Municipality's Standard Construction Specifications and Drawings, as they may be amended from time to time.

(3) All sediment interceptors shall be maintained in good working order and according to manufacturer's recommendations and shall be inspected regularly to ensure performance is maintained to the manufacturer's specifications for performance.

(4) The owner or operator of a premises as set out in Subsection 7.3(1), shall, for 2 years, keep documentation of interceptor clean-out and sediment disposal.

(5) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer upon request for each sediment interceptor installed.

7.4 DENTAL WASTE AMALGAM SEPARATOR

(1) Every owner or operator of the premises from which dental amalgam may be discharged, which waste may directly or indirectly enter a sewer, shall install, operate and properly maintain dental amalgam separator(s) with at least 95% efficiency in amalgam weight and certified *ISO 11143 – "Dental Equipment: Amalgam Separators"*, in any piping system at its premises that connects directly or indirectly to a sewer by no later than [*date to be specified by municipality*], except where the sole dental-related practice at the premises consists of one or more of the following specialties or type of practice:

(a) Orthodontics and dentofacial orthopaedics;
(b) Oral and maxillofacial surgery;
(c) Oral medicine and pathology;
(d) Periodontics; or
(e) A dental practice consisting solely of visits by a mobile dental practitioner who prevents any dental amalgam from being released directly or indirectly to the wastewater works.

(2) Notwithstanding Subsection 7.4(1), any person operating a business from which dental waste amalgam is or could be discharged directly or indirectly to a sewer, at premises which are constructed or substantially renovated on or after the date that Section 7.4 comes into force, shall install, operate and properly maintain dental waste amalgam separator(s) in any piping system which is connected directly or indirectly to a sewer.

(3) Notwithstanding compliance with Subsection 7.4 (1) and 7.4 (2), all persons operating or carrying on the business of a dental practice shall comply with Schedule "A" and Schedule "B" of this bylaw.

(4) All dental waste amalgam separators shall be maintained in good working order and according to the manufacturer's recommendations.

(5) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer upon request for each dental amalgam separator installed.

(6) The operator of a dental clinic shall, for five years, keep the documents covering amalgam shipment provided for under the bylaw respecting transportation of hazardous material *[insert applicable bylaw for municipality]*.

8. HAULED WASTEWATER

(1) No person shall discharge hauled wastewater to the wastewater works unless:

(a) The carrier of the hauled wastewater operating as a waste management system has certificate of approval or provisional certificate of approval issued under the [*applicable federal, provincial, territorial environment protection act]* or is exempt from the requirement to have a certificate or provisional certificate of approval;
(b) A copy of the most recent certificate of approval or provisional certificate and any amendment is provided to the Municipality and
(c) The carrier meets all conditions for discharge that are or may be set from time to time with respect to the haulage of wastewater by the Municipality.

(2) No person shall discharge or permit the discharge of hauled wastewater:

(a) At a location other than a hauled wastewater discharge location approved by the Municipality.
(b) Without a manifest, in a form approved by the Designated Sewer Officer, completed and signed by the carrier and deposited in an approved location at the time of discharge.
(c) Without the use of a discharge hose placed securely in the discharge portal at the approved location.

9. HAULED WASTE

(1) No person shall discharge hauled waste to the wastewater works unless:

(a) The carrier of the hauled waste operating as a waste management system has a certificate of approval or provisional certificate of approval issued under the [*applicable*

federal, provincial, territorial environment protection act] or is exempt from the requirement to have a certificate or provisional certificate of approval;
(b) A copy of the most recent certificate or provisional certificate and any amendment of approval is provided to the Municipality;
(c) Hauled waste meets the conditions set out in [*applicable federal, provincial, territorial environment protection regulation*], as amended from time to time; and
(d) The carrier meets all conditions for discharge that are or may be set from time to time with respect to the haulage of waste by the Municipality.

(2) No person shall discharge or allow or cause hauled waste to be discharged into a Sewer, except at sites designated by the Designated Sewer Officer.

10. NON-CONTACT COOLING WATER

(1) The discharge of non-contact cooling water or uncontaminated water to a sanitary sewer or combined sewer from any residential property is prohibited. The discharge of non-contact cooling water or uncontaminated water to a sanitary or combined sewer from industrial, commercial or institutional properties is permissible where:

(a) In the case of a proposed building, no storm sewer exists adjacent to the building and no opportunity exists to discharge to yard drainage; or
(b) In the case of an existing building, no storm connection exists to the building.

11. WATER ORIGINATING FROM A SOURCE OTHER THAN THE MUNICIPAL WATER SUPPLY

(1) The discharge of water originating from a source other than the Municipality water supply, including storm water or groundwater, directly or indirectly to a sanitary sewer or combined sewer works is prohibited, unless:

(a) The discharge is in accordance with a Waste Discharge Permit; and
(b) The discharge does not exceed the limits set out under Schedule B, with respect to biochemical oxygen demand, total phosphorus or total suspended solids; or
(c) In the event the discharge does exceed the limits set out under Schedule B, with respect to any of biochemical oxygen demand, total phosphorus or total suspended solids, the discharge is in accordance with an Extra Strength Surcharge Agreement.

12. SPILLS

(1) In the event of a spill to a wastewater works and/or storm sewer works, the person responsible or the person having the charge, management and control of the spill shall immediately notify and provide any requested information with regard to the spill to:
(d) If there is any immediate danger to human health and/or safety
(i) 9-1-1 emergency

or

(b) If there is no immediate danger:

(ii) the Municipality [*insert organization name*] by contacting the [*insert contact information]*, and

(ii) the owner of the premises where the release occurred, and

(iii) any other person whom the person reporting knows or ought to know may be directly affected by the release.

(2) The person shall provide a detailed report on the spill to the Municipality, within five working days after the spill, containing the following information to the best of his or her knowledge:

(a) Location where spill occurred;
(b) Name and telephone number of the person who reported the spill and the location and time where they can be contacted;
(c) Date and time of spill;
(d) Material spilled;
(e) Characteristics and composition of material spilled;
(f) Volume of material spilled;
(g) Duration of spill event;
(h) Work completed and any work still in progress in the mitigation of the spill;
(i) Preventive actions being taken to ensure a similar spill does not occur again; and
(j) Copies of applicable spill prevention and spill response plans.

(3) The person responsible for the spill and the person having the charge, management and control of the spill shall do everything reasonably possible to contain the spill, protect the health and safety of citizens, minimize damage to property, protect the environment, clean up the spill and contaminated residue and restore the affected area to its condition prior to the spill.

(4) Nothing in this Bylaw relieves any persons from complying with any notification or reporting provisions of:

(c) Other government agencies, including federal and provincial [or *territorial*] agencies, as required and appropriate for the material and circumstances of the spill; or,
(d) Any other Bylaw of the Municipality.

(5) The Municipality may invoice the person responsible for the spill to recover costs of time, materials and services arising as a result of the spill. The person responsible for the spill shall pay the costs invoiced.

(6) The Municipality may require the person responsible for the spill to prepare and submit a spill contingency plan to the Municipality to indicate how risk of future incidents will be reduced and how future incidents will be addressed.

13. AUTHORITY OF DESIGNATED SEWER OFFICER TO INVESTIGATE

(3) The Designated Sewer Officer has the authority to carry out any inspection reasonably required to ensure compliance with this bylaw, including but not limited to:

(a) Inspecting, observing, sampling and measuring the flow in any private
  (i) drainage system,
  (ii) wastewater disposal system,
  (iii) storm water management facility, and
  (iv) flow monitoring point;
(b) Determine water consumption by reading water meters;
(c) Test flow measuring devices;
(d) Take samples of wastewater, storm water, clear-water waste and subsurface water being released from the premises or flowing within a private drainage system;
(e) Perform on-site testing of the wastewater, storm water, clear-water waste and subsurface water within or being released from private drainage systems, pretreatment facilities and storm water management facilities;
(f) Collect and analyze samples of hauled wastewater coming to a discharge location;
(g) Make inspections of the types and quantities of chemicals being handled or used on the premises in relation to possible release to a drainage system or watercourse;
(h) Require information from any person concerning a matter;
(i) Inspect and copy documents or remove documents from premises to make copies;
(j) Inspect chemical storage areas and spill containment facilities and request Material Safety Data Sheets (MSDS) for materials stored or used on site;
(j) Inspect the premises where a release of prohibited or restricted wastes or of water containing prohibited or restricted wastes has been made or is suspected of having been made, and to sample any or all matter that in his/her opinion could have been part of the release.

(4) No person shall hinder or prevent the Designated Sewer Officer from carrying out any of his/her powers or duties.

14. DISCONNECTION OF SEWER

(1) Where wastewater which:
(a) Is hazardous or creates an immediate danger to any person;
(b) Endangers or interferes with the operation of the wastewater collection system; or
(c) Causes or is capable of causing an adverse effect;

is discharged to the wastewater collection system, the Designated Sewer Officer may, in addition to any other remedy available, disconnect, plug or seal off the sewer line discharging the unacceptable wastewater into the wastewater collection system or take such other action as is necessary to prevent such wastewater from entering the wastewater collection system.

(2) The wastewater may be prevented from being discharged into the wastewater collection system until evidence satisfactory to the Designated Sewer Officer has been produced to assure that no further discharge of hazardous wastewater will be made to the wastewater collection system.

(3) Where the Director, Water Services takes action pursuant to subsection (1), the Designated Sewer Officer may by notice in writing advise the owner or occupier of the premises from which the wastewater was being discharged, of the cost of taking such action and the owner or occupier, as the case may be, shall forthwith reimburse the City for all such costs which were incurred.

15. OFFENCES

(1) Every person other than a corporation who contravenes any provision of this bylaw is guilty of an offence and on conviction is liable, for every day or part thereof upon which such offence occurs or continues, to a fine of not more than $25,000 for a first offence and $100,000 for a second offence.

(2) Every corporation that contravenes any provision of this bylaw is guilty of an offence and on conviction is liable, for every day or part thereof upon which such offence occurs or continues, to a fine of not more than $250,000 for a first offence and not more than $500,000 for a second offence.

16. ACCESS TO INFORMATION

(1) All information submitted to and collected by the Municipality that is contained in plan summaries, reports, surveys, monitoring and inspection and sampling activities will, except as otherwise provided in this section, be available for disclosure to the public in accordance with the [*applicable Freedom of Information legislation that governs the Province or Territory*].

(2) In the event that any person in submitting information to the Municipality, as required under this article, where such information is confidential or proprietary or otherwise, may be exempt from disclosure under the [*applicable Freedom of Information legislation that governs the Province or Territory*], the person submitting the information shall so identify that information upon its submission to the Municipality or the Municipality and where such information is confidential or proprietary or otherwise, may be exempt from disclosure.

(3) The Designated Sewer Officer shall have access to information contained in the Certificate of Approval [*or equivalent document in your jurisdiction*] of any wastewater dischargers to the Municipal sewer system.

SCHEDULE "A" PROHIBITED WASTES

A. No person shall discharge directly or indirectly or deposit or cause or permit the discharge or deposit of wastewater into a sanitary sewer, combined sewer, municipal or private sewer connection to any sanitary sewer or combined sewer works in circumstances where:

(1) To do so may cause or result in:

(b) A health or safety hazard to a person authorized by the Municipality to inspect, operate, maintain, repair or otherwise work on a wastewater works;
(b) An offence under the [*applicable federal, provincial, territorial environment protection or water resources act]*, as amended from time to time, or any regulation made thereunder from time to time;
(c) Wastewater sludge from the wastewater treatment facility works to which either wastewater discharges, directly or indirectly, to fail to meet the objectives and criteria as listed in the [*applicable federal, provincial, territorial environment protection or water resources act or policy]*, as amended from time to time;
(d) Interference with the operation or maintenance of a wastewater works, or which may impair or interfere with any wastewater treatment process;
(e) A hazard to any person, animal, property or vegetation;
(f) An offensive odour to emanate from wastewater works, and without limiting the generality of the foregoing, wastewater containing hydrogen sulphide, carbon disulphide, other reduced sulphur compounds, amines or ammonia in such quantity as may cause an offensive odour;
(g) Damage to wastewater works;
(h) An obstruction or restriction to the flow in wastewater works.

(2) The wastewater has two or more separate liquid layers.

(3) The wastewater contains:

(c) Hazardous substances;
(d) Combustible liquid;
(c) Biomedical waste, including any of the following categories: human anatomical waste, animal waste, untreated microbiological waste, waste sharps and untreated human blood and body fluids known to contain viruses and agents listed in "Risk Group4" as defined in "Laboratory Biosafety Guidelines" published by Health Canada, dated, 2004, as amended.
(d) Specified risk material for bovine spongiform encephalopathy as defined in the federal Fertilizers Regulations (C.R.C., c. 666), as amended from time to time, including material from the skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal root ganglia of cattle aged 30 months or older, or material from the distal ileum of cattle of all ages.

(e) Dyes or colouring materials which may or could pass through a wastewater works and discolour the wastewater works effluent;
(f) Fuel;
(g) Ignitable waste.
(h) Pathological waste.
(ii) PCBs.
(j) Pesticides which are not otherwise regulated in this bylaw.
(k) Reactive waste.
(l) Toxic substances which are not otherwise regulated in this Bylaw.
(m) Waste radioactive substances in excess of concentrations greater than those specified for release to the environment under the *Nuclear Safety and Control Act* and Regulations or amended versions thereof.
(n) Solid or viscous substances in quantities or of such size to be capable of causing obstruction to the flow in a sewer, including but not limited to ashes, bones, cinders, sand, mud, soil, straw, shaving, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, animal parts or tissues, and paunch manure.

(4) The wastewater contains a concentration, expressed in milligrams per litre, in excess of any one or more of the limits in Schedule "B" of this Bylaw, unless:

(a) The discharge is in accordance with a valid Sanitary Discharge Agreement, Extra Strength Surcharge Agreement or compliance program;
(e) The discharge is authorized in a Code of Practice approved by the Municipality;
(f) All requirements of Section 7 Additional Requirements have been fully satisfied.

SCHEDULE "B" RESTRICTED WASTES – SANITARY AND COMBINED SEWER DISCHARGES

Table A - CONVENTIONAL CONTAMINANTS and PHYSICAL PARAMETERS

Substance	Concentration Limit– [mg/L, except as noted]
Biochemical Oxygen Demand	300
Chemical Oxygen Demand	600
Oil and grease - animal and vegetable	150
Oil and grease - mineral and synthetic/hydrocarbon	15
Total Suspended Solids	300
pH	6.0 - 10.5 (unitless)
Temperature	60 Degrees Celsius

Table B - ORGANIC CONTAMINANTS

Substance	Concentration Limit– [mg/L, except as noted]
Benzene	0.01
Chloroform	0.04
Dichlorobenzene (1,2-)	0.05
Dichlorobenzene (1,4)	0.08
Ethylbenzene	0.06
Hexachlorobenzene	0.0001
**Methylene chloride (dichloromethane)	0.09
PCBs (chlorobiphenyls)	0.004
**Phenols, Total (or Phenolic compounds)	0.1
**Tetrachloroethane (1,1,2,2 -)	0.06
**Tetrachloroethylene	0.06
Toluene	0.02
Trichloroethylene	0.05
Xylenes, total	0.3

***Note to Bylaw Author:* **Substances with asterisks require particular review to identify appropriate limits for bylaws. All limits in these tables are intended to provide guidance, not to establish required limits; those substances with asterisks may be problematic for particular sectors or dischargers within communities. See Part 4 of the Model Bylaw Guidance Document, Table 2, *Other Considerations for Core Substances Limits and Recommended Limits* for information and considerations of limit development. Note that limits in this Model Bylaw are not based on average limits in existing Canadian bylaws.

Table C - INORGANIC CONTAMINANTS

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model by-law, or any provision thereof, for their own purposes.

Substance	Concentration Limit– [mg/L, except as noted]	Notes to Bylaw Author: Considerations for Setting Limits
Arsenic, total	1.0	
Cadmium, total	0.7	Codes of Practice or P2[6] Plans may be required to achieve this limit
**Chromium, total	2.8	Codes of Practice or P2 Plans may be required to achieve this limit
Cobalt, total	5.0	
Copper, total	2.0	Codes of Practice or P2 Plans may be required to achieve this limit
**Cyanide, total	1.2	Codes of Practice or P2 Plans may be required to achieve this limit
**Lead, total	0.7	This limit is based on a USEPA technology standard; some Canadian Bylaws contain higher limits (e.g. Toronto's limit is 10 mg/l)
Mercury	0.01	Codes of Practice or P2 Plans may be required to achieve this limit
Molybdenum, total	5.0	
**Nickel, total	2.0	Codes of Practice or P2 Plans may be required to achieve this limit
Nitrogen, Total Kjeldahl	50	
Phosphorus, total	10	
**Selenium, total	0.8	Codes of Practice or P2 Plans may be required to achieve this limit
**Silver, total	0.4	Codes of Practice or P2 Plans may be required to achieve this limit. This limit may be problematic for photo finishing dischargers
Sulphide (as H_2S)	1.0	
**Zinc, total	2.0	Municipalities with high zinc in drinking water sources may need to match the zinc concentration to that of the finished drinking water

***Note to Bylaw Author:* **Substances with asterisks require particular review to identify appropriate limits for bylaws. All limits in these tables are intended to provide guidance, not to

[6] P2 means Pollution Prevention

establish required limits; those substances with asterisks may be problematic for particular sectors or dischargers within communities. See Part 4 of the Model Bylaw Guidance Document, Table 2, *Other Considerations for Core Substances Limits and Recommended Limits*, for information and considerations of limit development. Note that limits in this Model Bylaw are not base on average limits in existing Canadian bylaws.

MARBEK
Resource Consultants Ltd.

APPENDIX "A"

DISCHARGE APPLICATION AND DISCHARGE PERMIT FORMS

Form #1 Abbreviated Discharger Information Report
The Municipality of _____ Sewer Use Program

The completion of this form is required by all dischargers to sewage works under Bylaw #_____ addressing sewer use in the Municipality of _____ .

**If you have any questions on the form, please call [*Phone number*]

The completed form is to be forwarded to :
Attention : Designated Sewer Officer, the Municipality of _____
[*Mailing Address*]

Please print clearly while completing the form.

The Abbreviated Discharger Information Report

1	**Name of Company**
2	**Address of Company** Phone: Fax:
3.	**Owner of property** (if different from Company listed above) Phone: Fax:
4	**Brief Description of Product or Service**

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The Abbreviated Discharger Information Report

5	**Brief Description of the Process(es) used in the Manufacturing or Servicing**
6	**'Are there' or 'Will there be' any of the following wastewater discharges from the description as provided in #5?** Process wastewater Yes / No Non-contact cooling water Yes / No Other sources of wastewater (other than sanitary) Yes / No (if yes, brief description)
7	**Does the site have any existing connections to the following sewers?** sanitary Yes / No combined Yes / No storm Yes / No
8	Location of Process units? Inside / Outside / Outside but covered Storage of raw materials? Inside / Outside / Outside but covered Storage of intermediate products? Inside / Outside / Outside but covered Storage of final products? Inside / Outside / Outside but covered
9	**Does the site have any of the following programs in place to address discharges to the sewer system?** Pollution Prevention Yes / No Best Management Plan Yes / No Environmental Management System Yes / No Other program / practices Yes / No

Date form completed :
Name and Title of Company Representative:

Signature of Authorized Company Representative

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The Abbreviated Discharger Information Report

Note: Completion of the "Complete Discharger Information Report" may be required based on this report and/or subsequent verification of the site by the Municipality.

For Municipality use only - date completed form received :

Form #2 Detailed Discharger Information Report

The Municipality of _____ Sewer Use Program

The completion of this form by dischargers to the sewage works is required under certain circumstances by Bylaw #_____ addressing sewer use in the Municipality of _____.

**If you have any questions on the form, please call [*Phone number*]

The completed form is to be forwarded to :
Attention : Designated Sewer Officer, the Municipality of _____
[*Mailing Address*]

Please note the following:
Print clearly while completing the form.
Additional information and attachments - are required.
Indicate what material has been attached to ensure that the municipality is aware of all the information provided.

The Detailed Discharger Information Report	
1	**Name of Company**
2	**Address of Company** Phone: Fax:
3.	**Owner of property** (if different from Company listed above) Phone: Fax:
4	**General Site Operation Information** Number of Employees involved in plant: office: other: Total: Number of Shifts per day: Number of operating days per week:

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The Detailed Discharger Information Report

5	**Description of Product(s) or Service** Include Standard Industrial Code (SIC) - state if SIC is Canadian or American
6	**Description of the Process(es) used in the Manufacturing or Servicing** Include characteristics such as Batch (how many per time period), Continuous, or Both (explanation to be provided), Seasonal Production Cycles, Specific Clean-up Periods and Clean-up Activities, Production Rates
7	**Average Daily Water Use and Sources** Municipal Supply Yes / No _____m3/day Estimated or Measured Surface Water** Yes / No _____m3/day Estimated or Measured Groundwater* Yes / No _____m3/day Estimated or Measured Other sources** Yes / No _____m3/day Estimated or Measured If flow rate varies significantly provide peak flow rates per day and month and explanation. * Provide copy of the Permit to Take Water [*or other documentation per relevant jurisdictional requirements*] ** If 'Yes' - provide explanation as an attachment.
8	**Discharge Points from Site** List all liquid effluent discharge points from the site and average daily flow for each point in cubic metres per day of sanitary, noncontact cooling water, process wastewater, contact cooling water and other discharge water to the sanitary sewer, combined sewer, storm sewer, groundwater, surface water, evaporation losses (if applicable), and percent of water in final manufactured product (if significant and applicable to the site). For example: process wastewater from manufacturing line to sanitary sewer at an average daily flow of 200 m3/day (measured)
9	**Known Characteristics of Discharges** Provide existing data on the chemical composition and constituent concentrations of the discharges listed above in #8
10	**Physical Layout** • Provide sketch of property (to scale or approximate) showing buildings, pretreatment works, property boundaries, effluent lines, and connections to sanitary, combined and storm sewers. • Please identify sewers as listed on the Parameter Information Form as completed above. • Layout may be attached as separate document - leave note to indicate submission with this form. • A flow diagram of the site flows/processes is also required.

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The Detailed Discharger Information Report

11	**Generation Registration Information** Provide any Generator Registration Numbers that the site under the requirements of the governing jurisdiction [***Note to Bylaw Author***: for example, Ontario Regulation 347 under the Environmental Protection Act].
12	**Extra Strength Surcharge Agreements (ESSA)** Does the site have an existing ESSA with the Municipality? Yes / No Did the site previously have an ESSA with the Municipality? Yes / No If Yes to either question - Attach a copy of each agreement to this form
13	**Pretreatment of Discharges Prior to Discharge** Does the site have any pretreatment systems for process effluents prior to discharge to the sewer system? Yes / No If Yes, provide a description of the pretreatment systems and associated processes, design capacities, contaminants removed, performance objectives and operational procedures for the devices.
14	**Does the site have any of the following programs addressing discharges to the sewer system in place?** Pollution Prevention Yes / No Best Management Plan Yes / No Environmental Management System Yes / No Water Conservation Yes / No Other program / practices Yes / No If yes - attach copy of each to the form and explanation for implementation.

Date form completed:

Name and Title of Company Representative:

Signature of Authorized Company Representative:

The information submitted in this form may subject to verification by the municipality:

For Municipality use only Date completed form received:
Date information verified/approved:

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Form #3 Municipality of _____ Waste Discharge Permit

Under the provisions of the Municipality of _____ Sewer Use Bylaw No. _____, _____ hereinafter referred to as the Permittee, is authorized to discharge Non-Domestic Waste to the Sanitary located at _____

This Waste Discharge Permit, hereinafter referred to as the "Permit", has been issued under the terms and conditions, including definitions, prescribed in the Municipality of _____ Sewer Use Bylaw No. _____ hereinafter referred to as the "Bylaw".

This Permit sets out the standard conditions, engineering units, and the requirements for emergency procedures.

A. STANDARD CONDITIONS

1. Except as otherwise provided in this Permit, all terms and conditions stipulated in the Bylaw shall apply to this Permit.

2. The terms and conditions of this Permit may be amended by the Municipality pursuant to the Bylaw.

B. MAINTENANCE AND OPERATION OF WORKS AND PROCEDURES

Wastewater control works and procedures associated with maintaining the discharge criteria and/or the monitoring requirements specified in the Permit shall be employed at all times during the discharge of industrial/commercial wastes to sewer. All such works and procedures shall be inspected regularly and maintained in good working condition.

C. EMERGENCY PROCEDURES

In the event of an emergency or condition which prevents the continuing operation of any wastewater works or procedures designated by this Permit or results, or may result in a violation of any discharge criteria specified in this Permit, the Permittee shall notify the Municipality at [phone number] (24 hours) at the first available opportunity, and shall undertake appropriate remedial action as soon as possible.

D. BY-PASSES

The discharge of wastes which by-pass any wastewater works, or which are not in accordance with procedures designated by the Permit, is prohibited unless prior approval of the Municipality is obtained and confirmed in writing.

E. DISCHARGE MONITORING

1. Discharge measurement, sampling, analysis and reporting shall be undertaken by the Permittee when required by the Designated Sewer Officer. The Designated Sewer Officer may also undertake audit sampling, at the Designated Sewer Officer's discretion.

F. pH MONITORING

Enforcement of pH levels, as listed in this Permit, shall be based on grab samples. The Permittee should be aware that pH levels measured in a Composite Sample [if required] will provide an average pH of the waste stream and will not indicate the total range of pH in the effluent. The Permittee is encouraged to do periodic grab sample pH analyses to ensure permit compliance.

G. DISCHARGE SAMPLING AND ANALYSES

The Permittee shall carry out the following sampling and analysis program, to commence on _____.

1. Continuous Discharges

(a) Effective _____, the Permittee shall measure or estimate, using an approved flow monitoring device(s) or method(s), the daily discharge for each sampling location during each month of operation. The following information shall be recorded for each sampling location:

Total flow for the month (m3)
Number of operating days during the month
Average daily flow for the month (m3/day)
Maximum daily flow for the month (m3/day)

2. Continuous and Batch Discharges

(a) Composite Samples – A 24 hour [if facility operates 24 hours per day] or 8 hour [if facility operates 8 hours per day] composite sample shall be taken by the discharger using sampling equipment installed in the monitoring access point(s), or other sample point(s) approved by the Designated Sewer Officer at the following frequency: _____. The Discharge flow for the periods that the Composite Sample(s) [if required] are collected shall be recorded. *[If the Industry does not have a composite sampler or samplers available to be installed in the monitoring access point(s), the Municipality will use its own composite sampling equipment to collect required samples, and may recover costs of sample collection from the Industry.]*

Composite Sample(s) shall be analyzed for the following parameters:

[insert parameters]

(b) One grab sample shall be collected from each monitoring access point(s), or other sample point(s) approved by the Designated Sewer Officer during normal facility operating hours, and at the time of day approved by the Designated Sewer Officer, at the following frequency: _____. The sample date and time shall be recorded.

Grab Sample(s) shall be analyzed for the following parameters:

[insert parameters]

3. Sample Analysis

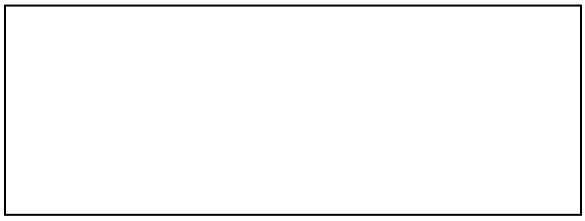
All sampling, measurements, tests and analyses of waste discharges shall be carried out in accordance with the latest edition of STANDARD METHODS or an alternate method approved by the Designated Sewer Officer. Samples shall be submitted for analysis to an ACCREDITED LABORATORY, at the expense of the discharger, unless other arrangements have been approved by the Designated Sewer Officer. The owner shall supply hard copies of the results of the analysis to the Designated Sewer Officer in a format acceptable to the inspector within the time specified by the inspector.

H. LOCATION OF APPROVED SAMPLE POINTS

The approved sample points are as follows and as shown on the attached schematic of approved sample points and treatment processes. Sample point _____ is considered to be the point of discharge to sewer.

SAMPLE POINT NO. DESCRIPTION
Sample Point 1 _____
Sample Point 2 _____

PHOTOGRAPH OF APPROVED SAMPLING POINT SUPPLIED BY PERMITTEE



I. AUTHORIZED DISCHARGE CHARACTERISTICS

1. Authorized Rate of Discharge
The Permittee shall not exceed the following:

[insert flow rates]

2. Authorized Discharge Criteria

This Permit sets out requirements for the quantity and quality of the discharge of Non-Domestic Wastewater from a _____. Where a compliance program has been specified, existing works or procedures must be maintained in good operating condition and operated in a manner to minimize the discharge of contaminants during the interim period until the new works have been installed.

a) The Permittee shall not discharge prohibited waste, as defined in Schedule "A" of the Bylaw.

b) The Permittee shall not discharge restricted waste, as defined in Schedule "B" of the Bylaw with the following exceptions:

[insert Parameter Authorized Range or Maximum Concentration]

Compliance with the above-noted exceptions is to be achieved by: _____

c) The Permittee shall not discharge storm water or cooling water into the sanitary sewer system.

J. AUTHORIZED WORKS AND PROCEDURES

This Permit sets out the waste sources, works and procedures for the authorized discharges to sewers. The Designated Sewer Officer may require that further works be installed if the existing works, in his opinion, do not provide an acceptable level of treatment. New works or alterations to existing works must be approved, in principle, by the Designated Sewer Officer.

New waste sources must be authorized, in writing, by the Designated Sewer Officer.

The authorized waste sources, works and procedures to treat and/or control the waste discharge are:

SOURCE COMPLETION DATE WORKS & PROCEDURES
1. _____ _____ _____
2. _____ _____ _____

K. REPORTING REQUIREMENTS FOR WASTE DISCHARGE PERMIT

The Permittee is required to submit the following reports to the Designated Sewer Officer:

a) The Permittee shall submit the results of effluent sampling (as required by the Designated Sewer Officer) to the Designated Sewer Officer at the following frequency *[insert frequency]*.

b) By not later than _____, the Permittee shall submit a written report outlining the specifications of the flow monitoring device or method used to determine the discharge flow rate.

c) Additional reporting shall be undertaken by the Permittee when required by the Designated Sewer Officer. *[i.e. insert reporting requirements for compliance programs, status on pollution prevention activities, etc.*

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PART 6: BYLAW TEMPLATE FOR MIXED CUSTOMER COMMUNITIES

Table of Contents

INTRODUCTION

This Bylaw outlines controls for the discharge of pollutants to the sewer system. The objectives of the bylaw are to:

- Protect the sewer collection system from corrosion, other damage and obstruction
- Protect the wastewater treatment process from upset
- Protect the public, municipal workers and property from hazardous conditions (such as explosions)
- Assist optimum wastewater system efficiency by preventing uncontaminated water from entering the system
- Protect wastewater sludge quality
- Protect the environment from contaminants that are not removed by the public treatment system(s)
- Assist the Municipality in maintaining compliance with the operating conditions established by [the province of (insert applicable jurisdiction name) or Water Board of (name)]

1. DEFINITIONS

As used in this bylaw, the following terms shall have the meanings indicated:

ACCREDITED LABORATORY – Any laboratory accredited by an authorized accreditation body in accordance with a standard based on "*CAN-P-1585: Requirements for the Accreditation of Environmental Testing Laboratories*" established by the Standards Council of Canada, as amended, or "*ISO/IEC/EN 17025: General Requirements for Competence of Calibration and Testing Laboratories*" established by the International Organization for Standardization, as amended.

BEST MANAGEMENT PRACTICES (BMP) — An integrated plan to control and reduce the release of restricted and prohibited waste into the wastewater works to a practicable extent, through methods including physical controls, Pretreatment Processes, operational procedures and staff training.

BIOCHEMICAL OXYGEN DEMAND (BOD) – The five-day BOD which is the determination of the molecular oxygen utilized during a five-day incubation period for the biochemical degradation of organic material (carbonaceous demand), and the oxygen used to oxidize inorganic material such as sulphides and ferrous iron, and the amount of oxygen used to oxidize reduced forms of nitrogen (nitrogenous demand) as determined by the appropriate procedure in Standard Methods.

BIOMEDICAL WASTE – Biomedical waste as defined in the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended from time to time.

BLOWDOWN WATER – Recirculating water that is discharged from a cooling or heating water system for the purpose of controlling the level of water in the system or for the purpose of discharging from the system materials contained in the system, the further build-up of which would or might impair the operation of the system.

CHEMICAL OXYGEN DEMAND (COD) – A measure of the capacity of water to consume oxygen as a result of oxidation of inorganic chemicals and decomposition of organic matter.

CLEAR-WATER WASTE – Includes non-contact cooling water and other water that has not come into contact with wastewater contaminant sources.

CODE OF PRACTICE - means a set of practices applicable to specific industrial, commercial or institutional sector operations; a code of practice identifies mandatory procedures, equipment, training or other provisions required as a condition of wastewater discharge into the sewer system by the specified sector discharger.

COMBINED SEWER – A sewer intended to function simultaneously as a storm sewer and a sanitary sewer.

COMBUSTIBLE LIQUID – A liquid that has a flash point not less than 37.8 degrees Celsius and not greater than 93.3 degrees Celsius.

COMPLIANCE PROGRAM – The necessary steps undertaken by a discharger to bring wastewater discharged into the municipal sewer into compliance with the terms and conditions of this Bylaw or related permit. Compliance programs are applicable to existing dischargers only; new discharges must fully comply with the requirements of this bylaw.

COMPOSITE SAMPLE – A volume of wastewater, storm water, uncontaminated water, clear-water or effluent made up of three or more grab samples that have been combined automatically or manually and taken at intervals during the sampling periods.

CONNECTION or DRAIN – That part or those parts of any pipe or system of pipes leading directly to a wastewater works.

COOLING WATER – Water that is used in a process for the purpose of removing heat and that has not, by design, come into contact with any raw material, intermediate product, waste product or finished product, but does not include blowdown water.

DENTAL AMALGAM – A dental filling material consisting of an amalgam of mercury, silver and other materials such as copper, tin or zinc.

DENTAL AMALGAM SEPARATOR – Any technology, or combination of technologies, designed to separate dental amalgam particles from dental operation wastewater.

DESIGNATED SECTOR OPERATIONS – means industrial, commercial or institutional sectors required to adopt Codes of Practice.

DESIGNATED SEWER OFFICER – The person appointed by the Municipality, and his or her successors or his or her duly authorized representative. (Note the Designated Sewer Officer may hold the position of General Manager, City Manager, Inspector or other position suitable to the organization of the community.)

DOMESTIC WASTEWATER – Waste produced on a residential premises, or sanitary waste and wastewater from showers and restroom washbasins produced on a non-residential property.

EXTRA STRENGTH – Refers to wastewater released to the sewer that is higher in concentration for one or more constituent concentrations set out in Schedule B or containing constituents identified in Schedule B.

FLOW MONITORING POINT – An access place to the sewer service for the purpose of:

(5) Measuring the rate or volume of wastewater, storm water, clear water waste or subsurface water released from the premises; and

(6) Collecting representative samples of the wastewater, storm water, clear water waste or subsurface water released from the premises.

FUELS – Alcohol, gasoline, naphtha, diesel fuel, fuel oil or any other ignitable substance intended for use as a fuel.

GRAB SAMPLE – A volume of wastewater, storm water, uncontaminated water or effluent which is collected over a period not exceeding 15 minutes.

GROUND WATER – Water beneath the earth's surface accumulating as a result of seepage.

HAULED WASTE – Any industrial waste which is transported to and deposited into any location in the wastewater works, excluding hauled wastewater.

HAULED WASTEWATER – Waste removed from a wastewater system, including a cesspool, a septic tank system, a privy vault or privy pit, a chemical toilet, a portable toilet or a wastewater holding tank.

HAZARDOUS SUBSTANCES **–**

A. Any substance or mixture of substances, other than a pesticide, that exhibits characteristics of flammability, corrosivity, reactivity or toxicity; and

B. Any substance that is designated as a hazardous substance within the meaning of [*federal, provincial or territorial Statute or Regulation as appropriate for the municipality*], as amended from time to time.

HAZARDOUS WASTE – Any Hazardous Substance disposed of as waste.

IGNITABLE WASTE – A substance that:

A. Is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has a flash point less than 93 degrees Celsius, as determined by the Tag Closed Cup Tester (ASTM D-56-97a), the Setaflash Closed Cup Tester (ASTM D-3828-97 or ASTM D-3278-96e1), the Pensky-Martens Closed Cup Tester (ASTM D-93-97), or as determined by an equivalent test method;

B. Is a solid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a danger;

C. Is an ignitable compressed gas as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended; or

D. Is an oxidizing substance as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended.

INDUSTRIAL – Of or pertaining to manufacturing, commerce, trade, business or institutions as distinguished from domestic or residential.

INDUSTRY – Any owner or operator of industrial, commercial or institutional premises from which there is a discharge of any matter directly or indirectly into a sanitary sewer, combined sewer or storm sewer of the Municipality.

INSPECTOR – A person authorized by the Municipality to carry out observations and inspections and take samples as prescribed by this bylaw.

INSTITUTION – A facility, usually owned by a government, operated for public purposes, such as schools, universities, medical facilities (hospitals, nursing stations, nursing homes), museums, prisons, government offices, military bases. Some of these facilities produce non-residential discharges to sewers from, for example, laboratories, chemical use, industrial processes.

MATTER – Includes any solid, liquid or gas.

MONITORING ACCESS POINT – An access point, such as a chamber, in a private sewer connection to allow for observation, sampling and flow measurement of the wastewater, uncontaminated water or storm water therein.

MUNICIPALITY – means the Municipality of "_____".

MUNICIPAL SEWER CONNECTION – That part of any drain leading from the private sewer connection and connected to the municipal sewer and located within the limits of the public road allowance, or other public lands or public land interests held for sewerage purposes.

MULTIPLE MUNICIPAL SEWER CONNECTION – A municipal sewer connection providing service to two or more premises.

NON-CONTACT COOLING WATER – Water which is used to reduce temperature for the purpose of cooling and which does not come into direct contact with any raw material, intermediate or finished product other than heat.

NON-DOMESTIC WASTEWATER – All Wastewater except Domestic Wastewater, Storm Water, Uncontaminated Water, and Septic Tank Waste.

OIL AND GREASE – *n*-Hexane extractable matter as described in Standard Methods.

PATHOLOGICAL WASTE – Pathological waste within the meaning of [federal, provincial or territorial Statute or Regulation as appropriate for the municipality].

PCBs – Any monochlorinated or polychlorinated biphenyl or any mixture of them or mixture that contains one or more of them.

PERSON — An individual, association, partnership, corporation, municipality or an agent or employee of such a person.

PESTICIDE – A pesticide regulated under [federal, provincial or territorial Statute or Regulation as appropriate for the municipality].

POLLUTION PREVENTION – The use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and wastes, at the source.

POLLUTION PREVENTION PLAN — A detailed plan that identifies operations or activities of an owner or operator of commercial, institutional or industrial premises identifying specific pollution prevention methods to be implemented within a specific time frame.

POLLUTION PREVENTION PLAN SUMMARY — A summary of the pollution prevention plan and a brief summary of an owner's or operator's progress towards its pollution prevention goals.

PRETREATMENT – The reduction, elimination or alteration of pollutants in wastewater prior to discharge into the sanitary sewer. This reduction or alteration can be obtained by physical, chemical, or biological processes, through pollution prevention, or by other means, except by diluting the concentration of the pollutants.

PRETREATMENT PROCESSES – one or more treatment processes or devices designed to remove sufficient matter from wastewater discharged into the municipal sewer to enable compliance with effluent limits established in this Bylaw. Pretreatment processes prevent or reduce and control the discharge or deposit of matter from the discharger's premises into the municipal sewer connection.

PRIVATE SEWER CONNECTION – That part of any drain or system of drains, including drains or subsurface drainage pipe for surface or subsurface drainage of the land in or adjacent to

a building, lying within the limits of the private lands and leading to a municipal sewer connection whose responsibility for maintenance is the property owner's.

PROHIBITED WASTE – means prohibited waste as defined in Schedule "A" to this bylaw

REACTIVE WASTE – A substance that:

A. Is normally unstable and readily undergoes violent changes without detonating;
B. Reacts violently with water;
C. Forms potentially explosive mixtures with water;
D. When mixed with water, generates toxic gases, vapours or fumes in a quantity sufficient to present danger to human health or the environment;
E. Is a cyanide or sulphide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapours or fumes in a quantity sufficient to present danger to human health or the environment;
F. Is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;
G. Is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or
H. Is an explosive (Class 1) as defined in the regulations under the [federal, provincial or territorial Statute or Regulation as appropriate for the municipality], as amended.

RESTRICTED WASTE – means restricted waste as defined in Schedule "B" to this bylaw

SAMPLING PORT – A valve, tap, or similar device on equipment, a drain pipe or at another suitable location, to allow for sampling, consistent with technical guidelines that the Municipality may establish from time to time.

SANITARY SEWER – A sewer for the collection and transmission of domestic or industrial wastewater or any combination thereof.

SEPTIC TANK WASTE – any Waste extracted from a cesspool, septic tank, sewage holding tank, seepage pit, interceptor or other containment for human excretion and wastes.

SEWER – A pipe, conduit, drain, open channel or ditch for the collection and transmission of wastewater, storm water or uncontaminated water, or any combination thereof.

SPILL – A direct or indirect discharge into the wastewater works, storm sewer or the natural environment which is abnormal in quantity or quality in light of all the circumstances of the discharge.

STANDARD METHODS – A procedure or method set out in *Standard Methods for the Examination of Water and Wastewater* published jointly by the American Public Health Association, American Water Works Association and the Water Environment Federation, recent or latest edition or approved in writing by the Designated Sewer Officer.

STORM SEWER – A sewer for the collection and transmission of uncontaminated water, storm water, drainage from land or from a watercourse or any combination thereof but excluding any portion of a combined sewer works.

STORM WATER – The water running off the surface of a drainage area during and immediately after a period of rain or snow melt.

SUBSURFACE DRAINAGE PIPE – A pipe that is installed underground to intercept and convey subsurface water, and includes foundation drain pipes.

SUBSURFACE WATER – Groundwater including foundation drain water.

TOTAL SUSPENDED SOLIDS (TSS) – Insoluble matter in liquid that is removable by filtration, as determined by the appropriate procedure described in Standard Methods.

TOTAL PAHs – The total of all of the following polycyclic aromatic hydrocarbons: Acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i,)perylene, benzo(k)fluoranthene, chrysenes, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, methylnaphthalene, naphthalene, phenanthrene, pyrene.

TOXIC SUBSTANCE – any substance defined as toxic under the *Canadian Environmental Protection Act* 1999, as amended from time to time and within the meaning of [provincial or territorial Statute or Regulation as appropriate for the municipality], as amended from time to time.

UNCONTAMINATED WATER – Water with a level of quality which is typical of potable water normally supplied by the Municipality.

WASTE DISPOSAL SITE LEACHATE – The liquid containing dissolved or suspended contaminants which emanates from waste (solid waste or garbage) and is produced by water percolating through waste or by liquid in waste.

WASTE RADIOACTIVE SUBSTANCES – Substances defined in the federal *Nuclear Safety and Control Act* and the regulations passed thereunder, as amended from time to time.

WASTEWATER – means the composite of water and water-carried wastes from residential, commercial, industrial or institutional premises or any other source.

WASTEWATER SLUDGE – Solid material recovered from the wastewater treatment process.

WASTEWATER TREATMENT FACILITY – means any structure or thing used for the physical, chemical, biological or radiological treatment of wastewater, and includes sludge treatment, wastewater sludge storage and disposal facilities.

WASTEWATER WORKS – Any works for the collection, transmission, treatment and disposal of wastewater, storm water or uncontaminated water, including a combined sewer, sanitary sewer or storm sewer, or any part of such works, but does not include plumbing or other works to which the applicable Building Code applies.

WATERCOURSE – An open channel, ditch or depression, either natural or artificial, in which flow of water occurs either continuously or intermittently.

2. SANITARY AND COMBINED SEWER REQUIREMENTS

(1) No person shall release, or permit the release of, any matter into the sanitary or combined sewer system wastewater works except:

(a) Domestic wastewater;
(b) Non-domestic wastewater that complies with the requirements of this bylaw;
(c) Hauled wastewater, including septage, that complies with the requirements of this bylaw, or where a Waste Discharge Permit has been issued by the Designated Sewer Officer;
(d) Storm water, clear-water waste, subsurface water or other matter where a Waste Discharge Permit has been issued by the Designated Sewer Officer;
(e) Extra Strength matter where an Extra Strength Surcharge Agreement is in place.

(2) No person shall release, or permit the release of, any prohibited substance listed in Schedule 'A' of this bylaw.

(3) No person shall release, or permit the release of, any restricted substance which exceeds the respective concentrations listed in Schedule 'B' of this bylaw into the wastewater works.

(4) If required by the Municipality, all non-domestic and hauled wastewater dischargers shall complete and submit **Form 1 "Abbreviated Discharger Information Report"** (Appendix A) to the Municipality.

(5) If required by the Municipality, non-domestic and hauled wastewater dischargers shall complete and submit **Form 2 "Complete Discharger Information Report"** (Appendix A) to the Municipality.

(6) If required by the Municipality, non-domestic and hauled wastewater dischargers shall not discharge to the sanitary sewer system until the discharger has obtained **Form 3 "Waste Discharge Permit"** (Appendix A) from the Designated Sewer Officer.

(7) The Designated Sewer Officer may issue, and amend, a Waste Discharge Permit to allow the discharge of non-domestic waste and hauled wastewater into a sewer upon such terms and

conditions as the Designated Sewer Officer considers appropriate and, without limiting the generality of the foregoing, may in the Waste Discharge Permit:

(a) Place limits and restrictions on the quantity, composition, frequency and nature of the waste permitted to be discharged;

(b) Require the holder of a Waste Discharge Permit to repair, alter, remove, or add to works or construct new works; and

(c) Provide that the Waste Discharge Permit will expire on a specified date, or upon the occurrence of a specified event.

(8) The Designated Sewer Officer may issue a **Discharge Abatement Order** to:

(a) Require a person to alter the quantity, composition, duration and timing of the discharge or cease discharge of non-domestic waste or hauled wastewater to a sewer or wastewater facility;

(b) Include any terms or conditions that could be included in a Waste Discharge Permit; and

(c) Shut down all non-compliant releases.

The Designated Sewer Officer may amend or cancel a Discharge Abatement Order.

3. STORM SEWER REQUIREMENTS

[*Insert Municipal Provisions*]

4. PROHIBITION OF DILUTION

(1) No person shall discharge directly or indirectly, or permit the discharge or deposit of wastewater into a sanitary sewer or combined sewer works where water has been added to the discharge for the purposes of dilution to achieve compliance with Schedule “A” or Schedule “B” of this bylaw.

(2) No person shall discharge directly or indirectly, or permit the discharge or deposit of matter into a storm sewer where water has been added to the discharge for the purposes of dilution to achieve compliance with Section 3 of this bylaw.

5. SAMPLING

(1) Where sampling is required for the purposes of determining the concentration of constituents in the wastewater, storm water or uncontaminated water, the sample may:

(a) be collected manually or by using an automatic sampling device; and
(b) contain additives for its preservation.

(2) For the purpose of determining compliance with Schedule B or Section 3, discrete wastewater streams within premises may be sampled, at the discretion of the Designated Sewer Officer.

(3) Any single grab sample may be used to determine compliance with Schedules A and B or Section 3.

(4) All tests, measurements, analyses and examinations of wastewater, its characteristics or contents pursuant to this Bylaw shall be carried out in accordance with "Standard Methods" and be performed by a laboratory accredited for analysis of the particular substance(s) using a method which is within the laboratory's scope of accreditation or to the satisfaction of the Designated Sewer Officer as agreed in writing prior to sample analysis.

6. DISCHARGER SELF-MONITORING

(1) The discharger shall complete any monitoring or sampling of any discharge to a wastewater works as required by the Municipality, and provide the results to the Municipality in the form specified by the Municipality.

(2) The obligations set out in or arising out of 6(1) shall be completed at the expense of the discharger.

7. ADDITIONAL REQUIREMENTS

7.1 FOOD-RELATED GREASE INTERCEPTORS

(1) Every owner or operator of a restaurant or other industrial, commercial or institutional premises where food is cooked, processed or prepared, for which the premises is connected directly or indirectly to a sanitary or combined sewer, shall take all necessary measures to ensure that oil and grease are prevented from entering the sanitary or combined sewer in excess of the provisions of this bylaw. Grease interceptors shall not discharge to storm sewers.

(2) The owner or operator of the premises as set out in this Subsection shall install, operate, and properly maintain an oil and grease interceptor in any piping system at its premises that connects directly or indirectly to a sewer. The oil and grease interceptors shall be installed in compliance with the most current requirements of the applicable Building Code. The installation of the oil

and grease interceptor shall meet the requirements of the Canadian Standards Association national standard CAN/CSA B-481.2, as amended.

(3) All oil and grease interceptors shall be maintained according to the manufacturer's recommendations. The testing, maintenance and performance of the interceptor shall meet the requirements of CAN/CSA B-481. Traps should be cleaned before the thickness of the organic material and solids residuals is greater than twenty-five percent of the available volume; cleaning frequency should not be less than every four weeks. Maintenance requirements should be posted in the workplace in proximity to the grease interceptor.

(4) A maintenance schedule and record of maintenance shall be available to the Designated Sewer Officer upon request for each interceptor installed.

(5) The owner or operator of the restaurant or other industrial, commercial or institutional premises where food is cooked, processed or prepared, shall, for two years, keep the document of proof for interceptor clean-out and oil and grease disposal.

(6) Emulsifiers shall not be discharged to the sewer system into interceptors. No person shall use enzymes, bacteria, solvents, hot water or other agents to facilitate the passage of Oil and Grease through a Grease Interceptor.

(7) In the case of failure to adequately maintain the grease interceptor to the satisfaction of the Designated Sewer Officer, the Designated Sewer Officer may require an alarmed monitoring device to be installed, at the expense of the owner, in accordance with specifications of CAN/CSA B-481.

7.2 VEHICLE AND EQUIPMENT SERVICE OIL AND GREASE INTERCEPTORS

(1) Every owner or operator of a vehicle or equipment service station, repair shop or garage or of an industrial, commercial or institutional premises or any other establishment where motor vehicles are repaired, lubricated or maintained and where the sanitary discharge is directly or indirectly connected to a sewer shall install an oil and grease interceptor designed to prevent motor oil and lubricating grease from passing into the sanitary or combined sewer in excess of the limits in this bylaw.

(2) The owner or operator of the premises as set out in Subsection 7.2(1) shall install, operate, and properly maintain an oil and grease interceptor in any piping system at its premises that connects directly or indirectly to a sewer. The oil and grease interceptors shall be installed in compliance with the most current requirements of the applicable Building Code and be maintained as recommended by the Canadian Petroleum Products Institute (CPPI).

(3) All oil and grease interceptors and separators shall be maintained in good working order and according to the manufacturer's recommendations and shall be inspected regularly to ensure performance is maintained to the manufacturer's specifications for performance and inspected to ensure the surface oil and sediment levels do not exceed the recommended level.

(4) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer annually for each oil and grease interceptor installed.

(5) The owner or operator of the premises as set out in Subsection 7.2(1), shall, for two years, keep the document of proof for interceptor clean-out and oil and grease disposal.

(6) Emulsifiers shall not be discharged to the sewer system into interceptors. No person shall use enzymes, bacteria, solvents, hot water or other agents to facilitate the passage of oil and grease through an oil and grease interceptor.

(7) In the case of failure to adequately maintain the oil and grease interceptor to the satisfaction of the Designated Sewer Officer, the Designated Sewer Officer may require an alarmed monitoring device to be installed, at the expense of the owner.

7.3 SEDIMENT INTERCEPTORS

(1) Every owner or operator of the premises from which sediment may directly or indirectly enter a sewer, including but not limited to premises using a ramp drain or area drain and vehicle wash establishments, shall take all necessary measures to ensure that such sediment is prevented from entering the drain or sewer in excess of the limits in this bylaw.

(2) Catch basins installed on private property for the purposes of collecting storm water and carrying it into the storm sewers shall be equipped with an interceptor and the installation of these catch basins on private property shall comply with the Municipality's Standard Construction Specifications and Drawings, as they may be amended from time to time.

(3) All sediment interceptors shall be maintained in good working order and according to manufacturer's recommendations and shall be inspected regularly to ensure performance is maintained to the manufacturer's specifications for performance.

(4) The owner or operator of a premises as set out in Subsection 7.3(1), shall, for 2 years, keep documentation of interceptor clean-out and sediment disposal.

(5) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer upon request for each sediment interceptor installed.

7.4 DENTAL WASTE AMALGAM SEPARATOR

(1) Every owner or operator of the premises from which dental amalgam may be discharged, which waste may directly or indirectly enter a sewer, shall install, operate and properly maintain dental amalgam separator(s) with at least 95% efficiency in amalgam weight and certified *ISO 11143 – "Dental Equipment: Amalgam Separators"*, in any piping system at its premises that connects directly or indirectly to a sewer by no later than [*date to be specified by municipality*],

except where the sole dental-related practice at the premises consists of one or more of the following specialties or type of practice:

(a) Orthodontics and dentofacial orthopaedics;
(b) Oral and maxillofacial surgery;
(c) Oral medicine and pathology;
(d) Periodontics; or
(e) A dental practice consisting solely of visits by a mobile dental practitioner who prevents any dental amalgam from being released directly or indirectly to the wastewater works.

(2) Notwithstanding Subsection 7.4(1), any person operating a business from which dental waste amalgam is or could be discharged directly or indirectly to a sewer, at premises which are constructed or substantially renovated on or after the date that Section 7.4 comes into force, shall install, operate and properly maintain dental waste amalgam separator(s) in any piping system which is connected directly or indirectly to a sewer.

(3) Notwithstanding compliance with Subsection 7.4 (1) and 7.4 (2), all persons operating or carrying on the business of a dental practice shall comply with Schedule "A" and Schedule "B" of this bylaw.

(4) All dental waste amalgam separators shall be maintained in good working order and according to the manufacturer's recommendations.

(5) A maintenance schedule and record of maintenance shall be submitted to the Designated Sewer Officer upon request for each dental amalgam separator installed.

(6) The operator of a dental clinic shall, for five years, keep the documents covering amalgam shipment provided for under the bylaw respecting transportation of hazardous material *[insert applicable bylaw for municipality]*.

7.5 FOOD WASTE GRINDERS

(1) No person shall install or operate within the Municipality any food waste grinding devices for domestic purposes, the effluent from which will discharge directly or indirectly into a sanitary, combined or storm sewer.

(2) In the case of industrial, commercial or institutional properties where food waste grinding devices are installed in accordance with the Building Code, the effluent from such food waste grinding devices must comply with Schedule 'A' and Schedule 'B'.

(3) Food waste grinders shall not be equipped with motors in excess of ½ horsepower.

7.7 PRETREATMENT FACILITIES

(1) Where required by the Designated Sewer Officer, the owner or operator shall install on the premises, and prior to the sampling point, a wastewater pretreatment facility.

(2) The owner or operator shall ensure the design, operation and maintenance of the pretreatment facility achieves the treatment objectives and is in accordance with the manufacturer's recommendations.

(3) The owner or operator shall ensure any waste products from the pretreatment facility are disposed of in a safe manner.

(4) The maintenance records and waste disposal records shall be available to the Designated Sewer Officer upon request.

(5) The owner or operator shall keep documentation pertaining to the pretreatment facility and waste disposal for two years.

8. HAULED WASTEWATER

(1) No person shall discharge hauled wastewater to the wastewater works unless:

(a) The carrier of the hauled wastewater operating as a waste management system has certificate of approval or provisional certificate of approval issued under the [*applicable federal, provincial, territorial environment protection act]* or is exempt from the requirement to have a certificate or provisional certificate of approval;
(b) A copy of the most recent certificate of approval or provisional certificate and any amendment is provided to the Municipality and
(c) The carrier meets all conditions for discharge that are or may be set from time to time with respect to the haulage of wastewater by the Municipality.

(2) No person shall discharge or permit the discharge of hauled wastewater:

(a) At a location other than a hauled wastewater discharge location approved by the Municipality.
(b) Without a manifest, in a form approved by the Designated Sewer Officer, completed and signed by the carrier and deposited in an approved location at the time of discharge.
(c) Without the use of a discharge hose placed securely in the discharge portal at the approved location.

9. HAULED WASTE

(1) No person shall discharge hauled waste to the wastewater works unless:

(a) The carrier of the hauled waste operating as a waste management system has a certificate of approval or provisional certificate of approval issued under the [*applicable*

federal, provincial, territorial environment protection act] or is exempt from the requirement to have a certificate or provisional certificate of approval;
(b) A copy of the most recent certificate or provisional certificate and any amendment of approval is provided to the Municipality;
(c) Hauled waste meets the conditions set out in [*applicable federal, provincial, territorial environment protection regulation*], as amended from time to time; and
(d) The carrier meets all conditions for discharge that are or may be set from time to time with respect to the haulage of waste by the Municipality.

(2) No person shall discharge or allow or cause hauled waste to be discharged into a Sewer, except at sites designated by the Designated Sewer Officer.

10. NON-CONTACT COOLING WATER

(1) The discharge of non-contact cooling water or uncontaminated water to a sanitary sewer or combined sewer from any residential property is prohibited. The discharge of non-contact cooling water or uncontaminated water to a sanitary or combined sewer from industrial, commercial or institutional properties is permissible where:

(a) In the case of a proposed building, no storm sewer exists adjacent to the building and no opportunity exists to discharge to yard drainage; or
(b) In the case of an existing building, no storm connection exists to the building.

11. WATER ORIGINATING FROM A SOURCE OTHER THAN THE MUNICIPAL WATER SUPPLY

(1) The discharge of water originating from a source other than the Municipality water supply, including storm water or groundwater, directly or indirectly to a sanitary sewer or combined sewer works is prohibited, unless:

(a) The discharge is in accordance with a Waste Discharge Permit; and
(b) The discharge does not exceed the limits set out under Schedule B, with respect to biochemical oxygen demand, total phosphorus or total suspended solids; or
(c) In the event the discharge does exceed the limits set out under Schedule B, with respect to any of biochemical oxygen demand, total phosphorus or total suspended solids, the discharge is in accordance with an Extra Strength Surcharge Agreement.

12. SPILLS

(1) In the event of a spill to a wastewater works and/or storm sewer works, the person responsible or the person having the charge, management and control of the spill shall immediately notify and provide any requested information with regard to the spill to:
(g) If there is any immediate danger to human health and/or safety
(i) 9-1-1 emergency

or

(b) If there is no immediate danger:

(iii) the Municipality [*insert organization name*] by contacting the [*insert contact information]*, and

(ii) the owner of the premises where the release occurred, and

(iii) any other person whom the person reporting knows or ought to know may be directly affected by the release.

(2) The person shall provide a detailed report on the spill to the Municipality, within five working days after the spill, containing the following information to the best of his or her knowledge:

(a) Location where spill occurred;
(b) Name and telephone number of the person who reported the spill and the location and time where they can be contacted;
(c) Date and time of spill;
(d) Material spilled;
(e) Characteristics and composition of material spilled;
(f) Volume of material spilled;
(g) Duration of spill event;
(h) Work completed and any work still in progress in the mitigation of the spill;
(i) Preventive actions being taken to ensure a similar spill does not occur again; and
(j) Copies of applicable spill prevention and spill response plans.

(3) The person responsible for the spill and the person having the charge, management and control of the spill shall do everything reasonably possible to contain the spill, protect the health and safety of citizens, minimize damage to property, protect the environment, clean up the spill and contaminated residue and restore the affected area to its condition prior to the spill.

(4) Nothing in this Bylaw relieves any persons from complying with any notification or reporting provisions of:

(e) Other government agencies, including federal and provincial [or *territorial*] agencies, as required and appropriate for the material and circumstances of the spill; or,

(f) Any other Bylaw of the Municipality.

(5) The Municipality may invoice the person responsible for the spill to recover costs of time, materials and services arising as a result of the spill. The person responsible for the spill shall pay the costs invoiced.

(6) The Municipality may require the person responsible for the spill to prepare and submit a spill contingency plan to the Municipality to indicate how risk of future incidents will be reduced and how future incidents will be addressed.

(7). Industries at whose premises a spill has occurred which are required to have a Pollution Prevention Plan as a requirement of this bylaw shall prepare an updated plan and plan summary

incorporating the information set out in this Section and shall submit the plan summary so updated to the Municipality within 30 days of the spill.

13. AUTHORITY OF DESIGNATED SEWER OFFICER TO INVESTIGATE

(5) The Designated Sewer Officer has the authority to carry out any inspection reasonably required to ensure compliance with this bylaw, including but not limited to:

(a) Inspecting, observing, sampling and measuring the flow in any private
  (i) drainage system,
  (ii) wastewater disposal system,
  (iii) storm water management facility, and
  (iv) flow monitoring point;
(b) Determine water consumption by reading water meters;
(c) Test flow measuring devices;
(d) Take samples of wastewater, storm water, clear-water waste and subsurface water being released from the premises or flowing within a private drainage system;
(e) Perform on-site testing of the wastewater, storm water, clear-water waste and subsurface water within or being released from private drainage systems, pretreatment facilities and storm water management facilities;
(f) Collect and analyze samples of hauled wastewater coming to a discharge location;
(g) Make inspections of the types and quantities of chemicals being handled or used on the premises in relation to possible release to a drainage system or watercourse;
(h) Require information from any person concerning a matter;
(i) Inspect and copy documents or remove documents from premises to make copies;
(j) Inspect chemical storage areas and spill containment facilities and request Material Safety Data Sheets (MSDS) for materials stored or used on site;
(j) Inspect the premises where a release of prohibited or restricted wastes or of water containing prohibited or restricted wastes has been made or is suspected of having been made, and to sample any or all matter that in his/her opinion could have been part of the release.

(6) No person shall hinder or prevent the Designated Sewer Officer from carrying out any of his/her powers or duties.

14. DISCONNECTION OF SEWER

(1) Where wastewater which:
(a) Is hazardous or creates an immediate danger to any person;
(b) Endangers or interferes with the operation of the wastewater collection system; or
(c) Causes or is capable of causing an adverse effect;

is discharged to the wastewater collection system, the Designated Sewer Officer may, in addition to any other remedy available, disconnect, plug or seal off the sewer line discharging the

unacceptable wastewater into the wastewater collection system or take such other action as is necessary to prevent such wastewater from entering the wastewater collection system.

(2) The wastewater may be prevented from being discharged into the wastewater collection system until evidence satisfactory to the Designated Sewer Officer has been produced to assure that no further discharge of hazardous wastewater will be made to the wastewater collection system.

(3) Where the Director, Water Services takes action pursuant to subsection (1), the Designated Sewer Officer may by notice in writing advise the owner or occupier of the premises from which the wastewater was being discharged, of the cost of taking such action and the owner or occupier, as the case may be, shall forthwith reimburse the City for all such costs which were incurred.

15. OFFENCES

(1) Every person other than a corporation who contravenes any provision of this bylaw is guilty of an offence and on conviction is liable, for every day or part thereof upon which such offence occurs or continues, to a fine of not more than $25,000 for a first offence and $100,000 for a second offence.

(2) Every corporation that contravenes any provision of this bylaw is guilty of an offence and on conviction is liable, for every day or part thereof upon which such offence occurs or continues, to a fine of not more than $250,000 for a first offence and not more than $500,000 for a second offence.

16. ACCESS TO INFORMATION

(1) All information submitted to and collected by the Municipality that is contained in plan summaries, reports, surveys, monitoring and inspection and sampling activities will, except as otherwise provided in this section, be available for disclosure to the public in accordance with the [*applicable Freedom of Information legislation that governs the Province or Territory*].

(2) In the event that any person in submitting information to the Municipality, as required under this article, where such information is confidential or proprietary or otherwise, may be exempt from disclosure under the [*applicable Freedom of Information legislation that governs the Province or Territory*], the person submitting the information shall so identify that information upon its submission to the Municipality or the Municipality and where such information is confidential or proprietary or otherwise, may be exempt from disclosure.

(3) The Designated Sewer Officer shall have access to information contained in the Certificate of Approval [*or equivalent document in your jurisdiction*] of any wastewater dischargers to the Municipal sewer system.

17. MONITORING ACCESS POINTS

(1) The owner or operator of commercial, institutional or industrial premises or multi-storey residential buildings with one or more connections to a wastewater works shall install and maintain in good repair in each connection a suitable monitoring access point to allow observation, sampling and flow measurement of the wastewater, uncontaminated water or storm water therein, provided that, where installation of a monitoring access point is not possible, an alternative device or facility may be substituted with the prior written approval of the Designated Sewer Officer.

(2) The monitoring access point or alternative device such as a sampling port shall be located on the property of the owner or operator of the premises, as close to the property line as possible, unless the Designated Sewer Officer has given prior written approval for a different location.

(3) Each monitoring access point, device or facility installed shall be designed and constructed in accordance with good engineering practice and the requirements of the Municipality, and shall be constructed and maintained by the owner or operator of the premises at his or her expense.

(4) The owner or operator of an industrial, commercial or institutional premises or a multi-storey residential building shall at all times ensure that every monitoring access point, alternative device or facility installed as required by this bylaw is accessible to the Designated Sewer Officer for the purposes of observing, sampling and flow measurement of the wastewater, uncontaminated water or storm water therein.

(5) The following discharger activities require sampling ports when it is not possible to install a monitoring access point:

(a) Dental offices
(b) Businesses using photographic processing units.

18. EXTRA STRENGTH SURCHARGE

(1) The discharge or deposit of wastewater by a person that would otherwise be prohibited by this bylaw may be permitted to an extent fixed by:

(a) An **Extra Strength Surcharge Agreement** , including conditions for payment of additional costs of operation, repair and maintenance of the wastewater works, and on other terms and conditions as may be deemed appropriate by the Municipality; and/or
(b) A **Sanitary Discharge Agreement** , including conditions for payment for water pollution control treatment that otherwise would have been obtained from a surcharge on the water had it been supplied by the Municipality and on other terms and conditions as may be deemed appropriate by the Municipality.

(2) The Designated Sewer Officer may assess an extra strength surcharge for wastewater releases that exceed the limits of treatable parameters. An Extra Strength Surcharge Agreement may only be entered into with respect to the discharge of the following treatable parameters in wastewater: biochemical oxygen demand and/or chemical oxygen demand, total phosphorus, oil and grease of animal and vegetable origin, total suspended solids and total Kjeldahl nitrogen. Schedule "C" provides the maximum concentrations the Designated Sewer Officer will consider for Extra Strength Surcharge Agreements. The discharger shall pay the assessed amount per the terms established by the Designated Sewer Officer for the duration of the discharge.

(3) Should testing of the wastewater being discharged into the wastewater collection system be required for the purpose of determining the wastewater surcharge rate, such testing shall be conducted by the Designated Sewer Officer, or by the owner to the satisfaction of the Designated Sewer Officer, using automated sampling devices or in accordance with the following manual sampling protocol:

(a) Samples from the effluent produced at a location will be collected each day for a minimum of two days;
(b) A minimum of four grab samples of equal volume shall be taken each day, such samples to be taken at least one hour apart;
(c) The analysis shall be conducted on a composite sample made of each day's grab samples;
(d) The respective results of these tests shall be averaged to determine the characteristics and concentration of the effluent being discharged into the City wastewater collection system.

(4) A Sanitary Discharge Agreement may be entered with respect to the discharge of wastewater, which contains water that has originated from a source other than the Municipal water supply system.

(5) Extra Strength Surcharge Agreement and Sanitary Discharge Agreements shall be generally in the form designated by the Designated Sewer Officer from time to time. The Designated Sewer Officer shall be authorized to execute Extra Strength Surcharge Agreements and Sanitary Discharge Agreements on behalf of the Municipality.

(6) The extra strength surcharge rate and the sanitary discharge rate will be reviewed and adjusted accordingly from time to time as determined by the Municipality.

(7) The agreements contemplated in this Section may be terminated by the Municipality by written notice at any time, including but not limited to an emergency situation of immediate threat or danger to any person, property, plant or animal life, water or wastewater works.

19. COMPLIANCE PROGRAMS

(1) An Industry may submit to the Designated Sewer Officer a proposed compliance program setting out activities to be undertaken by the Industry that would result in the prevention or reduction and control of the discharge or deposit of matter from the Industry's premises into municipal or private sewer connections to any sanitary sewer or combined sewer. Compliance program submissions will only be considered for existing industries.

(2) An Industry may submit to the Designated Sewer Officer a proposed compliance program setting out activities to be undertaken by the Industry that would result in the prevention or reduction and control of the discharge or deposit of uncontaminated water, ground water or storm water from the Industry's premises to eliminate the discharge of matter into municipal or private sewer connections to any storm sewer.

(3) Upon receipt of an application pursuant to Subsection 19 (1) or (2) above, the Designated Sewer Officer may issue an approval for a compliance program for an Industry to discharge an effluent that does not comply with Schedule "A" and "B" or Section 3 of this bylaw, such approval to be in accordance with [*insert Municipality Name, Municipal Code*] guidelines therefore adopted by the Municipality from time to time. The Industry shall be entitled to make non-complying discharges in the amount and only to the extent set out in the Municipality's approval during the planning, design and construction or installation of facilities or works needed to implement the approved compliance program.

(4) Every proposed compliance program shall be for a specified length of time during which pretreatment facilities or other measures are to be installed or implemented and shall be specific as to the remedial actions to be implemented by the Industry, the dates of commencement and completion of the activity and the materials or other characteristics of the matter to which it relates. The final activity completion date shall not be later than the final compliance date in the compliance program.

(5) The Industry to which a compliance program has been issued shall submit a compliance program progress report to the Municipality within 14 days after the scheduled completion date of each activity listed in the compliance program.

(6) The Municipality may terminate any proposed compliance program by written notice at any time to the Industry in the event that the Industry fails or neglects to carry out or diligently pursue the activities required of it under its approved compliance program.

(7) The Municipality is authorized to execute agreements with industries with respect to approved compliance programs. These agreements may, in accordance with guidelines adopted by the Municipality from time to time, include a provision for a reduction in the payment otherwise required from the Industry to the Municipality pursuant to an Extra Strength Surcharge Agreement. The reduction in payment to the Municipality may be in such an amount and for such duration as the agreement may specify.

(8) The Municipality may terminate any approved compliance program entered into pursuant to Section 19 by written notice at any time to the Industry in the event that the Industry fails or neglects to carry out or diligently pursue the activities required of it under its approved compliance program, and in the event of any such termination, the Industry shall pay to the Municipality the full difference in amount between what it was required to pay to the Municipality pursuant to the Extra Strength Surcharge Agreement, and the amount actually paid to the Municipality as a result of having entered into an agreement with respect to the approved compliance program.

20. CODES OF PRACTICE

(1) Application:

(a) A code of practice applies to the Designated Sector Operations, as outlined in Schedule "D" of this bylaw
(b) A code of practice does not apply to a discharging operation that is subject to a Waste Discharge Permit, unless otherwise specified in the Waste Discharge Permit.
(c) A code of practice does not apply to the discharge of domestic wastewater.

(2) Nothing in a code of practice relieves a person discharging waste from complying with this bylaw, a Waste Discharge Permit or any other applicable enactment.

(3) The Designated Sewer Officer may require a discharging operation to obtain a Waste Discharge Permit if considered necessary by the Designated Sewer Officer because of circumstances not covered by a code of practice.

(4) As a condition of discharge of waste into a sewer connected to a wastewater facility, an operator of a discharging operation must submit to the manager a completed code of practice registration form attached as Schedule "D" to this bylaw:

(a) Within 90 days of the date of adoption of the applicable code of practice in the case of a discharging operation in existence on the adoption date; or
(b) In all other cases, within 30 days of the discharging operation commencing the discharge of waste into a sewer connected to a wastewater facility.

(5) An operator must report any change in the ownership, name, location, contact person, telephone number, or fax number of a discharging operation registered under a code of practice to the Designated Sewer Officer within 30 days of the change by submitting a completed code of practice registration form referred to in Section 20.4 showing the changes.

(6) An operator must report any change in the discharging operation registered under a code of practice resulting in the operation no longer meeting the definition applicable to that type of

discharging operation within 30 days of the change by submitting a completed code of practice registration form referred to in Section 20.4 describing the changes.

(7) If a code of practice establishes a requirement in relation to a specific discharging operation which differs from a provision in this bylaw, the requirement in the code of practice prevails.

21. POLLUTION PREVENTION PLANNING

(1) Every subject sector Industry identified in Schedule "E" of this bylaw and every Industry which discharges any amount of a subject pollutant identified in Schedule "F" of this bylaw shall prepare a Pollution Prevention Plan and submit a copy to the Municipality with respect to the premises from which the discharge occurs, unless such Industry continually meets the requirements of Schedule "A" and Schedule "B". [*Dates for the submissions to be identified by the Municipality*.]

(2) Pollution Prevention Plans submitted to the Municipality shall be approved by the Municipality unless the Municipality determines that the pollution prevention plan does not comply with the requirements of this article.

(3) The Pollution Prevention Plan shall be in the form designated by the Municipality for that purpose from time to time.

(4) In addition to any other matter or requirement designated by the Municipality, and notwithstanding Subsection 21(3), each Pollution Prevention Plan shall include the following:

(a) A description of the processes at the premises which use or produce subject pollutants.
(b) A description of those processes at the premises which are to be the subject of pollution prevention planning.
(c) A list of the subject pollutants present at the premises at any stage of the operations of the premises.
(d) A description setting out the types, quantities and concentrations of all subject pollutants discharged, directly or indirectly, to a sewer.
(e) A description of current waste reduction, recycling, waste treatment and pollution prevention activities with respect to sewer discharges at the premises.
(f) A description of pollution prevention options for subject pollutants and sewer discharge and an evaluation of those options.
(g) A list of possible targets and timeframes [*as specified by the municipality*] to reduce or eliminate the discharge of subject pollutants to the Municipality's sewers.
(h) A declaration from an authorized person that the content of the plan is, to the best of that person's knowledge, true, accurate and complete.

(5) In the event that the activity or business of an Industry which discharges any amount of a subject pollutant listed in Schedule "F" is not listed in Schedule "E" of this bylaw, then that Industry shall prepare a Pollution Prevention Plan and submit a copy of the Pollution Prevention Plan by no later than [*date specified by municipality*].

(6) Any subject sector Industry and any Industry discharging any amount of a subject pollutant which commences business operations after [*date specified by municipality*], shall have one year from the date of the commencement of its business operations to prepare a Pollution Prevention Plan and submit a copy of the Pollution Prevention Plan to the Municipality.

(7) In the event that an Industry submitting a Pollution Prevention Plan is not sent written notice from the Municipality that its Pollution Prevention Plan is not approved by the Municipality within 90 days of the Industry delivering a copy of the Pollution Prevention Plan to the Municipality, the Pollution Prevention Plan shall be deemed to have been approved by the Municipality.

(8) Where an Industry receives notice from the Municipality that its Pollution Prevention Plan has not been approved, the Industry shall have 90 days to amend and resubmit its Pollution Prevention Plan to the Municipality for approval in accordance with this article.

(9) In the event that a Pollution Prevention Plan resubmitted to the Municipality in accordance with Subsection 21 (8) of this section continues to fail to comply with the requirements of this bylaw, the Municipality shall so notify the Industry, and the Industry shall be in contravention of Subsection 21 (1) and shall continue to be in contravention of this section until such time as the Municipality approves of an amended Pollution Prevention Plan resubmitted by the Industry, in accordance with this section.

(10) Every subject sector Industry and every Industry discharging a subject pollutant shall submit a revised Pollution Prevention Plan for the approval of the Municipality at least once every three years from the date which the original plan was required to be submitted. Such revised and updated Pollution Prevention Plan shall, in addition to the requirements otherwise set out in this section, detail and evaluate the progress of the Industry to accomplish the objectives set out in its Pollution Prevention Plan and the Industry's ability to accomplish those pollution prevention objectives.

(11) Every subject sector Industry and every Industry discharging a subject pollutant shall prepare a revised and updated Pollution Prevention Plan no less frequently than once every six *[or number of years to be specified by the Municipality*] years from the date which the original plan was required to be prepared, and shall prepare and submit for the Municipality's approval a copy of the Pollution Prevention Plan with respect thereto no later than the date by which any revised and updated Pollution Prevention Plan must be prepared.

(12) Where a subject sector Industry makes changes to the process(es), product(s) or facility configuration that will result in changes to the Pollution Prevention Plan, a revised or updated

Pollution Prevention Plan must be prepared and a copy of the Pollution Prevention Plan shall be submitted for the Municipality's approval within 2 calendar months of the change(s).

(13) The Municipality may designate any class of business or activity not included in Schedule "E" of this bylaw, as a subject sector Industry and may designate a date with respect to which any such subject sector shall be required to submit to the Municipality a copy of the Pollution Prevention Plan.

(14) The Municipality may designate any matter as a subject pollutant and may designate a date with respect to which any Industry discharging such subject pollutant shall be required to submit to the Municipality a copy of the Pollution Prevention Plan.

(15) A copy of the Pollution Prevention Plan shall be kept at all times at the premises in respect to which it was prepared and shall be available for inspection by the Municipality at any time.

(16) Implementation of the Pollution Prevention Plan shall be initiated within [*one year, or timeframe as identified by the municipality*] of Plan approval by the Municipality.

22. PENALTIES

(1) Where the Designated Sewer Officer believes that a person has contravened any provision of this Bylaw, he or she may commence proceedings by issuing a summons by means of a violation ticket in accordance with the [*Provincial Offences Procedure Act or similar applicable Act in your jurisdiction*].

(2) The specified penalty payable in respect of a contravention of a provision of this Bylaw is the amount shown in Schedule X of this Bylaw in respect of that provision. [*Note a sample of Schedule X is not provided in the Model Bylaw*]

(3) Notwithstanding subsection (2):

(a) Where any person contravenes the same provisions of this Bylaw twice within one twelve month period, the specified penalty payable in respect of the second contravention is double the amount shown in Schedule X of this Bylaw in respect of that provision, and
(b) Where any person contravenes the same provision of this Bylaw three or more times within one twelve month period, the specified penalty payable in respect of the third or subsequent contravention is triple the amount shown in Schedule X of this Bylaw in respect of that provision.

SCHEDULE "A" PROHIBITED WASTES

A. No person shall discharge directly or indirectly or deposit or cause or permit the discharge or deposit of wastewater into a sanitary sewer, combined sewer, municipal or private sewer connection to any sanitary sewer or combined sewer works in circumstances where:

(1) To do so may cause or result in:

(c) A health or safety hazard to a person authorized by the Municipality to inspect, operate, maintain, repair or otherwise work on a wastewater works;
(b) An offence under the [*applicable federal, provincial, territorial environment protection or water resources act]*, as amended from time to time, or any regulation made thereunder from time to time;
(c) Wastewater sludge from the wastewater treatment facility works to which either wastewater discharges, directly or indirectly, to fail to meet the objectives and criteria as listed in the [*applicable federal, provincial, territorial environment protection or water resources act or policy]*, as amended from time to time;
(d) Interference with the operation or maintenance of a wastewater works, or which may impair or interfere with any wastewater treatment process;
(e) A hazard to any person, animal, property or vegetation;
(f) An offensive odour to emanate from wastewater works, and without limiting the generality of the foregoing, wastewater containing hydrogen sulphide, carbon disulphide, other reduced sulphur compounds, amines or ammonia in such quantity as may cause an offensive odour;
(g) Damage to wastewater works;
(h) An obstruction or restriction to the flow in wastewater works.

(2) The wastewater has two or more separate liquid layers.

(3) The wastewater contains:

(e) Hazardous substances;
(f) Combustible liquid;
(c) Biomedical waste, including any of the following categories: human anatomical waste, animal waste, untreated microbiological waste, waste sharps and untreated human blood and body fluids known to contain viruses and agents listed in "Risk Group4" as defined in "Laboratory Biosafety Guidelines" published by Health Canada, dated, 2004, as amended.
(d) Specified risk material for bovine spongiform encephalopathy as defined in the federal Fertilizers Regulations (C.R.C., c. 666), as amended from time to time, including material from the skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal root ganglia of cattle aged 30 months or older, or material from the distal ileum of cattle of all ages.

(e) Dyes or colouring materials which may or could pass through a wastewater works and discolour the wastewater works effluent;
(f) Fuel;
(g) Ignitable waste.
(h) Pathological waste.
(iii)PCBs.
(j) Pesticides which are not otherwise regulated in this bylaw.
(k) Reactive waste.
(l) Toxic substances which are not otherwise regulated in this Bylaw.
(m) Waste radioactive substances in excess of concentrations greater than those specified for release to the environment under the *Nuclear Safety and Control Act* and Regulations or amended versions thereof.
(n) Solid or viscous substances in quantities or of such size to be capable of causing obstruction to the flow in a sewer, including but not limited to ashes, bones, cinders, sand, mud, soil, straw, shaving, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, animal parts or tissues, and paunch manure.

(4) The wastewater contains a concentration, expressed in milligrams per litre, in excess of any one or more of the limits in Schedule "B" of this Bylaw, unless:

(a) The discharge is in accordance with a valid Sanitary Discharge Agreement, Extra Strength Surcharge Agreement or compliance program;
(h) The discharge is authorized in a Code of Practice approved by the Municipality;
(i) All requirements of Section 7 Additional Requirements have been fully satisfied.

SCHEDULE "B" RESTRICTED WASTES – SANITARY AND COMBINED SEWER DISCHARGES

Table A - CONVENTIONAL CONTAMINANTS and PHYSICAL PARAMETERS

Substance	Concentration Limit– [mg/L, except as noted]
Biochemical Oxygen Demand	300
Chemical Oxygen Demand	600
Oil and grease - animal and vegetable	150
Oil and grease - mineral and synthetic/hydrocarbon	15
Total Suspended Solids	300
pH	6.0 - 10.5 (unitless)
Temperature	60 Degrees Celsius

Table B - ORGANIC CONTAMINANTS

Substance	Concentration Limit– [mg/L, except as noted]
Benzene	0.01
Chloroform	0.04
Dichlorobenzene (1,2-)	0.05
Dichlorobenzene (1,4)	0.08
Ethylbenzene	0.06
Hexachlorobenzene	0.0001
**Methylene chloride (dichloromethane)	0.09
PCBs (chlorobiphenyls)	0.004
**Phenols, Total (or Phenolic compounds)	0.1
**Tetrachloroethane (1,1,2,2 -)	0.06
**Tetrachloroethylene	0.06
Toluene	0.02
Trichloroethylene	0.05
Xylenes, total	0.3

***Note to Bylaw Author:* **Substances with asterisks require particular review to identify appropriate limits for bylaws. All limits in these tables are intended to provide guidance, not to establish required limits; those substances with asterisks may be problematic for particular sectors or dischargers within communities. See Part 4 of the Model Bylaw Guidance Document, Table 2, *Other Considerations for Core Substances Limits and Recommended Limits* for information and considerations of limit development. Note that limits in this Model Bylaw are not based on average limits in existing Canadian bylaws.

Table C - INORGANIC CONTAMINANTS

Substance	Concentration Limit– [mg/L, except as noted]	Notes to Bylaw Author: Considerations for Setting Limits
Arsenic, total	1.0	
Cadmium, total	0.7	Codes of Practice or P2[7] Plans may be required to achieve this limit
**Chromium, total	2.8	Codes of Practice or P2 Plans may be required to achieve this limit
Cobalt, total	5.0	
Copper, total	2.0	Codes of Practice or P2 Plans may be required to achieve this limit
**Cyanide, total	1.2	Codes of Practice or P2 Plans may be required to achieve this limit
**Lead, total	0.7	This limit is based on a USEPA technology standard; some Canadian Bylaws contain higher limits (e.g. Toronto's limit is 10 mg/l)
Mercury	0.01	Codes of Practice or P2 Plans may be required to achieve this limit
Molybdenum, total	5.0	
**Nickel, total	2.0	Codes of Practice or P2 Plans may be required to achieve this limit
Nitrogen, Total Kjeldahl	50	
Phosphorus, total	10	
**Selenium, total	0.8	Codes of Practice or P2 Plans may be required to achieve this limit
**Silver, total	0.4	Codes of Practice or P2 Plans may be required to achieve this limit. This limit may be problematic for photo finishing dischargers
Sulphide (as H_2S)	1.0	
**Zinc, total	2.0	Municipalities with high zinc in drinking water sources may need to match the zinc concentration to that of the finished drinking water

[7] P2 means Pollution Prevention

***Note to Bylaw Author:* **Substances with asterisks require particular review to identify appropriate limits for bylaws. All limits in these tables are intended to provide guidance, not to establish required limits; those substances with asterisks may be problematic for particular sectors or dischargers within communities. See Part 4 of the Model Bylaw Guidance Document, Table 2, *Other Considerations for Core Substances Limits and Recommended Limits*, for information and considerations of limit development. Note that limits in this Model Bylaw are not base on average limits in existing Canadian bylaws.

SCHEDULE "C" MAXIMUM WASTEWATER STRENGTH LIMITS UNDER EXTRA STRENGTH SURCHARGE AGREEMENT

Substance	**Maximum Concentration Limits under an Extra Strength Surcharge Agreement, mg/l**
Biochemical Oxygen Demand (BOD)	1200
Chemical Oxygen Demand (COD)	[determined by municipality based on industrial sector and treatment capacity]
Total Suspended Solids (TSS)	1200
Oil and grease - animal and vegetable (O&G)	450
Total Phosphorus (TP)	[determined by municipality based on treatment capacity]
Total Kjeldahl Nitrogen (TKN)	[determined by municipality based on treatment capacity]

SCHEDULE "D" CODE OF PRACTICE REGISTRATION FORM FOR DESIGNATED SECTOR OPERATIONS

[*Designated Sewer Officer title and address*]

The following is an application to register a discharging operation under a CODE OF PRACTICE as outlined in [Municipality] Sewer Use Bylaw No. [number] **or** to change or cancel an existing registration. This application is to be filed with the Designated Sewer Officer, at the above address, per the requirements of the sewer use bylaw. To apply for a change of information or cancellation of an existing registration, an application is to be filed with the sewage control manager within 30 days of the date on which the applied changes will take effect at the operation.

1. Operation Name (name of company, partnership, individual or institution):

Hereby apply to: (Check one of the following)

. **Register as a discharging operation under one or more of the following Codes of Practice:**

Check applicable code(s) below	Service or Industrial Category for Designated Sector Operations	Applicable Code of Practice
	Food Services Operations	[Identify Schedule or Source of Code of Practice]
	Dry Cleaning Operations	
	Photographic Imaging Operations	
	Dental Operations (including Dental Schools)	
	Automotive Repair Operations	
	Vehicle Wash Operations	
	Carpet Cleaning Operations	
	Fermentation Operations	
	Printing Operations	
	Recreation Facility Operations	
	Laboratory Operations	
	Etc, as determined by the municipality	

Or

Change an existing registration under a code of practice

Reason for change:

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model by-law, or any provision thereof, for their own purposes.

Or

Cancel an existing registration under a code of practice

Reason for cancellation:

Operation Located at:

Postal Code:

Telephone:

Fax:

Company Name (if different from above):

Mailing Address (if different from above):

Postal Code: Telephone: Fax:

Contact Information

Owner
Name:
Telephone:
Fax:
Facility Manager
Name:
Telephone:
Fax:

2. Code of Practice Information (Please check the appropriate box for each question)

Is this operation **connected to a municipal sanitary sewer system**? Yes No Don't know

Is waste from this operation discharged to **pretreatment works** specified in the applicable code of practice? Yes No Don't know

Does this operation use **off-site waste management** to comply with the requirements of the applicable code of practice? Yes, all wastes Yes, some wastes No Don't know

3. Declaration

I hereby acknowledge that the information on this form is correct to the best of my knowledge.

Signature:
Name (please print):
Title:
Date:

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model by-law, or any provision thereof, for their own purposes.

SCHEDULE "E" SUBJECT SECTORS FOR POLLUTION PREVENTION PLANS

North American Industry Classification System (NAICS) Code	Industrial Category	Due Date for P2[8] Plan (as determined by the municipality)
[Insert NAICS Code by Sub-sector, as appropriate for the municipal industrial customer base]	**Metal finishing/metal plating industries**	
	Chemical manufacturing industries	
	Other manufacturing industries, as appropriate for the community	
	ICI[9] sectors discharging Schedule "F" pollutants	

[8] P2 is Pollution Prevention

[9] ICI is industrial, commercial, institutional sectors

This Model Sewer Use Bylaw has not been developed to meet the needs of any particular municipality or community. Municipalities and communities should obtain legal advice before using this model by-law, or any provision thereof, for their own purposes.

SCHEDULE "F" SUBJECT POLLUTANTS FOR SUBJECT SECTORS REQUIRING POLLUTION PREVENTION PLANS

Substance
Arsenic
Cadmium
Cobalt
Chromium
Copper
Mercury
Molybdenum
Nickel
Lead
Selenium
Zinc
Additional substances, for example organic parameters, as determined by the municipality for its customer base and pollution prevention goals

MARBEK
Resource Consultants Ltd.

APPENDIX "A"

DISCHARGE APPLICATION AND DISCHARGE PERMIT FORMS

Form #1 Abbreviated Discharger Information Report
The Municipality of _____ Sewer Use Program

The completion of this form is required by all dischargers to sewage works under Bylaw #_____ addressing sewer use in the Municipality of _____ .

**If you have any questions on the form, please call [*Phone number*]

The completed form is to be forwarded to :
Attention : Designated Sewer Officer, the Municipality of _____
[*Mailing Address*]

Please print clearly while completing the form.

The Abbreviated Discharger Information Report	
1	**Name of Company**
2	**Address of Company** Phone: Fax:
3.	**Owner of property** (if different from Company listed above) Phone: Fax:
4	**Brief Description of Product or Service**
5	**Brief Description of the Process(es) used in the Manufacturing or Servicing**

The Abbreviated Discharger Information Report

6	**'Are there' or 'Will there be' any of the following wastewater discharges from the description as provided in #5?** Process wastewater Yes / No Non-contact cooling water Yes / No Other sources of wastewater (other than sanitary) Yes / No (if yes, brief description)
7	**Does the site have any existing connections to the following sewers?** sanitary Yes / No combined Yes / No storm Yes / No
8	Location of Process units? Inside / Outside / Outside but covered Storage of raw materials? Inside / Outside / Outside but covered Storage of intermediate products? Inside / Outside / Outside but covered Storage of final products? Inside / Outside / Outside but covered
9	**Does the site have any of the following programs in place to address discharges to the sewer system?** Pollution Prevention Yes / No Best Management Plan Yes / No Environmental Management System Yes / No Other program / practices Yes / No

Date form completed :
Name and Title of Company Representative:

Signature of Authorized Company Representative

Note: Completion of the "Complete Discharger Information Report" may be required based on this report and/or subsequent verification of the site by the Municipality.

For Municipality use only - date completed form received :

Form #2 Detailed Discharger Information Report

The Municipality of _____ Sewer Use Program

The completion of this form by dischargers to the sewage works is required under certain circumstances by Bylaw #_____ addressing sewer use in the Municipality of _____.

**If you have any questions on the form, please call [*Phone number*]

The completed form is to be forwarded to :
Attention : Designated Sewer Officer, the Municipality of _____
[*Mailing Address*]

Please note the following:
Print clearly while completing the form.
Additional information and attachments - are required.
Indicate what material has been attached to ensure that the municipality is aware of all the information provided.

The Detailed Discharger Information Report	
1	**Name of Company**
2	**Address of Company** Phone: Fax:
3.	**Owner of property** (if different from Company listed above) Phone: Fax:
4	**General Site Operation Information** Number of Employees involved in plant: office: other: Total: Number of Shifts per day: Number of operating days per week:

The Detailed Discharger Information Report

5	**Description of Product(s) or Service** Include Standard Industrial Code (SIC) - state if SIC is Canadian or American
6	**Description of the Process(es) used in the Manufacturing or Servicing** Include characteristics such as Batch (how many per time period), Continuous, or Both (explanation to be provided), Seasonal Production Cycles, Specific Clean-up Periods and Clean-up Activities, Production Rates
7	**Average Daily Water Use and Sources** Municipal Supply Yes / No _____m3/day Estimated or Measured Surface Water** Yes / No _____m3/day Estimated or Measured Groundwater* Yes / No _____m3/day Estimated or Measured Other sources** Yes / No _____m3/day Estimated or Measured If flow rate varies significantly provide peak flow rates per day and month and explanation. * Provide copy of the Permit to Take Water [*or other documentation per relevant jurisdictional requirements*] ** If 'Yes' - provide explanation as an attachment.
8	**Discharge Points from Site** List all liquid effluent discharge points from the site and average daily flow for each point in cubic metres per day of sanitary, noncontact cooling water, process wastewater, contact cooling water and other discharge water to the sanitary sewer, combined sewer, storm sewer, groundwater, surface water, evaporation losses (if applicable), and percent of water in final manufactured product (if significant and applicable to the site). For example: process wastewater from manufacturing line to sanitary sewer at an average daily flow of 200 m3/day (measured)
9	**Known Characteristics of Discharges** Provide existing data on the chemical composition and constituent concentrations of the discharges listed above in #8
10	**Physical Layout** • Provide sketch of property (to scale or approximate) showing buildings, pretreatment works, property boundaries, effluent lines, and connections to sanitary, combined and storm sewers. • Please identify sewers as listed on the Parameter Information Form as completed above. • Layout may be attached as separate document - leave note to indicate submission with this form. • A flow diagram of the site flows/processes is also required.

The Detailed Discharger Information Report

11	**Generation Registration Information** Provide any Generator Registration Numbers that the site under the requirements of the governing jurisdiction [***Note to Bylaw Author***: for example, Ontario Regulation 347 under the Environmental Protection Act].
12	**Extra Strength Surcharge Agreements (ESSA)** Does the site have an existing ESSA with the Municipality? Yes / No Did the site previously have an ESSA with the Municipality? Yes / No If Yes to either question - Attach a copy of each agreement to this form
13	**Pretreatment of Discharges Prior to Discharge** Does the site have any pretreatment systems for process effluents prior to discharge to the sewer system? Yes / No If Yes, provide a description of the pretreatment systems and associated processes, design capacities, contaminants removed, performance objectives and operational procedures for the devices.
14	**Does the site have any of the following programs addressing discharges to the sewer system in place?** Pollution Prevention Yes / No Best Management Plan Yes / No Environmental Management System Yes / No Water Conservation Yes / No Other program / practices Yes / No If yes - attach copy of each to the form and explanation for implementation.

Date form completed:

Name and Title of Company Representative:

Signature of Authorized Company Representative:

The information submitted in this form may subject to verification by the municipality:

For Municipality use only Date completed form received:
Date information verified/approved:

Form #3 – Municipality of _____ Waste Discharge Permit

Under the provisions of the Municipality of _____ Sewer Use Bylaw No. _____, _____ hereinafter referred to as the Permittee, is authorized to discharge Non-Domestic Waste to the Sanitary located at _____

This Waste Discharge Permit, hereinafter referred to as the "Permit", has been issued under the terms and conditions, including definitions, prescribed in the Municipality of _____ Sewer Use Bylaw No. _____ hereinafter referred to as the "Bylaw".

This Permit sets out the standard conditions, engineering units, and the requirements for emergency procedures.

A. STANDARD CONDITIONS

1. Except as otherwise provided in this Permit, all terms and conditions stipulated in the Bylaw shall apply to this Permit.

2. The terms and conditions of this Permit may be amended by the Municipality pursuant to the Bylaw.

B. MAINTENANCE AND OPERATION OF WORKS AND PROCEDURES

Wastewater control works and procedures associated with maintaining the discharge criteria and/or the monitoring requirements specified in the Permit shall be employed at all times during the discharge of industrial/commercial wastes to sewer. All such works and procedures shall be inspected regularly and maintained in good working condition.

C. EMERGENCY PROCEDURES

In the event of an emergency or condition which prevents the continuing operation of any wastewater works or procedures designated by this Permit or results, or may result in a violation of any discharge criteria specified in this Permit, the Permittee shall notify the Municipality at [phone number] (24 hours) at the first available opportunity, and shall undertake appropriate remedial action as soon as possible.

D. BY-PASSES

The discharge of wastes which by-pass any wastewater works, or which are not in accordance with procedures designated by the Permit, is prohibited unless prior approval of the Municipality is obtained and confirmed in writing.

E. DISCHARGE MONITORING

1. Discharge measurement, sampling, analysis and reporting shall be undertaken by the Permittee when required by the Designated Sewer Officer. The Designated Sewer Officer may also undertake audit sampling, at the Designated Sewer Officer's discretion.

F. pH MONITORING

Enforcement of pH levels, as listed in this Permit, shall be based on grab samples. The Permittee should be aware that pH levels measured in a Composite Sample [if required] will provide an average pH of the waste stream and will not indicate the total range of pH in the effluent. The Permittee is encouraged to do periodic grab sample pH analyses to ensure permit compliance.

G. DISCHARGE SAMPLING AND ANALYSES

The Permittee shall carry out the following sampling and analysis program, to commence on _____.

1. Continuous Discharges

(a) Effective _____, the Permittee shall measure or estimate, using an approved flow monitoring device(s) or method(s), the daily discharge for each sampling location during each month of operation. The following information shall be recorded for each sampling location:

Total flow for the month (m3)
Number of operating days during the month
Average daily flow for the month (m3/day)
Maximum daily flow for the month (m3/day)

2. Continuous and Batch Discharges

(a) Composite Samples – A 24 hour [if facility operates 24 hours per day] or 8 hour [if facility operates 8 hours per day] composite sample shall be taken by the discharger using sampling equipment installed in the monitoring access point(s), or other sample point(s) approved by the Designated Sewer Officer at the following frequency: _____. The Discharge flow for the periods that the Composite Sample(s) [if required] are collected shall be recorded. *[If the Industry does not have a composite sampler or samplers available to be installed in the monitoring access point(s), the Municipality will use its own composite sampling equipment to collect required samples, and may recover costs of sample collection from the Industry.]*

Composite Sample(s) shall be analyzed for the following parameters:

[insert parameters]

(b) One grab sample shall be collected from each monitoring access point(s), or other sample point(s) approved by the Designated Sewer Officer during normal facility operating hours, and at the time of day approved by the Designated Sewer Officer, at the following frequency: _____. The sample date and time shall be recorded.

Grab Sample(s) shall be analyzed for the following parameters:

[insert parameters]

3. Sample Analysis

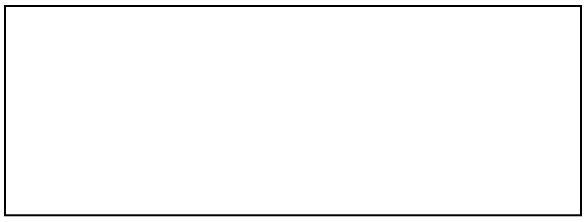
All sampling, measurements, tests and analyses of waste discharges shall be carried out in accordance with the latest edition of STANDARD METHODS or an alternate method approved by the Designated Sewer Officer. Samples shall be submitted for analysis to an ACCREDITED LABORATORY, at the expense of the discharger, unless other arrangements have been approved by the Designated Sewer Officer. The owner shall supply hard copies of the results of the analysis to the Designated Sewer Officer in a format acceptable to the inspector within the time specified by the inspector.

H. LOCATION OF APPROVED SAMPLE POINTS

The approved sample points are as follows and as shown on the attached schematic of approved sample points and treatment processes. Sample point _____ is considered to be the point of discharge to sewer.

SAMPLE POINT NO. DESCRIPTION
Sample Point 1 _____
Sample Point 2 _____

PHOTOGRAPH OF APPROVED SAMPLING POINT SUPPLIED BY PERMITTEE



I. AUTHORIZED DISCHARGE CHARACTERISTICS

1. Authorized Rate of Discharge
The Permittee shall not exceed the following:

[insert flow rates]

2. Authorized Discharge Criteria

This Permit sets out requirements for the quantity and quality of the discharge of Non-Domestic Wastewater from a _____. Where a compliance program has been specified, existing works or procedures must be maintained in good operating condition and operated in a manner to minimize the discharge of contaminants during the interim period until the new works have been installed.

a) The Permittee shall not discharge prohibited waste, as defined in Schedule "A" of the Bylaw.

b) The Permittee shall not discharge restricted waste, as defined in Schedule "B" of the Bylaw with the following exceptions:

[insert Parameter Authorized Range or Maximum Concentration]

Compliance with the above-noted exceptions is to be achieved by: _____

c) The Permittee shall not discharge storm water or cooling water into the sanitary sewer system.

J. AUTHORIZED WORKS AND PROCEDURES

This Permit sets out the waste sources, works and procedures for the authorized discharges to sewers. The Designated Sewer Officer may require that further works be installed if the existing works, in his opinion, do not provide an acceptable level of treatment. New works or alterations to existing works must be approved, in principle, by the Designated Sewer Officer.

New waste sources must be authorized, in writing, by the Designated Sewer Officer.

The authorized waste sources, works and procedures to treat and/or control the waste discharge are:

SOURCE COMPLETION DATE WORKS & PROCEDURES
1. _____ _____ _____
2. _____ _____ _____

K. REPORTING REQUIREMENTS FOR WASTE DISCHARGE PERMIT

The Permittee is required to submit the following reports to the Designated Sewer Officer:

a) The Permittee shall submit the results of effluent sampling (as required by the Designated Sewer Officer) to the Designated Sewer Officer at the following frequency *[insert frequency]*.

b) By not later than _____, the Permittee shall submit a written report outlining the specifications of the flow monitoring device or method used to determine the discharge flow rate.

c) Additional reporting shall be undertaken by the Permittee when required by the Designated Sewer Officer. *[i.e. insert reporting requirements for compliance programs, status on pollution prevention activities, etc.*